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NOVA SOUTHEASTERN UNIVERSITY | **NSU**  
Florida

**HEALTH PROFESSIONS DIVISION**  
3200 South University Drive  
Fort Lauderdale Florida, 33328-2018

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- Dr. Kiran C. Patel College of Osteopathic Medicine
- College of Pharmacy
- College of Optometry
- Dr. Pallavi Patel College of Health Care Sciences
- College of Medical Sciences
- College of Dental Medicine
- Ron and Kathy Assaf College of Nursing
- Dr. Kiran C. Patel College of Allopathic Medicine

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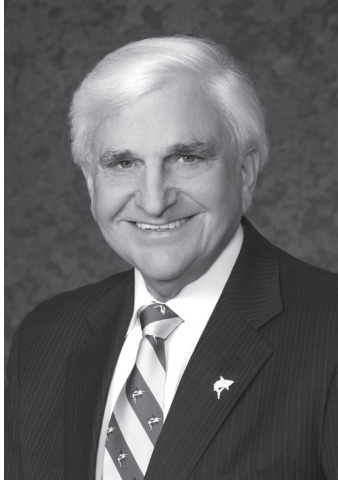
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## Letter from the NSU President/CEO



Thank you for your interest in the Health Professions Division (HPD) at Nova Southeastern University. The HPD offers a multidisciplinary combination of resources, along with an experienced and diverse faculty and staff who give our graduates a distinct competitive edge. Our students are better prepared and equipped for meaningful careers in the rapidly changing health care arena by learning inside and outside the classroom through a variety of real-world experiences.

According to industry experts, by 2025 there will be significant talent shortages within various health professions that will greatly impact the public, specifically those living in medically underserved areas. NSU is addressing these needs by making major investments in all aspects of health and health care education.

NSU's charter class of 53 students began studies at the Dr. Kiran C. Patel College of Allopathic Medicine in 2018. We also welcomed a new class of approximately 300 medical students to the Dr. Kiran C. Patel College of Osteopathic Medicine.

These students are all eager to make a difference in the world. With the opening of the M.D. college, NSU becomes one of only three universities in the country to offer both Doctor of Medicine (M.D.) and Doctor of Osteopathic Medicine (D.O.) degrees.

Our new teaching and research hospital, which will be built on NSU's Fort Lauderdale/Davie Campus through a partnership with HCA East Florida, is also on the horizon. The hospital will give our students an advantage in their career through integrated medical education and clinical opportunities. In addition, the facility will provide health care services for the community. It will conduct research and clinical trials that will ultimately impact our community—and the world—with advanced breakthroughs.

As an HPD student, you will have the opportunity to access NSU's Center for Collaborative Research, which houses top researchers working in state-of-the-art wet labs, as well as gain practical experiences through simulation labs, clinical rotations, research projects, medical missions, community service, internships, and so much more.

NSU is recognized as a research university with "high research activity" by the Carnegie Foundation for the Advancement of Teaching. You will have the opportunity to participate in research projects with faculty members and internationally renowned scientists and present your findings regionally and nationally at professional conferences. NSU researchers are making advances in numerous areas, including cardiovascular disease, anticancer therapies, chronic fatigue syndrome, autism, and stem cells, just to name a few.

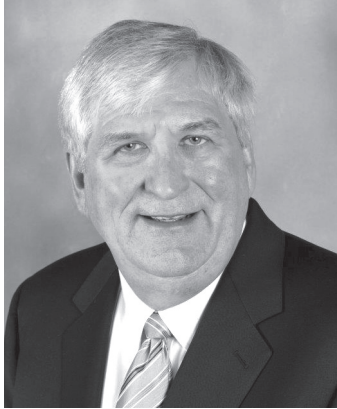
Regardless of which professional path you are pursuing, when you complete your degree program at NSU, you will exemplify excellence and gain a competitive edge in your career, your community, and your life. You are adding to a legacy of leadership in humanitarianism and compassionate care.

We look forward to a lifelong partnership with you.

**George L. Hanbury II, Ph.D.**

NSU President and Chief Executive Officer

## Letter from the NSU Executive Vice President for Academic Affairs and Provost



Welcome, and congratulations on your acceptance to the Health Professions Division of Nova Southeastern University. We have developed an array of health programs at NSU that will enhance your learning experiences and prepare you for interesting and fulfilling careers in the health fields.

At NSU, your success is our success. We are committed to supporting your academic, physical, financial, and social needs through a comprehensive set of services that are in line with our mission and core values. The Health Professions Division's distinguished faculty members are dedicated to helping you obtain the skills and knowledge you need to begin or advance your career. Their cutting-edge research, clinical skills, and commitment to academics are a valuable resource to support you on your educational journey.

We look forward to working with you as you pursue your academic studies and prepare to become health care professionals.

**Ralph V. Rogers, Ph.D.**

Executive Vice President for Academic Affairs and Provost

## Letter from the Health Professions Division Chancellor



Nova Southeastern University's Health Professions Division is playing a pivotal role in leading the university to new levels of excellence. The division comprises eight distinctive colleges—osteopathic medicine, pharmacy, optometry, medical sciences, dental medicine, health care sciences, nursing, and allopathic medicine—that offer more than 60 degree and certificate programs.

It is an exciting time to be a student at NSU, which continues to expand at a rapid pace. This is especially true of the Health Professions Division, which has grown from about 1,900 full-time students in 1994 to more than 8,000 in 2018. The past year was an exceptionally productive and successful one for the HPD. In the span of several months, four of the HPD's eight colleges were renamed to honor the generosity of benevolent donors. We have cut the ribbons, attended the various dedication ceremonies, and participated in the groundbreaking event at the new NSU Tampa Bay Regional Campus in Clearwater, Florida.

NSU's success is driven by the unique vision of its president and chief executive officer, George L. Hanbury II, Ph.D. Thanks to his leadership, the HPD continues to evolve, addressing new educational techniques and market opportunities, while continually adding new graduate and undergraduate programs.

Not surprisingly, the demand for health care professionals continues to grow. According to the U.S Bureau of Labor Statistics, the health care field added 560,000 jobs in the last 10 years and increased to more than 11 percent of the total workforce. NSU's Health Professions Division is a part of that growth. The university is committed to ensuring that our current and future students receive a well-rounded education at an academic institution that prides itself on being dynamic, innovative, and interprofessional in its academic approach.

**Frederick Lippman, R.Ph., Ed.D.**

Health Professions Division Chancellor

## Health Professions Division Administration

George L. Hanbury II, Ph.D.  
*President and Chief Executive Officer*

Frederick Lippman, R.Ph., Ed.D.  
*Health Professions Division Chancellor*

Ralph V. Rogers, Ph.D.  
*Executive Vice President for Academic Affairs and Provost*

Irving Rosenbaum, B.A., M.P.A., D.P.A., Ed.D.  
*Assistant Vice Chancellor*

Patrick C. Hardigan, Ph.D.  
*Executive Director of Assessment, Evaluation, and Faculty Development*

Jay M. Tischenkel, B.Sc., R.Ph.  
*Director of Institutional Advancement*

Steve Weinstein, CPA  
*Director of Finance*

Robert S. Oller, D.O.  
*Interim Vice President for Clinical Operations*

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Joel B. Ronkin

Tony Segreto



## **Vision 2020 Statement**

By 2020, through excellence and innovations in teaching, research, service, and learning, Nova Southeastern University will be recognized by accrediting agencies, the academic community, and the general public as a premier, private, not-for-profit university of quality and distinction that engages all students and produces alumni who serve with integrity in their lives, fields of study, and resulting careers.

## **Nova Southeastern University Mission Statement**

The mission of Nova Southeastern University, a private, not-for-profit institution, is to offer a diverse array of innovative academic programs that complement on-campus educational opportunities and resources with accessible, distance-learning programs to foster academic excellence, intellectual inquiry, leadership, research, and commitment to community through engagement of students and faculty members in a dynamic, lifelong learning environment.

## **Core Values**

Academic Excellence	Opportunity
Student Centered	Scholarship/Research
Integrity	Diversity
Innovation	Community

The Vision 2020 Statement, Mission Statement, and Core Values were adopted by the NSU Board of Trustees on March 28, 2011.

## Health Professions Division Board of Governors

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Jay M. Tischenkel, B.Sc., R.Ph.  
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J. Kenneth Tate

Joel Wilentz, M.D.

### **Emeriti Members**

Royal Flagg Jonas, J.D., Chairman Emeritus (deceased)

Howard Neer, D.O.

Sidney J. Stern, O.D.

## Health Professions Division Mission Statement

The mission of the Nova Southeastern University Health Professions Division is to train health practitioners in a multidisciplinary setting, with an emphasis on medically underserved areas.

The institutional premise is that health professionals should be trained in a multidisciplinary setting and, whenever possible, with integrated education. The university trains students in concert with other health profession students so that the various disciplines will learn to work together as a team for the good of the public's health. During their didactic work, students share campus facilities and, in some cases, have combined classes. In their clinical experiences, they work together in facilities affiliated with the university.

The division aims to educate health care practitioners who will eventually increase the availability of health care to alleviate health care shortages. The division aims to mitigate some of these shortages by exposing the entire student body to the needs and challenges of rural, underserved, and geriatric populations. Existing curricula require all students to attend ambulatory care rotations in rural or urban areas, or both, making Nova Southeastern University oriented toward a pattern of training its students in areas geographically removed from the health center itself, and to the care of indigent and multicultural population groups. In doing this, it developed training programs that address the health care needs of the region's most medically underserved populations.

All students are encouraged to participate in community service. The Health Professions Division supports the mentoring and collaboration of interdisciplinary research with faculty members.

## University History

Sustained growth and unity has made Nova Southeastern University (NSU) the largest independent university in the state of Florida. This growth culminated in January 1994, when Nova University and Southeastern University of the Health Sciences merged to become Nova Southeastern University.

Nova University was chartered in 1964 as a graduate institution in the physical and social sciences. Over time, Nova added programs in law, education, business, psychology, computer science, oceanography, social and systemic studies, and hospitality, and, in 1972, introduced its first off-campus course of study, in education. Soon, Nova became nationally recognized for its innovative distance learning programs. Today, field-based programs are located in 32 other Florida cities, in nearly 30 other states, and at selected international sites.

While Nova continued to expand its educational reach, Southeastern University of the Health Sciences also was on an expansion course. Southeastern was created by osteopathic physicians committed to establishing a College of Osteopathic Medicine in the Southeast. As a result, Southeastern College of Osteopathic Medicine, as it was first known, opened in 1981.

From 1987 to 1997, Southeastern added Colleges of Pharmacy, Optometry, Allied Health, Medical Sciences, and the College of Dental Medicine, which admitted 88 students in 1997. This growth was unprecedented, but not unsurpassed. There was still more to come.

The merger brought on new possibilities. Prior to 1994, Nova had evolved with innovative technology and Southeastern expanded to provide much needed health care education. With the merger, Nova Southeastern University's resources make possible a more transdisciplinary education. Students have an opportunity to integrate across the disciplines and understand how their professions relate to society as a whole.

The growth of the Health Professions Division (HPD) is continuous. In 2003, an R.N. to B.S.N. (Bachelor of Science in Nursing) program was added to the College of Allied Health, which then became the College of Allied Health and Nursing. Numerous other nursing programs were added over the next nine years. This resulted in the creation of a separate College of Nursing in 2012. At the same time, the College of Allied Health was renamed the College of Health Care Sciences.

In 2015, an eighth college was added to the HPD academic mix—the College of Allopathic Medicine—which received preliminary accreditation in October 2017 and welcomed its inaugural class of 50 students in the summer of 2018.

In September of 2017, NSU received the largest philanthropic gift in its history from Dr. Kiran C. Patel, M.D., and his wife, Dr. Pallavi Patel, M.D. The commitment from the Patel Family Foundation included a \$50-million gift and an additional \$150-million real estate and facility investment in a 325,000-square-foot medical-education complex. This real estate would become the NSU Tampa Bay Regional Campus in Clearwater, Florida, scheduled to open in the summer of 2019. The NSU Tampa Bay Regional Campus will house an additional site for NSU's osteopathic medical school, as well as all the other HPD programs now housed at NSU's current Tampa Campus.

In honor of the financial gift, the Health Professions Division renamed two of its colleges. NSU's osteopathic medical college became the Dr. Kiran C. Patel College of Osteopathic Medicine and NSU's health care sciences college became the Dr. Pallavi Patel College of Health Care Sciences.

In January 2018, the HPD attained other significant financial gifts. To honor these gifts, two more HPD colleges were renamed. The College of Allopathic Medicine became the Dr. Kiran C. Patel College of Allopathic Medicine, while the College of Nursing was renamed the Ron and Kathy Assaf College of Nursing.

From the HPD's newest college—the Dr. Kiran C. Patel College of Allopathic Medicine—to its oldest—the Dr. Kiran C. Patel College of Osteopathic Medicine—each enhances NSU's esteem by providing high levels of innovation and distinctiveness.

## Campus

Nova Southeastern University's Health Professions Division—now composed of the colleges of osteopathic medicine, pharmacy, optometry, health care sciences, medical sciences, dental medicine, nursing, and allopathic medicine—offers a rare blend of tropical South Florida weather, plentiful sunny beaches, an easily accessible campus, a dedicated and professional faculty, well established affiliations with many hospitals, clinics, and health care systems in the area, and a mission to educate professionals capable of providing the highest-quality health care service.

The university's main campus is located on a lush, 314-acre site in the Greater Fort Lauderdale area, 10 miles inland of the Atlantic Ocean and readily accessible via several highways and Florida's Turnpike.

The Health Professions Division complex, dedicated in June 1996, is located on the northwest corner of the main campus and encompasses more than 540,000 square feet of space for administrative offices, classrooms, laboratories, the Martin and Gail Press Health Professions

Division Library, and a patient-services clinic. There is also a 600,000-square-foot parking structure with space for 2,000 vehicles.

The division elicited input from students and faculty members and incorporated innovations in architecture, ergonomics, and computer-aided technology to provide facilities that enhance the learning experience.

The complex is an arrangement of eight buildings, four of which are connected by air conditioned lobbies. The Sanford L. Ziff Health Care Center, physical plant, and parking garage are connected to the central buildings by covered walkways. Administration and faculty offices are on the upper levels of the five-story Terry Administration Building, with the departments of admissions and student services, and a cafeteria located on the first floor.

Located in the lobby of the Terry Building, the Health Museum exhibits artifacts and antiques representing each of the colleges of the Health Professions Division. The collection houses an informative and historical display of medical memorabilia for students, faculty members, and visitors to explore.

Private tours of the museum can be arranged with the curator, Cynthia Magalian Tupler, B.F.A. Contact Helen Caidin in the Pharmacy Department to schedule an appointment, (954) 262-1380.

Adjacent to the administration building is the Assembly Building, which consists of a 500-seat auditorium, a 250-seat auditorium, and eight 126-seat amphitheater-classrooms, all equipped with computerized audio/video systems.

Connected to this is the three-story Library/Laboratory Building. On the first floor is the library and a 100-seat cardiac laboratory utilizing "Harvey," a computerized mannequin that duplicates the sounds and symptoms of most heart conditions.

Also on the first floor are patient simulation training rooms and a 50-station computer laboratory for student use. The second and third floors house laboratories, a student lounge, and a research area. Laboratories are equipped for viewing pretaped medical procedures, and each large laboratory has a video system and hookups to equipment such as an electron microscope, so that illustrations can be amplified for laboratory-wide viewing.

Just north of the Library/Laboratory Building is the Health Care Center, with facilities for primary health care, rehabilitative services, eye care, pharmacy, and a simulation nursing laboratory.

The College of Dental Medicine's 70,500-square-foot building advances the state-of-the-art in dental education facilities. The first floor contains a 100-operator predoctoral clinic facility and clinics and support laboratories for oral medicine, radiology, and oral surgery. The second floor houses a faculty practice; clinics for postgraduate programs in advanced education in general dentistry, endodontics, operative dentistry, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontology, and prosthodontics; a 120-position simulation technique laboratory; and support laboratories. Faculty and administration offices are on the third floor.

The Health Professions Division added a building to foster opportunities for interdisciplinary education and to meet the need for additional classroom, computer, and research facilities. This modern, spacious facility known as the Assembly II Building contains more than 31,000 square feet of instructional and research facilities, including a 312-seat auditorium, ultrasound training center, a 50-station computer science laboratory, and 37 seminar and study rooms.

## Foreign Coursework

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905, for the appropriate college.

## Admissions Policy

Students provisionally are admitted to a degree-seeking program based on a review of unofficial transcripts or other specific program admission requirements. However, this admission includes a condition that final and official transcripts, documents, and requirements must be received within 90 calendar days from matriculation for the graduate and professional programs and by the end of the drop/add period for undergraduate programs. If these final and official transcripts, documents, and/or requirements are not received by that time, the student will not be allowed to continue class attendance. Financial aid will not be disbursed to a provisional/conditional student until he or she has been fully admitted as a regular student (all admissions requirements have been approved by the college/program admissions office). Students who have an unpaid balance 30 days from the start of the term will be assessed a \$100 fee.

## Background Checks

Accepted applicants and students are required to authorize the NSU Health Professions Division to obtain background check(s) as per the policy adopted on March 2011. If the background check(s) reveal information of concern, which the NSU Health Professions Division may deem unfavorable, HPD will request that the individual provide a detailed written explanation of the information contained in this report, along with appropriate documentation (e.g., police reports). Students may also be required to authorize clinical training facilities that they are assigned to by the Health Professions Division to obtain a background check with the results reported to the clinical training facility. This information must be delivered in the format requested (electronic or written) to the NSU Health Professions Division Background Check Committee within 10 business days of the date the communication is sent or another date specified by HPD in its communication with the student.

Offers of admission will not be considered final until the completion of the background check(s), with results deemed favorable by the NSU Health Professions Division, and where appropriate, by the clinical training facilities. If information received indicates that the student has provided false or misleading statements, has omitted required information, or in any way is unable to meet the requirements for completion of the program, then the admission may be denied or rescinded, the student may be disciplined or dismissed, or his or her enrollment may be terminated. Acceptance to an NSU Health Professions Division program does not guarantee that a student with information of concern will be accepted by clinical training facilities to which they may be assigned.

Following the initial background check(s), students will be asked annually to provide a certification relating to any convictions or guilty or no-contest pleas to any criminal

offense other than traffic violations. Additionally, a Level 2 background check may be required for certain rotations.

## Tuition Credit Policy—Voluntary Withdrawals

Students who wish to withdraw from the program or course, if course withdrawal is permitted in the student's college (refer to college policies), must submit a written request for voluntary withdrawal to the dean or program director, who will evaluate the student's request. After completing the required documentation and obtaining the dean's or program director's approval, an eligible student may receive partial credit of the tuition, according to the following formula:

- Drops during the first week of the semester in which classes begin ..... 75 percent
- Drops after the first week of the semester in which classes begin ..... No refund

The withdrawal period starts in the second week of the semester and ends three weeks prior to the end of the semester. **Students enrolled in programs that have a drop/add period**, will have until 11:59 p.m. the first Sunday of the semester, which is the end of the drop/add period, in order to make any changes in their schedule without incurring any financial expenses. Students who drop during the second week of classes will receive a reversal of 75 percent of their charged tuition. Students who drop after the second week of the semester will not be entitled to receive a refund.

Students enrolled in bachelor's degree programs are required to follow policy procedures for drops and withdrawals as noted in the undergraduate catalog.

Students may not be given refunds for portions of tuition paid by financial aid funds. As appropriate, the respective financial aid programs will be credited in accordance with federal regulations. Students should notify the Office of Student Financial Assistance prior to withdrawing to determine the effect this will have on financial aid. For complete withdrawals, please refer to the Return of Title IV Funds policies located at [nova.edu/financialaid/apply-for-aid/title-iv-return](http://nova.edu/financialaid/apply-for-aid/title-iv-return).

Failure to comply with these requirements could jeopardize future receipt of Title IV student assistance funds at any institution of higher education the student may attend. If a student is due a refund, it will be mailed to the student's address or deposited directly into his or her checking account as soon as the dean of the respective college has approved the withdrawal and the drop request has been processed. The tuition refund policy is subject to change at the discretion of the university's board of trustees/the NSU administration.

Changes to a semester's registration will not be accepted 20 days after the semester ends.

## Policy for Florida In-State Tuition

Eligible students must request in-state tuition upon application. For tuition purposes, students' Florida residency status (in-state or out-of-state) will be determined at initial matriculation and will remain the same throughout the entire enrollment of the student at NSU. Accordingly, tuition will not be adjusted as a result of any change in residency status after initial enrollment registration. For more information, visit [nova.edu/hpd-florida-in-state-tuition](http://nova.edu/hpd-florida-in-state-tuition).

## Enrollment and Student Services

Enrollment and Student Services (ESS) is composed of the Office of Student Financial Assistance, Office of the University Registrar, Office of the University Bursar, NSU Student Health Insurance, the One-Stop Shops in the Horvitz and Terry Administration buildings, the University Call Center and Help Desk, Enrollment Processing Services/Admissions Management Services, Transfer Evaluation Services, Health Professions Division (HPD) Office of Admissions, and SharkCard Services. Collectively, the ultimate goal of ESS is to effectively meet the information and service needs of all NSU students.

### Means of Communication with Students

Enrollment and Student Services' official means of communicating with students is via SharkLink and NSU email. Students are encouraged to use NSU's SharkLink to

- check email
- access their financial aid information
- request official transcripts and view unofficial transcripts
- view their student accounts
- make payments
- access their grades
- register for classes and drop courses
- view their course schedule
- access their online degree evaluation (CAPP)
- obtain enrollment verification
- change their primary and mailing addresses and phone numbers
- apply for student employment
- sign the Student Enrollment Agreement

### The Office of Student Financial Assistance

The Office of Student Financial Assistance (OSFA) is dedicated to helping students make informed financial choices while in college. There are four types of financial aid available to assist in meeting the cost of attending college: grants, scholarships, student employment, and loans. Grants

and scholarships are considered "gift" aid and generally do not have to be repaid. However, if a student drops or withdraws from any classes for which financial aid has been received, the student may have to return any "unearned" funds. Loans are considered "self-help" aid and always have to be repaid. Student employment requires the student to work in exchange for a pay check. Please remember that students interested in federal financial aid must annually complete the Free Application for Federal Student Aid (FAFSA) and meet general eligibility criteria. The NSU Federal School Code is 001509. For detailed information on the financial aid process and sources of aid, visit the financial aid website at [nova.edu/financialaid](http://nova.edu/financialaid).

### Financial Aid Checklist

#### 1. Complete the FAFSA.

Students complete the Free Application for Federal Student Aid (FAFSA) at [fafsa.gov](http://fafsa.gov) annually. It becomes available each October 1 for aid in the following award year. The earlier students apply, the better chance they have of being considered for maximum available funds. To apply for Florida grants and scholarships, undergraduate students must complete the NSU State Aid Application available on the financial aid website at [nova.edu/financialaid/forms](http://nova.edu/financialaid/forms).

#### 2. Identify and Apply for Scholarships.

Institutional and external scholarship opportunities are available to assist students in meeting their educational goals. The best resource for up-to-date information is the NSU scholarship website located at [nova.edu/financialaid/scholarships](http://nova.edu/financialaid/scholarships). Students will find information on how to apply, as well as resources to help them identify scholarships. Students should commit to continually identifying and applying for scholarships. This type of financial aid does not have to be repaid.

#### 3. Plan for Housing and Meal Expenses.

The budget includes a housing and meal component. Students should ensure that they budget for these expenses if they intend to live on campus.

#### 4. Check Your Financial Aid Account Frequently.

Students should log in to SharkLink at [sharklink.nova.edu](http://sharklink.nova.edu) and regularly check their financial aid status to ensure that there are no outstanding requirements. Students should confirm their admissions status, as they must have completed all admissions requirements in order for financial aid funds to be disbursed.

#### 5. Submit Additional Documents and Complete a Master Promissory Note and Entrance Counseling.

Some students may be required to submit additional documents prior to being awarded. Students will be notified of outstanding requirements via NSU (SharkLink) email. Requirements (outstanding and completed) can also be

viewed in SharkLink. Students interested in receiving Federal Direct Loans, will be required to complete a Direct Loan Master Promissory Note (MPN) and entrance counseling at [studentloans.gov](http://studentloans.gov).

#### **6. Accept, Reduce, or Decline Your Loan and Federal Work-Study Award(s).**

The financial aid award notice provides students with detailed instructions on how to accept, reduce, or decline a financial aid award. Awards will not be disbursed until this step has been completed.

#### **7. Check Your NSU (SharkLink) Email Daily.**

NSU email and SharkLink are the official means that the OSFA will use to communicate with students. Students should keep up-to-date by checking their NSU email daily.

#### **8. Register for Classes (early).**

In order for students to receive any federal Title IV or state financial aid (grants, scholarships, Federal Work-Study, and loans), they must register for at least the minimum number of credits that are required for degree/certificate completion (degree-applicable), as published in the catalog from the year the student matriculated. Enrollment requirements for federal and state grants vary. Students awarded federal direct loans must be enrolled at least half time in degree-applicable courses. Half-time enrollment is defined as 6 degree-applicable credits per semester for undergraduate students. For graduate and professional students, half-time status varies by program. Students should register as early as possible to ensure timely disbursement of their financial aid funds.

#### **Return of Title IV Funds**

Any student who does not complete at least one course within an academic semester for which financial aid is received, or could have been received, will be reviewed for a Return of Title IV Funds calculation. For complete information, please review [nova.edu/financialaid/apply-for-aid/title-iv-return](http://nova.edu/financialaid/apply-for-aid/title-iv-return).

#### **Student Employment**

There are four student employment programs: Federal Work-Study (FWS), Florida Work Experience (FWEP), Nova Student Employment (NSE), and Job Location and Development (JLD). The NSE and JLD programs provide jobs to students regardless of financial need. The FWS and FWEP programs are need-based and require the completion of the FAFSA. Students awarded FWS may participate in the America Reads/America Counts Programs through which students serve as reading or math tutors to elementary school children. For more information on NSU part-time and full-time student employment, visit [nova.edu/financialaid/employment](http://nova.edu/financialaid/employment).

#### **Satisfactory Academic Progress (SAP)**

To receive financial assistance, a student must continually meet Satisfactory Academic Progress (SAP). Different definitions of SAP apply for Florida state aid and federal aid. According to federal regulations, NSU has established annual, university-wide quantitative, qualitative, maximum time frame, and pace SAP requirements.

Students who fail to meet SAP during the 2018–2019 academic year will not be eligible for Title IV federal and Florida state financial aid during the 2019–2020 academic year.

Comprehensive information is available on the financial aid website at [nova.edu/sap](http://nova.edu/sap).

#### **Veterans Educational Benefits**

The Department of Veterans Affairs (DVA) educational benefits are designated to provide eligible individuals with an opportunity for educational and career growth. Detailed information regarding veteran benefits at NSU is available online at [nova.edu/financialaid/veterans](http://nova.edu/financialaid/veterans). Students may also contact the NSU Veterans Benefits Office at (954) 262-7236 or toll free at 800-541-6682, ext., 27236 Monday through Friday, between 8:30 a.m. and 5:00 p.m. or visit the veteran benefits office in the Horvitz Administration Building on the Fort Lauderdale/Davie Campus. Students may also learn about their education benefits by visiting the U.S. Department of Veterans Affairs online at [benefits.va.gov/gibill](http://benefits.va.gov/gibill) or by contacting the DVA at 888-442-4551.

#### **Grade/Progress Reports for Students Receiving Veterans Benefits**

Nova Southeastern University furnishes each student with a Notification of Posting of Grade with instructions on how to view an unofficial transcript that shows current status of grades and earned semester hours for all courses completed and/or attempted, and grades for courses in which the student is currently enrolled. At the end of every evaluation period (e.g., term, semester) each veteran can request an official transcript that shows the current status of grades and earned semester hours for all courses completed and/or attempted. This transcript can be obtained from the One-Stop Shop at the William and Norma Horvitz Administration Building or Terry Administration Building or online at [sharklink.nova.edu](http://sharklink.nova.edu) for a \$10 fee.

#### **The Office of the University Bursar**

The Office of the University Bursar is responsible for billing students, collecting and depositing payments, sending invoices and receipts, distributing student educational tax forms, issuing refunds from excess financial aid funds, and verifying students' eligibility for financial aid funds. The office also assists borrowers of Federal Perkins and Health and Human Services Loans with repayment options. NSU Student Health Insurance is also housed within this office. For more information, visit [nova.edu/bursar](http://nova.edu/bursar).

## Office of the University Bursar Policies

- By registering for courses at Nova Southeastern University, the student accepts financial responsibility for payment of all institutional costs including, but not limited to, tuition, fees, housing and meal plan (if applicable), health insurance (if applicable), and any additional costs when those charges become due.
- Payment is due in full at the time of registration. NSU ebills are sent the middle of each month to the student's NSU email address. However, to avoid late charges, students should not wait for their billing statement to pay their tuition and fees.
- A student will not be able to register for future semesters until all outstanding balances from previous semesters have been paid in full. If a student has a balance 30 days after the start of the semester, a hold and a \$100 late fee will be placed on his or her account. This hold stops all student services, including, but not limited to, access to the University RecPlex, academic credentials, grades, and future registrations. It will remain on the student's account until the balance has been paid in full.
- Delinquent student account balances may be reported to a credit bureau and referred to collection agencies or litigated. Students with delinquent accounts will be liable for any costs associated with the collection of unpaid charges, including attorney fees and court costs. All registration agreements shall be construed in accordance with Florida law, and any lawsuit to collect unpaid fees may be brought in the appropriate court sitting in Broward County, Florida, regardless of the student's domicile.

## Methods of Payment

NSU accepts Visa, MasterCard, and American Express. Check payments include traveler's checks, cashier's checks, personal checks, and money orders. International checks must be in U.S. funds only and drawn on a U.S. bank. Wire transfers are accepted.

Electronic check and credit card payments can also be made through NSU eBill, SharkLink, or WebStar. Students can access NSU ebill using their SharkLink ID and password to authorize other individuals (e.g. parent, spouse, or grandparent) to view their bill and make payments to their account. Credit card authorization forms can be downloaded from the Bursar's website at [nova.edu/bursar/forms/cc\\_authorization](http://nova.edu/bursar/forms/cc_authorization) and faxed to (954) 262-2473. Students may also mail a payment to the Office of the University Bursar or make payments in person at either of the One-Stop Shops on the Fort Lauderdale/Davie Campus.

## Declined Payment Policy

NSU assesses a \$25 declined payment fee for each declined payment, including payments made by check or credit card. The bursar's office reserves the right to refuse personal checks from students whose previous check payments have been declined more than once. These students will be required to submit payment by money order, credit card, or certified check.

## Payment and Tuition Assistance Plans

### NSU Payment Plans

NSU Payment Plans allow students (with the exception of international students) and their families to pay university charges in installments. For more information, visit [nova.edu/bursar/payment/payment\\_plans](http://nova.edu/bursar/payment/payment_plans).

### Tuition Assistance Plans

#### • Tuition Deferment

Graduate students should contact their program office for information on deferment programs. Eligible students participating in employer tuition assistance programs who wish to defer tuition payment must, upon registration,

- submit a letter of eligibility, a purchase order from their employer, or details of their employer's program from the employer's human resources office or the employer's website by email to [bursar@nova.edu](mailto:bursar@nova.edu)
- provide postdated payments (check or credit card authorizations) for the amount of tuition. Payment of tuition only (not fees) may be deferred for five weeks after course completion.
- pay a \$75 deferment fee along with all other fees
- notify the Office of Student Financial Assistance of participation in an employer tuition assistance program by email to [finaid@nova.edu](mailto:finaid@nova.edu)

#### • Tuition Direct Billing

A student whose employer, sponsor, or guarantor has agreed to be direct billed by NSU must notify the Office of the University Bursar accordingly. Upon registration, the student must

- provide a voucher, financial guarantee, letter of credit or eligibility from the respective payer with the amount and enrollment period for which funds are to be applied when charges are due at the time of registration
- pay any amount due not covered in the billed party documentation

#### • Tuition Reimbursement

Some employers/sponsors/guarantors make payments directly to the student. Upon registration, students must

- pay charges in full for the semester/term to be reimbursed



– send an email to [bursar@nova.edu](mailto:bursar@nova.edu) from their SharkLink (NSU) email account to request a receipt of paid charges

### **Florida Prepaid College Plan**

NSU accepts and bills the Florida Prepaid College Plan for tuition, fees, and on-campus housing costs. The plans are based on the tuition rates of the tax-assisted Florida public colleges and universities. The difference between NSU tuition, fees, and on-campus housing costs and the allocations through the Florida Prepaid College Plan is the sole responsibility of the student. If a student is on the unrestricted plan, the student must designate a dollar amount for up to the cost of tuition and fees. Students new to NSU must contact Florida Prepaid at 800-552-GRAD to authorize NSU for payment. For those students who have notified the Florida Prepaid College Plan that they are attending NSU, the plan will automatically be billed based on the hours of enrollment after the drop/add period. A student may request changes to this procedure by submitting a completed and signed Florida Prepaid College Plan Billing Request Form available on the bursar website at [nova.edu/bursar/forms](http://nova.edu/bursar/forms). To learn more about the Florida Prepaid College Plan, visit [myfloridaprepaid.com](http://myfloridaprepaid.com).

### **NSU Student Health Insurance**

Students enrolled in certain programs are required to carry adequate health insurance coverage. Generally, this applies to most programs in the Health Professions Division. Students in a mandatory program will automatically be enrolled in the NSU Student Health Insurance Plan, and their student account will be charged accordingly. Students insured under another insurance plan must opt out of the NSU Student Health Insurance Plan each academic year by the given waiver deadline for their program. The effective dates for coverage under the NSU Student Health Insurance Plan will coincide with the academic year, not the calendar year. For more information on the NSU Student Health Insurance waiver deadlines and access to the online waiver process, students should visit the Bursar's website at [nova.edu/studentinsurance](http://nova.edu/studentinsurance).

### **The Office of the University Registrar**

The Office of the University Registrar offers a variety of services to the university community. These services include, but are not limited to, course registration, transcript processing, name and address change, loan deferment, enrollment and degree verification, grade processing, commencement, degree conferral, and diploma printing. Additional information is available at [nova.edu/registrar](http://nova.edu/registrar).

### **Transcript Requests**

Students may view a complete academic history, print out an unofficial transcript, and request an official transcript in SharkLink. In addition, a Transcript Request Form—available online at [nova.edu/registrar/forms/transreq.pdf](http://nova.edu/registrar/forms/transreq.pdf)—can

be completed and submitted in person to the One-Stop Shop, via fax to (954) 262-4862, or via regular mail to

Nova Southeastern University  
Enrollment and Student Services  
Office of the University Registrar  
3301 College Avenue  
Fort Lauderdale, Florida 33314-7784

There is a \$10 fee for each official transcript.

### **Grades**

Once grade(s) have been posted to the student's academic record, a notification email directing students to SharkLink to view their grades is sent. An official grade report may also be printed from SharkLink.

### **Class Registration and Changes**

All students must complete an online Student Enrollment Agreement (SEA) form each semester/term in order to register for classes. The SEA outlines the university's standards and policies regarding course registration and withdrawal, financial responsibility, and more. A copy of the SEA is available on the registrar's website at [nova.edu/registrar/forms/catch-the-sea-wave](http://nova.edu/registrar/forms/catch-the-sea-wave). Students must be officially registered prior to the start of the semester/term in order to participate in and receive academic credit for those courses. All holds must be cleared at the time of registration. Late registration will not be accepted if due to a financial hold that was not cleared prior to the close of the registration period. Students are responsible for reviewing their registration and academic records each semester/term for accuracy and for promptly notifying their program office/adviser of any discrepancies. Students have no more than 20 days after the end of a semester/term to resolve any discrepancies. Petitions for retroactive drops, withdrawals, or refunds for a course will only be considered based on documented extenuating circumstances. Appropriate documentation may include doctor's notes and death certificates.

### **Roster Reconciliation**

University policy requires that each faculty member reconciles and validates the accuracy of his or her class roster during the second week of the semester/term, as determined by the approved Nova Southeastern University academic calendar. Any student deemed as a non-attendee will be dropped from the class roster by the Office of the University Registrar.

Students who believe they were reported in error as non-attendee must communicate with the instructor, who is the only one able to correct the record. Faculty members must email [rostrec@nova.edu](mailto:rostrec@nova.edu) to request a student be left on the class roster who was originally reported as not in attendance.

### **Name and/or Social Security Number Changes**

NSU requires official documentation to make any change to the name or Social Security number students have on record. Acceptable documents verifying a name change include a marriage license or certified abstract of marriage, divorce decree, driver's license, certificate of naturalization, permanent or conditional permanent resident card, resident alien card, passport (book or card), court order (final judgment of name change or final judgment of change of name), uniformed services military identification card, birth certificate (acceptable only for correcting spelling errors), and a Bureau of Vital Statistics card. Documents that will not be accepted include a petition of name change, Social Security card, petition for naturalization, employee identification card, and professional license card. If you are an NSU international student, only a copy of your current passport will be accepted in order to update your name on your student record. To change a Social Security number, submit a Data Change Form (available at [nova.edu/registrar/forms/data\\_change.pdf](http://nova.edu/registrar/forms/data_change.pdf)), along with a copy of your signed Social Security card.

### **Gender Changes**

NSU requires official documentation to make a change in gender. Provide the previous and current names, along with the student identification number. A court order is the only official documentation required to update the student record with a gender change.

### **Address Changes**

Students may change their address via SharkLink by clicking on the green WebSTAR tile in the application slider bar and selecting "Personal Information." Students may also submit a written request to the University Registrar's Office via fax at (954) 262-2915, in person at the One-Stop Shop, or via email to [studentupdates@nova.edu](mailto:studentupdates@nova.edu).

### **Loan Deferment/Enrollment and Degree Verification**

Students may obtain a free, official Loan Deferment/Enrollment Verification Form via SharkLink. This Enrollment Verification Form is an official document from the National Student Clearinghouse (NSC) that can be presented to health insurance agencies, housing authorities, consumer product companies, banks, and other agencies requiring documentation of your current enrollment status.

### **Commencement**

The Office of the University Registrar coordinates all NSU commencement exercises, processes degree applications, and prints and distributes diplomas. Complete information is available online at [nova.edu/commencement](http://nova.edu/commencement).

### **Transfer Evaluation Services**

#### **Graduate and First-Professional Students**

Graduate and first-professional students may refer to the institutional policies on transferring credits to NSU listed on the TES website at [nova.edu/tes](http://nova.edu/tes). Questions regarding the transfer of graduate/first-professional-level courses should be addressed to the student's program admissions office.

#### **CAPP Degree Evaluation**

The Curriculum, Advising, and Program Planning (CAPP) degree evaluation system is a useful reference tool to help students track their progress toward degree requirements published in the college catalog. Students may access CAPP in SharkLink and learn more about the system at [nova.edu/capp](http://nova.edu/capp). CAPP does not replace a student's academic advisor or college catalog information. CAPP degree evaluations are not official. Students should consult their academic advisor/program office for detailed program requirements and course options. Final approval for the completion of graduation requirements is granted by the program office.

### **University Call Center**

The University Call Center is available during the hours listed below to answer financial aid, bursar, registrar, and technical support (Help Desk) questions. All hours are eastern time.

Office of the University Bursar: (954) 262-5200

Office of Student  
Financial Assistance: (954) 262-3380 • 800-806-3680

Office of the  
University Registrar: (954) 262-7200 • 800-806-3680

HPD Admissions: (954) 262-1101

Help Desk: (954) 262-HELP (4357)\*

### **Hours of Operation**

Monday–Friday: 7:00 a.m. to 10:00 p.m.

Saturday and Sunday: 8:30 a.m. to 5:00 p.m.

\*For Help Desk hours of operation, please visit [nova.edu/help](http://nova.edu/help).

### **The One-Stop Shop**

#### **(Horvitz and Terry Administration Buildings)**

The One-Stop Shop is the central point of contact for information and service for walk-in prospective, new, and continuing students. Staff members are cross-trained to answer inquiries about financial aid, registrar, and bursar functions. Students can also obtain their SharkCards and parking decals at the One-Stop Shop, which is located in the Horvitz Administration Building, and on the first floor of the Terry Administration Building, both on the Fort Lauderdale/Davie Campus.

### Hours of Operation

Monday–Thursday: 8:30 a.m. to 7:00 p.m.

Friday: 8:30 a.m. to 6:00 p.m.

Saturday: 9:00 a.m. to noon (Horvitz only)

The University Call Center and the One-Stop Shop are closed on holidays observed by NSU.

### Regional Campuses

The Office of Student Financial Assistance hours of operation at the regional campuses are as follows:

#### Fort Myers

Monday–Friday: 8:30 a.m.–5:00 p.m.

(No Saturday or Sunday hours)

#### Jacksonville

Monday–Friday: 9:30 a.m.–6:00 p.m.

(No Saturday or Sunday hours)

#### Miami

Monday–Friday: 8:30 a.m.–6:00 p.m.

(No Saturday or Sunday hours)

#### Orlando

Monday–Friday: 9:00 a.m.–5:30 p.m.

(No Saturday or Sunday hours)

#### Palm Beach

Monday–Friday: 8:30 a.m.–5:00 p.m.

(No Saturday or Sunday hours)

#### Puerto Rico

Tuesday–Friday: 8:30 a.m.–6:00 p.m.

Saturday 9:00 a.m.–12:30 p.m.

#### Tampa

Monday–Friday: 9:30 a.m.–6:00 p.m.

(No Saturday or Sunday hours)

### Veterans Resource Center

The mission of the Nova Southeastern University Veterans Resource Center (VRC) is to link veterans with university and community resources. In addition, the VRC provides a welcoming environment for student-veterans to study, connect, and relax. The VRC is located on the second floor of the Rosenthal Student Center in Room 218. The room is open from 7:00 a.m. to 10:00 p.m., seven days a week.

For more information about NSU's Veterans Resource Center, please call (954) 262-FLAG (3524) or email [vr@nova.edu](mailto:vr@nova.edu). Support and follow the VRC at [facebook.com/NSUVets](https://www.facebook.com/NSUVets) and [instagram.com/nsuvets](https://www.instagram.com/nsuvets).

### Certificate of Physical Examination

Students must have a certificate of physical examination completed by their physician. Forms will be provided to each matriculant as part of the admissions package or can be downloaded from [nova.edu/smc/immunization-forms](http://nova.edu/smc/immunization-forms).

Students may request that the University Health Service perform these examinations. The University Health Service will make appointments in as timely a manner as possible. The appointments, once made, become an obligation of the student, and must be kept.

These certificates (whether done privately or by the university) will be placed in an appropriate facility.

### Immunization Requirements

Students must complete a mandatory immunization form, which must be signed by a licensed health care provider. The form can be found at [nova.edu/smc](http://nova.edu/smc).

Students in the Health Professions Division may be required to upload proof of immunizations to multiple online portals to satisfy the requirements of their programs and training facilities where they are assigned.

The following immunizations/vaccinations are required of students at the Health Professions Division based on the current Centers for Disease Control (CDC) recommendations for Health Care Personnel:

#### Basic Immunizations

Every student is required to have had an immunization for, or show evidence of immunity to, the following diseases before matriculating at Nova Southeastern University:

##### Varicella (Chicken Pox)

One of the following is required—Proof of two vaccinations or positive antibody titer. (Lab report is required.)

##### Measles, Mumps, and Rubella (MMR)

One of the following is required—Proof of two vaccinations or positive antibody titer for measles (rubeola), mumps, and rubella. (Lab report is required.)

##### Tetanus Toxoid, Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap)

All students are required to have had a Tetanus Toxoid, Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap) booster prior to matriculation and must maintain immunity by continuing to remain current according to the CDC recommendations for health care personnel during their program. Due to the increased risk of pertussis in a health care setting, the Advisory Committee on Immunization Practices highly recommends health care workers receive a one-time Tdap (ask your health care provider). Tdap is required, without regard to interval of previous dose of Tetanus Toxoid (Td).

## Influenza

Vaccinations are administered annually. (An annual, seasonal influenza vaccine is required by most clinical sites.)

## Hepatitis B

- Both of the following are required—Three vaccinations and positive surface antibody titer. (Lab report is required.)
- If the series is in progress, evidence of at least one shot must be provided, and the renewal date will be set accordingly.
- If the titer is negative or equivocal, the student must repeat the series and provide a repeat titer report.

## PPD Skin Test (Two Step)

One of the following is required—negative two-step test or negative blood test (such as QuantiFERON Gold Blood Test or T-Spot Test) or, if positive PPD results, provide a chest X-ray and/or prophylactic treatment information within the past 12 months. Please note that some rotation sites may not accept the blood test.

## Arrangements

Students may request that the Student Medical Center or the NSU Clinic Pharmacy administer these immunizations. The Student Medical Center will make appointments in as timely a manner as possible. Students may call (954) 262-1270 to make an appointment. Once made, the appointment becomes the student's obligation and must be kept. For students at other NSU campuses, appointments may be scheduled with the NSU-designated physician for their area.

## HPD Fee

The HPD general access fee covers a series of three Hepatitis B vaccines and an annual PPD screening. All other immunizations and health care services are the responsibility of the student.

## Failure to Comply

The university is not required to provide alternative sites for clinical practicum or rotations should immunization be a requirement for placement. **Therefore, failure to comply with this policy may result in a student's inability to satisfy the graduation requirements in his or her program.**

Relative to clinical rotation site requirements, students are expected to consult their specific college/program handbooks for compliance with any college/program-specific requirements.

## Dress Code

Students in the Health Professions Division must maintain a neat and clean appearance befitting students attending

professional school. Therefore, attire should convey a professional appearance whenever the student is on the division campus and in classes or laboratory or on an experiential rotation or program. The dress code is to be observed at all times, including during midterms and examination periods. Students are expected to consult their specific program office for compliance with any program-specific and clinical rotation site-supplemental dress code policies.

## Identification Requirements and Fieldwork Prerequisites

An affiliated clinical/fieldwork teaching facility may also require a student to pass a state of Florida Department of Health screening before rotation. Other requirements that may be held by the affiliated facility include, but are not limited to, fingerprinting, a criminal background check, urinalysis for drugs and alcohol, and proof of immunization. If a student does not meet all requirements held by the affiliated facility before the first day of the scheduled placement, the student's placement will be canceled. If the placement has already begun, the student will be asked to leave.

## Martin and Gail Press Health Professions Division (HPD) Library

The Martin and Gail Press Health Professions Division Library is located on the first floor at the north end of the Terry Building Complex in the Library/Lab Building. The collection consists of more than 17,000 print volumes, 700+ electronic books, and 8,000+ active medical/health journal subscriptions in both print and digital formats. Many of the available electronic texts are required textbooks in various courses. In addition, more than 210 medical/health databases are available 24/7 to meet the needs of the eight HPD colleges. All students have access to the full resources of all NSU libraries, both print and online. Medical/health databases include Medline, CINAHL, Clinical Key (which includes Procedures Consult and First Consult), LexiComp, and UpToDate, Web of Science, and Access Pharmacy, as well as many databases specific to individual programs. The Interlibrary Loan and Document Delivery Office will provide additional journal articles, books, and items not available digitally to any student at no cost. All resources are available through the Press HPD Library home page ([nova.edu/hpdlibrary](http://nova.edu/hpdlibrary)). In addition, free notary service is available during business hours.

Professional reference services are available via phone, text, email, or face to face. Seven professional librarians are available for help with searching, finding full-text journals, citation reference management, and research strategies. Each HPD college/program is assigned a subject specialist

liaison librarian who works closely with faculty members and offers assistance with specific class assignments.

Quiet study areas are designated in the library with a variety of seating options available, from large tables to individual carrels and informal seating. There are 50 individual/small group study rooms in the library and adjacent Assembly II Building. Rooms may be checked out for three hours, then renewed if no one else is waiting for them. Pagers may be checked out to get in line for the next available room. All rooms are equipped with white boards and Wi-Fi. Markers are available for checkout at the Circulation Desk. Individual, small white boards are available for checkout as well. A small teaching lab is available for group instruction and open to individual students when not in use by groups. One 50-station computer lab is open in the Assembly II building 24/7 with NSU Student ID badge access. Laptop computers and iPads loaded with 100+ medical and production apps are available for short-term checkout at the library circulation desk. Wireless printing stations are available in the Collaboration Room.

The Press HPD Library also provides the following goods and services to enhance student learning and study:

- a digital production room/studio for video recording and editing, along with cameras and other production equipment that can be taken from the library
- 3-D scanning and printing services for students involved in curricular and faculty projects
- two Mediascape collaboration units for using multiple personal laptops/tablets with single or double monitor displays for group work and instruction
- a large collaboration area for group study with large, touch-screen monitors for interactive apps and other digital resources
- print editions of required textbooks on reserve for use in the library
- on-site technology assistance
- writing assistance for students
- binding, faxing, and scanning services
- free notary service
- anatomy models and skeletons
- small, individual, white boards and markers
- individual apps for checkout on personal digital devices
- chargers and extension cords for checkout
- earplugs and school supplies (for sale)
- coffee service
- sports equipment for use in the student lounge (Ping-Pong, Foosball, and pool)

Hours of operation for the Press HPD Library, Study Center rooms in Assembly II, and adjoining computers labs are Monday–Thursday: 7:00 a.m.–midnight, Friday: 7:00 a.m.–9:00 p.m., and Saturday and Sunday: 10:00 a.m.–midnight. From September through May, these study rooms in the Assembly II building are open 24/7.

For more information, please call (954) 262-3106.

See the Libraries section of the *NSU Student Handbook* for information about NSU's Alvin Sherman Library, Research, and Information Technology Center. Visit [nova.edu/student-handbook](http://nova.edu/student-handbook) for more information.

## Health Care Centers

The Health Professions Division Health Care Centers serve an important function and are an integral part of the training programs. They provide a vital community function by bringing health care service to areas whose medical needs traditionally have gone unmet.

### Sanford L. Ziff Health Care and the Don Taft University Centers

The Ziff Health Care Center is a state-of-the-art, primary care facility. Contained at the health care center are family medicine, pediatrics, occupational therapy and physical therapy for pediatrics, nephrology, hypertension care, OB-GYN, and general internal medicine, as well as a pharmacy, an optometric center, and an optical dispensary. Complete dental services are available next door at the clinics operated by the NSU College of Dental Medicine. Ambulatory medical, optometric, and dental care is made available during regular business hours for the university community. Occupational therapy, physical therapy, and rehabilitation are also available in the Don Taft University Center. When a student or a family member needs care, they may make an appointment with the University Health Service. For those unable to make appointments in advance, hours will be posted. For urgent situations, contact the University Health Service at (954) 262-4100. Most insurance policies are accepted by the health facility for medical services.

### Hearing and Balance Center

The Hearing and Balance Center, located in the Ziff Health Care Center, evaluates individuals of all ages using a variety of diagnostic testing procedures to determine the exact nature of the hearing and/or balance impairment. It provides tinnitus evaluation and treatment services, as well as auditory processing evaluation and treatment. The center also offers an array of treatment options for hearing loss to fit a patient's lifestyle and communication needs. These include digital hearing instruments and assistive listening devices. Additionally, newborn hearing screenings, hearing conservation services, and hearing protection device services are offered. For more information or an appointment, call (954) 678-2273.

Consultation with specialists, when needed, will be arranged by the University Health Service. Such specialty care will be the student's financial responsibility. Direct visits to specialists without referral by the University Health Service are strongly discouraged.

### **Sports Medicine Clinic**

Sports Medicine services are available in the Don Taft University Center.

### **Campus Pharmacy**

Located adjacent to the Ziff Health Care Center is the pharmacy where prescriptions and over-the-counter, herbal, and homeopathic remedies are available. The pharmacy Wellness Center addresses diabetes, high blood pressure, and other diseases.

### **Hours of Operation**

Monday–Friday: 9:00 a.m. to 6:00 p.m.

Saturday: 9:00 a.m. to 1:00 p.m.

For additional information, contact (954) 262-4550.

### **NSU Student Counseling**

3440 South University Drive, Davie, Florida 33328-2000  
(in University Park Plaza)

Counseling for NSU students is provided by the Henderson Student Counseling Center. Services include treatment for anxiety, depression, anger management issues, stress, relationship challenges, chronic illnesses, abuse, suicidal thoughts, break-up/divorce, assault, substance abuse, and many other areas affecting a student's quality of life. The office is staffed with licensed mental health professionals including a psychologist and psychiatrist. Services include

- individual counseling
- couples counseling
- group counseling
- psychiatric services

### **Contact Information**

Office: (954) 424-6911

Fax: (954) 424-6915

After hours on-call counselor: (954) 424-6911

### **Hours**

Monday, Thursday: 8:30 a.m. to 6:00 p.m.

Tuesday, Wednesday: 8:30 a.m. to 8:00 p.m.

Friday: 8:30 a.m. to 5:00 p.m.

### **NSU Health Care Center at North Miami Beach**

1750 NE 167th Street, North Miami Beach, Florida

This facility houses a full-service primary care family medicine practice as well as a state-of-the-art dental center, a comprehensive optometric clinic and optical dispensary to serve the community. For more information or an appointment, call (954) 678-2273.

### **Eye Care Institute of Fort Lauderdale**

The Eye Care Institute of Fort Lauderdale, located in the North Broward Hospital District building at 1111 West Broward Boulevard, provides primary eye care and pediatric/binocular vision services to the urban community in the downtown area as well as the hospital district patients. Along with routine and emergency eye care, services for early detection and monitoring and treatment of glaucoma and other eye diseases are provided by students supervised by experienced faculty members in this state-of-the-art facility. Specialty care, including vision training for children up to 12 years of age, is offered by the Eye Institute's pediatric section. A wide selection of frames and lenses for both children and adults are available at reasonable cost on-site.



**Dr. Kiran C. Patel**  
**College of Osteopathic Medicine**

PATIENTS NAME \_\_\_\_\_  
DATE AND TIME OF ADMISSION \_\_\_\_\_

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A+  
Wale  
01-01-00 3:15 pm





# Dr. Kiran C. Patel College of Osteopathic Medicine



Elaine M. Wallace,  
D.O., M.S., M.S., M.S.  
Dean

## Dr. Kiran C. Patel College of Osteopathic Medicine Mission Statement

The mission of the Dr. Kiran C. Patel College of Osteopathic Medicine is to provide learner-centered education, both nationally and internationally, for osteopathic medical students, postgraduate trainees, physicians, and other professionals. Through its interprofessional programs, the college prepares competent and compassionate lifelong learners; supports research, scholarly activity, and community service; and advocates for the health and welfare of diverse populations, including the medically underserved.

### Administration

**Elaine Wallace, D.O., M.S., M.S., M.S.**  
Dean

**Guy M. Nehrenz, Ed.D., M.A., RRT**  
Senior Associate Dean of Osteopathic  
Medical Education

**Kenneth Johnson, D.O.**  
Executive Associate Dean, Tampa Bay  
Regional Campus

**Margaret Wilkinson, Ph.D.**  
Associate Dean of Preclinical Education

**Hilda M. De Gaetano, D.O., M.S., FAAP, FACOP**  
Senior Assistant Dean of Preclinical Education

**Jill Wallace-Ross, D.O.**  
Assistant Dean of Osteopathic Clinical Education

**Janet Hamstra, Ed.D.**  
Assistant Dean of Graduate Medical Education

**Phyllis J. Filker, D.M.D., M.P.H.**  
Associate Dean of Bachelor's, Graduate,  
and Community Education

**Mark Sandhouse, D.O., M.S.**  
Associate Dean of Administration

**Jennifer Jordan, Ed.D.**  
Assistant Dean of Medical Education

**Delia Harper-Celestine, Ed.D., M.P.H.**  
Assistant Dean of Student and Alumni Affairs

**Paula Anderson-Worts, D.O., M.P.H.**  
Interim Assistant Dean of Faculty Affairs

**Edward Packer, D.O.**  
Assistant Dean of Clinical Affairs

**Nancy Klimas, M.D.**  
Assistant Dean of Research

**Steven B. Zucker, D.M.D., M.Ed.**  
Associate Dean of Community Affairs and Area Health  
Education Center

**Cyril Blavo, D.O., M.S., M.P.H., TM, FACOP**  
Assistant Dean of Academic Affairs, Tampa Bay  
Regional Campus

**James Howell, M.D., M.P.H.**  
Assistant Dean of Professional Relations

**Anthony J. Silvagni, D.O., Pharm.D., M.Sc.,  
FACOP, *dist.***  
Dean Emeritus

### Core Performance Standards for Admission and Progress

The Dr. Kiran C. Patel College of Osteopathic Medicine (KPCOM) is pledged to the admission and matriculation of qualified students and wishes to acknowledge awareness of laws that prohibit discrimination against anyone on the basis of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations. Regarding those students with verifiable disabilities, the university and KPCOM will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards (core performance standards) as set forth herein, with or without reasonable accommodation.

In adopting these standards, the university and KPCOM believe it must keep in mind the efficacy and safety in the learning environment, as well as the ultimate safety of the patients who some of its graduates will eventually serve. Specifically, the standards reflect what the university and KPCOM believe are reasonable expectations

required of future osteopathic physicians in performing common functions. Any exceptions to such standards must be approved by the dean of KPCOM based upon appropriate circumstances.

Honor and integrity are essential and depend on the exemplary behavior of the individual in his or her relations with classmates, patients, faculty members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty members, and patients who come under the student's care or contribute to his or her training and growth, as well as members of the general public. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU-KPCOM, each student subscribes to, and pledges complete observance to, NSU's Student Code of Conduct Policies. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

Students in the Doctor of Osteopathic Medicine degree program must have, with or without reasonable accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Students must be able to perform these abilities and skills in a reasonably independent manner. Osteopathic physicians must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, students in the Doctor of Osteopathic Medicine Program at KPCOM must be able to integrate consistently, quickly, and accurately all information received. They must also have the ability to learn, integrate, analyze, and synthesize data.

#### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

Students must have critical thinking ability sufficient for problem solving and good clinical judgment. This is necessary to identify cause/effect relationships and to develop plans of action or plans of care. In addition, students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. Students are expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. They must be able to think quickly and accurately in an organized manner, despite environmental distractions. Examples include, but are not limited to, identification of cause/effect relationships in clinical situations, development

of treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory.

#### **Interpersonal Communication**

Students must be able to interact and communicate effectively with respect to policies, protocols, and process—with faculty and staff members, students, patients, patient surrogates, and administration—during the student's educational program. They must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but also reading and writing. Students must also be able to communicate effectively and efficiently in all written forms with all members of the health care team. They must have interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds.

Students must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written exams and patient charts; elicit patient backgrounds; describe patient changes in moods, activity, and posture; and coordinate patient care with all members of the health care team. Students must be able to communicate or provide communication in lay language so that patients and their families can understand the patient's conditions, treatment options, and instructions. Students must be able to accurately enter information in the patient's electronic health record, according to his or her program's requirements.

#### **Motor Skills**

Osteopathic medicine students must have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of some health care professionals are cardiopulmonary resuscitation (CPR), administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, and the ability to calibrate and use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

#### **Strength and Mobility**

Students must have sufficient mobility to attend emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and to maneuver in small places.

Osteopathic medicine students must have the ability to position patients for the administration and delivery of osteopathic manipulative treatment in a variety of settings and to position and move patients when required.

### **Hearing**

Students must have sufficient auditory ability to monitor and assess auditory communication, when necessary. Osteopathic medicine students must be able to hear information given by the patient in answer to inquires; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to monitor equipment.

### **Visual**

Osteopathic medicine students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. Osteopathic medicine students must have sufficient visual ability to use ophthalmologic instruments. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration. Students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment.

### **Tactile**

Osteopathic medicine students must have sufficient tactile ability for physical assessment. They must be able to perform palpation and functions of physical examination and/or those related to therapeutic intervention.

Osteopathic medicine students must be able to use tactile senses to diagnose directly by palpation and indirectly by sensations transmitted through instruments.

### **Sensory**

Osteopathic medicine students are required to have an enhanced ability to use their sensory skills. These enhanced tactile and proprioceptive sensory skills are essential for appropriate osteopathic evaluation and treatment of patients.

## **Doctor of Osteopathic Medicine Program**

### **Mission Statement**

The Doctor of Osteopathic Medicine Program in the Dr. Kiran C. Patel College of Osteopathic Medicine is dedicated to student-centered osteopathic medical education to produce exemplary osteopathic physicians known for competent and compassionate care.

### **Accreditation**

Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine's Doctor of Osteopathic Medicine Program has been granted accreditation by the Commission on Osteopathic College Accreditation of the American Osteopathic Association. This body is recognized by the U.S. Department of Education and the Council of Post-Secondary Accreditation as the accrediting agency for colleges educating osteopathic physicians and surgeons.

## **An Osteopathic Physician**

Two types of complete physicians may practice medicine in all 50 states: the Doctor of Osteopathic Medicine (D.O.) and the Doctor of Medicine (M.D.). While both types of physicians are trained in all aspects of patient care, D.O.s offer a distinct, holistic approach to medicine.

Osteopathic medicine is distinguished by an emphasis on primary care, by using osteopathic manipulative medicine when necessary, and by a tradition of caring for patients in underserved rural and urban areas.

Osteopathic physicians recognize the relationship between physical structure and organic function and view the human body as an interdependent unit rather than an assortment of separate parts and systems.

While all medical and surgical specialties are represented within the osteopathic medical profession, the training of vitally needed family physicians and the drive to reach rural, minority, geriatric, and indigent populations, make the osteopathic medical profession unique.

We are proud of our success in producing vitally needed primary care physicians—nearly 55 percent of our graduates practice in the primary care disciplines of family medicine, general internal medicine, or general pediatrics—and we remain committed to training physicians capable of delivering the highest standards of total-patient care in all practice settings.

### **Admissions Requirements**

Applicants for the first-year class must meet the following requirements prior to matriculation:

1. have a bachelor's degree from a regionally accredited college or university (A minimum of 90 semester hours of coursework from a regionally accredited college or university may be considered for admission.)
2. have successfully completed (with a grade of 2.0 or higher)
  - 8 semester hours of biological science (biology, embryology, genetics, microbiology, physiology, etc.)
  - 8 semester hours of general chemistry with laboratory
  - 8 semester hours of organic chemistry with laboratory
  - 3 semester hours of biochemistry
  - 8 semester hours of physics
  - 6 semester hours of English/humanities (must include 3 semester hours of English)

Note: These are minimum academic requirements for admission. Students are encouraged to take additional upper-level science, behavioral science, and humanities courses. It is recommended that applicants complete at least one course in physiology.

3. A minimum cumulative and science GPA of 3.0 is required. However, the dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

4. All applicants are required to take the Medical College Admission Test (MCAT). Applications for the MCAT may be obtained online at *aamc.org*, from your college's preprofessional adviser's office, by calling (319) 337-1357, or by writing directly to

Medical College Admission Test Program Office  
2255 North Dubuque Road  
P.O. Box 4056  
Iowa City, IA 52243-4056

MCAT scores must be no more than three years old prior to the date the AACOMAS application is submitted.

The discipline and intensive study required by the osteopathic medicine curriculum make the attainment of a superior GPA in undergraduate studies essential.

The college receives more than 7,000 applications a year, from which only 230 students are chosen. These students have varied backgrounds, and while some many enter the college directly from an undergraduate program, other students come from successful careers.

The Committee on Admissions recommends applicants to the dean on the basis of demonstrated academic excellence, leadership, compassion, and commitment to the osteopathic medical profession.

### Application Procedures

The college participates in the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS) for the receipt and processing of all applications. AACOMAS takes no part in the selection of students.

Applicants should submit applications electronically through AACOMAS Online, an interactive, web-based application at *aacom.org*. For questions, applicants may call (301) 968-4190.

The following steps are necessary to the primary application process.

1. The applicant must submit the following materials to AACOMAS by January 15:

- completed AACOMAS application
- official transcripts from the registrars of all colleges or universities attended, mailed directly to AACOMAS by the college or university
- a letter of recommendation from the preprofessional committee, or, if such a committee does not exist, then three letters of evaluation—two from science professors and one from a nonscience professor

- a letter of recommendation from a physician
- MCAT scores (must be no more than three years old prior to the date the application is submitted)

2. The applicant must submit the following to the college by March 1:

- a secondary application, which will be sent to the applicant by the college upon receipt of the AACOMAS application
- a nonrefundable application fee of \$50

A personal interview is a part of the admission process; however, being interviewed is not a guarantee of admission. Not all applicants will be granted an interview. Those selected for an interview will be notified of the date and time of such interview by the Office of Admissions.

Notice of acceptance will be on a rolling or periodic schedule; therefore, early completion of the application is in the best interest of the applicant because of the limited number of spaces available in each class.

After acceptance, final and official documents and requirements must be received by the Office of Admissions within 90 days following the start of the first term. If these final and official documents are not received, or other requirements are not met by that time, the student will not be able to continue his or her enrollment. Financial aid will not be disbursed to anyone until he or she has been fully admitted as a regular student (all admissions requirements have been approved by the program office).

### Tuition and Fees

1. The tuition for 2018–2019 will be posted on our website (*osteopathic.nova.edu*). It is subject to change by the board of trustees without notice.

For tuition purposes, a student's Florida residency status (in-state or out-of-state) will be determined at matriculation and will remain the same throughout the entire enrollment of the student at NSU. Eligible students must request in-state tuition on their application. Accordingly, tuition will not be adjusted as a result of any change in residency status after initial enrollment registration.

2. For first-year students, a microscope/laboratory fee of \$100 is required. In addition, a Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

Additional COM program fees apply as follows:

**Year 1** Mandated Review Course and Clinical Laboratory Fee: \$563.25

Clinical Rotation Fee: \$1,000

**Year 2** Mandated Review Course and Clinical Laboratory Fee: \$839 (\$275 discount for total charge to student of \$564)

Clinical Rotation Fee: \$1,000

**Year 3** Mandated Review Course Fee: \$797 (\$275 discount for total charge to student of \$522)

Clinical Rotation Fee: \$1,000

**Year 4** Clinical Rotation Fee: \$1,000

3. Acceptance fee is \$1,250. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment, but is not refundable in case of a withdrawal.

4. Deposit is \$750. This advance payment is due March 15 or at the date specified below for those accepted after March 15. It will be deducted from the tuition payment, but is not refundable in the event of a withdrawal.

Due Dates for Acceptance Fees and Deposits

- a. Applicants accepted prior to November 15 will have until December 14 to pay the acceptance fee and until March 15 to pay the deposit.
- b. Applicants accepted between December 15 and January 14 will have 30 days to pay the acceptance fee and until March 15 to pay the deposit.
- c. Applicants accepted between January 15 and February 28 will have 14 days to pay their acceptance fee and until March 15 to pay the deposit.
- d. Those accepted between March 1 and May 14 will be required to submit their combined acceptance and deposit fees within 14 days.
- e. Anyone accepted on May 15 or later will be asked to immediately pay the combined acceptance fee and deposit of \$2,000.

The first semester's tuition and fees, less the \$2,000 previously paid, are due upon receipt of the NSU invoice. Students will be billed tuition for each subsequent semester. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing four years of medical education, including tuition and fees, living expenses, books, equipment, clinical rotation travel, and miscellaneous expenses.

## Schedule of Application for Admission Cycle

**June**—Application cycle for the next academic year begins. Inquiries are invited by Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine, and AACOMAS forms are made available.

**July**—Credentials sent to AACOMAS are processed, and applicant records are forwarded to Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine. A supplemental application is then sent to the applicant. When the supplemental application is completed and returned and when recommendations are received, the completed application is evaluated for interview.

**August**—Personal interviews may begin.

**January 15**—Deadline for AACOMAS applications.

**March 1**—Deadline for NSU-KPCOM supplemental applications.

## Technology Requirements

Students are required to own an Apple iPad® with a minimum of 2GB RAM and 128 GB of storage from any of the following lines: iPad Pro (1st Generation), iPad (2017), iPad Mini 4 (4th Generation Mini), and iPad Air 2 (6th Generation). As part of the curriculum, students will develop medical research skills, hone and refine information management skills, and be exposed to medical informatics. Students have access to a variety of computer educational resources and course material, including

- Canvas courses, including SharkMedia recordings
- examinations via ExamSoft
- electronic textbooks through the NSU bookstore and NSU libraries
- interactive learning via Turning Point Cloud®
- immersive medical simulation experience
- medical Spanish
- web modules
- UpToDate
- academic/board review materials
- clinical procedures resources

A campus-wide wireless network exists to provide students with electronic access anywhere on campus.

## Academics

### Transfer of Credit

Circumstances may warrant that a student enrolled in a medical school seeks to transfer to another institution. Credits may be transferred from medical schools and colleges accredited by the Commission on Osteopathic College Accreditation (COCA) of the American Osteopathic Association or by the Liaison Committee on Medical Education (LCME).

- Transfers from a medical school accredited by the COCA or the LCME shall require that, at minimum, the last two years of instruction be completed within the NSU Dr. Kiran C. Patel College of Osteopathic Medicine.
- Transfers from an LCME-accredited medical school must complete the NSU Dr. Kiran C. Patel College of Osteopathic Medicine's requirement for osteopathic manipulative medicine prior to graduation.
- Transfer credits will only be given if the student is in good academic standing at, and eligible for readmission to, the previously attended COCA- or LCME-accredited medical school.
- Credit is only given for completed courses with grades of 70 percent (2.0) or greater that fulfill the KPCOM's graduation requirements.

Anyone wishing to transfer to the NSU Dr. Kiran C. Patel College of Osteopathic Medicine must meet the following criteria:

1. make a formal application to NSU Dr. Kiran C. Patel College of Osteopathic Medicine Office of Admissions
2. satisfy all admission requirements to NSU Dr. Kiran C. Patel College of Osteopathic Medicine, which include submitting official transcripts of all college work (including osteopathic transcripts); MCAT scores; National Board scores, if taken; and letters of evaluation
3. be in good standing at the transferring institution, as documented by a letter from the dean of the transferring institution
4. supply a letter of recommendation from a faculty member of the transferring institution
5. supply a written statement outlining reasons for request for transfer

Decisions on transfer are made by the dean. No applicant will be accepted without an interview. The decision will be based on factors which include, but are not limited to, academic record, interview, circumstances leading to the transfer request, available space, and admission standards.

### Course of Study

The Dr. Kiran C. Patel College of Osteopathic Medicine has a dedicated faculty; well established affiliations with medical centers, hospitals, and health care systems; a nationally recognized rural medicine program; and a mission to educate the finest osteopathic physicians possible. We place our students and residents at the nation's fourth largest public hospital system—the North Broward Hospital District—or at one of our regional academic centers throughout the state to improve continuity and coordination of clinical education within our vast and growing clinical training network.

Our innovative curriculum is designed to fulfill our mission. The design of the curriculum is based on successful academic models—carefully developed and integrated. It emphasizes interdisciplinary collaboration, guiding students to develop a holistic, and more importantly, an osteopathic approach to medicine. We continually correlate basic scientific information with fundamental clinical application. Students are exposed to clinical settings in their first semester, which gives them the opportunity to prepare for the “real world” of medicine.

This clinical exposure continues into the second year when students have increased opportunity to interact with standardized patients on campus as well as be involved, under physician supervision, with real patients in the office and hospital setting.

A notable aspect of the clinical program is a required, three-month rotation in rural or urban underserved practice settings. In rural and urban underserved clinics throughout the state of Florida, nationally, and internationally, our students provide health care to medically underserved and indigent patients. Our students learn to treat various patients whose lifestyles, practices, and attitudes toward health care differ from those seen in more traditional training sites. This enriching educational experience is one that cannot be taught in the classroom.

Physicians do not work in a vacuum, but rather in a health care team, and NSU promotes interdisciplinary cooperation whenever possible. Students share faculty members and campus facilities with NSU's pharmacy, dental, optometry, physician assistant, physical therapy, occupational therapy, public health, nursing, and medical science students.

## Curriculum Outline

### Preclinical Required Courses

#### M1

Fall Term			Credit Hours
COM	5021	Medical Biochemistry	5.5
COM	5010	Gross Anatomy	6.5
COM	5020	Medical Histology	3.5
COM	5061	Medical Physiology I	3.0
COM	5830	Physical Diagnosis I	2.0
COM	5835	Humanism in Medicine I	1.5
COM	5121	Osteopathic Principles and Practice I	4.0
COM	5800	Foundations and Applications of Clinical Reasoning I	1.5
COM	5080	Basic Life Support	1.0
COM	5802	Tobacco Use and Dependence	1.0
COM	5171	Interdisciplinary Generalist Curriculum Preceptorship I	1.0
			<b>Total: 30.5</b>

Winter Term			Credit Hours
COM	5000	Student Wellness	1.0
COM	5062	Medical Physiology II	4.5
COM	5030	Medical Microbiology I	5.5
COM	5031	Medical Microbiology II	1.5
COM	5011	Medical Neuroanatomy	3.0
COM	5840	Physical Diagnosis II	2.0
COM	5122	Osteopathic Principles and Practice II	3.5
COM	5845	Humanism in Medicine II	2.0
COM	5801	Foundations and Applications of Clinical Reasoning II	1.5
COM	5172	Interdisciplinary Generalist Curriculum Preceptorship II	1.0
			<b>Total: 25.5</b>

Summer Term			Credit Hours
COM	5990	Preclinical Medical Science Review	3.0
			<b>Total: 3.0</b>

**M2**

<b>Summer Term</b>			Credit Hours
COM	6030	Principles of Radiology	1.0
COM	6040	Principles of Pathology	2.0
COM	6050	Principles of Pharmacology	2.0
			<b>Total: 5.0</b>

<b>Fall Term</b>			Credit Hours
COM	6000	Principles of Clinical Medicine I	2.0
COM	6100	Integumentary System	1.5
COM	6101	Hematopoietic Lymphoreticular System	1.5
COM	6102	Respiratory System	2.5
COM	6103	Cardiovascular System	2.5
COM	6105	Endocrine System	2.0
COM	6106	ECG	1.5
COM	6107	Rheumatology and the Musculoskeletal System	2.5
COM	6108	Psychiatry	2.0
COM	6173	Interdisciplinary Generalist Curriculum Preceptorship III	1.5
COM	6123	Osteopathic Principles and Practice III	2.5
COM	6300	Foundations and Applications of Clinical Reasoning III	3.5
			<b>Total: 25.5</b>

<b>Winter Term</b>			Credit Hours
COM	6001	Principles of Clinical Medicine II	2.0
COM	6005	Medical Jurisprudence	0.5
COM	6090	Geriatrics	1.0
COM	6104	Gastrointestinal System	2.5
COM	6109	Renal/Urinary System	2.5
COM	6110	Women's Health	3.5
COM	6111	Pediatrics	2.5
COM	6112	Neurology	2.5
COM	6124	Osteopathic Principles and Practice IV	2.5
COM	6301	Foundations and Applications of Clinical Reasoning IV	3.0
COM	9990	Community Service	2.5
COM	9300	Medical Spanish	1.5
			<b>Total: 26.5</b>



<b>Summer Term</b>			Credit Hours
COM	6062	Pediatric Advanced Life Support	1.0
COM	6221	Advanced Cardiac Life Support	1.0
COM	6990	Preclinical Academic Review	3.0
			<b>Total: 5.0</b>

### **Preclinical Electives**

			Credit Hours
COM	9500	Guided Study	1.0–12.0
COM	9600A	Research	3.0
COM	9703	Honors Anatomy	6.5
COM	9704	Honors Neuroanatomy	3.0
COM	9705	Honors Physiology I	3.0
COM	9706	Honors Physiology II	4.5
COM	9707	Honors Histology	3.0
COM	9708	Honors Microbiology I	2.0
COM	9709	Honors Microbiology II	1.5
COM	9710	Honors Biochemistry	5.5
COM	9711	Honors Summer Gross Anatomy Fellowship	4.5

### **Predoctoral Fellows Curriculum**

<b>One Year Course of Study Each</b>			Credit Hours
COM	9100	Osteopathic Principles and Practice Fellowship	48
COM	9200	Research Fellowship	48
			<b>Total: 48.0</b>

### **Clinical Education Required Courses**

#### **M3**

<b>Fall/Winter Terms—Required Courses</b>			Credit Hours
COM	7002	Integrated Review I (fall)	1.0
COM	7003	Integrated Review II (winter)	1.0
			<b>Total: 2.0</b>

<b>Summer/Fall/Winter Terms—Core Clinical Rotations</b>			<b>Credit Hours</b>
COM	7091	Family Medicine I	8.0
COM	7092	Family Medicine II	8.0
COM	7093	Geriatrics	8.0
COM	7094	Psychiatry	8.0
COM	7102	Internal Medicine I	8.0
COM	7103	Internal Medicine II	8.0
COM	7104	General Surgery I	8.0
COM	7105	General Surgery II	8.0
COM	7110	Obstetrics/Gynecology	8.0
COM	7131	Pediatrics/Ambulatory	8.0
COM	7132	Pediatrics/Hospital	8.0
			<b>Total: 88.0</b>

<b>Summer Term—Didactic Course</b>			<b>Credit Hours</b>
COM	7990	Clinical Board Review Course COMLEX 2CE	3.0
			<b>Total: 3.0</b>

#### **M4**

<b>Summer/Fall/Winter Terms—Core Clinical Rotations</b>			<b>Credit Hours</b>
COM	7151	Rural or Urban Underserved Medicine I	8.0
COM	7152	Rural or Urban Underserved Medicine II	8.0
COM	7095	Emergency Medicine	8.0
			<b>Total: 24.0</b>

<b>Summer/Fall/Winter Terms—Required Clinical Rotations</b>			<b>Credit Hours</b>
Rural or Urban Underserved Selection (M4 Selection #2)			
<b>(Must select one of the following.)</b>			
• COM	7153	Domestic Rural or Urban Underserved Medicine Selection	8.0
• COM	7154	International Rural or Urban Underserved Medicine Selection	8.0
COM	8006	Internal Medicine Selective	8.0
<b>(Must select one of the following.)</b>			
• Internal Medicine (Selective #1)			
<b>(choose a subspecialty)</b>			
• Cardiovascular Disease			
• Clinical Cardiac Electrophysiology			
• Critical Care Medicine			
• Endocrine, Diabetes, and Metabolism			
• Gastroenterology			
• Hematology and/or Oncology			
• Infectious Disease			

- Interventional Cardiology
- Nephrology
- Pulmonary Disease
- Pulmonary Disease and Critical Care Medicine
- Rheumatology
- Neurology

**Total: 16.0**

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**Summer Term—Didactic Course** Credit Hours

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COM	8004	Senior Seminar	1.0
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**Total: 1.0**

**Clinical Education Elective Courses**

**M4**

**Fall and Winter Terms—Elective Rotations** Credit Hours  
**(Must take a total of 48.0 credit hours.)**

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COM	8001	Academic Medicine	8.0
COM	8103	Allergy and Immunology	4.0–8.0
COM	8103A	Allergy and Immunology: Clinical and Laboratory Immunology	4.0–8.0
COM	8104	Anesthesiology	4.0–8.0
COM	8104A	Anesthesiology: Pediatric Anesthesiology	4.0–8.0
COM	8240	Clinical Informatics	4.0–8.0
COM	8105	Colon and Rectal Surgery	4.0–8.0
COM	8108	Dermatology	4.0–8.0
COM	8009	Emergency Medicine	4.0–8.0
COM	8009A	Emergency Medicine: Medical Toxicology	4.0–8.0
COM	8009B	Emergency Medicine: Pediatric Emergency Medicine	4.0–8.0
COM	8012	Family Medicine	4.0–8.0
COM	8015	Geriatric Medicine	4.0–8.0
COM	9500	Guided Study	4.0–8.0
COM	9600B	Research	8.0
COM	8215	Hand Surgery	4.0–8.0
COM	8241	Hospice and Palliative Medicine	4.0–8.0
COM	8018	Internal Medicine	4.0–8.0
COM	8018A	Internal Medicine: Cardiovascular Disease	4.0–8.0
COM	8018B	Internal Medicine: Clinical Cardiac Electrophysiology	4.0–8.0
COM	8018C	Internal Medicine: Critical Care Medicine	4.0–8.0
COM	8018D	Internal Medicine: Endocrine, Diabetes, and Metabolism	4.0–8.0
COM	8018E	Internal Medicine: Gastroenterology	4.0–8.0

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COM	8018F	Internal Medicine: Hematology and/or Oncology	4.0–8.0
COM	8018G	Internal Medicine: Infectious Disease	4.0–8.0
COM	8018H	Internal Medicine: Interventional Cardiology	4.0–8.0
COM	8018I	Internal Medicine: Nephrology	4.0–8.0
COM	8018J	Internal Medicine: Pulmonary Disease	4.0–8.0
COM	8018K	Internal Medicine: Pulmonary Disease and Critical Care Medicine	4.0–8.0
COM	8018L	Internal Medicine: Rheumatology	4.0–8.0
COM	8019	International Medicine	4.0–8.0
COM	8021	Medical Genetics and Genomics	4.0–8.0
COM	8279	Medical Toxicology	4.0–8.0
COM	8024	Neurological Surgery	4.0–8.0
COM	8024A	Neurological Surgery: Endovascular Surgical Neuroradiology	4.0–8.0
COM	8023	Neurology	4.0–8.0
COM	8023A	Neurology: Child Neurology	4.0–8.0
COM	8023B	Neurology: Clinical Neurophysiology	4.0–8.0
COM	8023C	Neurology: Neuromuscular Medicine	4.0–8.0
COM	8022	Nuclear Medicine	4.0–8.0
COM	8025	Obstetrics and Gynecology	4.0–8.0
COM	8025A	Obstetrics and Gynecology: Maternal/Fetal Medicine	4.0–8.0
COM	8025B	Obstetrics and Gynecology: Reproductive Endocrinology and Infertility	4.0–8.0
COM	8025C	Obstetrics and Gynecology: Women's Health	4.0–8.0
COM	8025D	Obstetrics and Gynecology: Gynecological Oncology	4.0–8.0
COM	8028	Ophthalmology	4.0–8.0
COM	8028A	Ophthalmology: Cornea	4.0–8.0
COM	8028B	Ophthalmology: Pediatric	4.0–8.0
COM	8028C	Ophthalmology: Retina	4.0–8.0
COM	8027	OPP Medicine	4.0–8.0
COM	8027A	OPP Medicine: Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine	4.0–8.0
COM	8029	Orthopedic Surgery	4.0–8.0
COM	8029A	Orthopedic Surgery: Adult Reconstructive Orthopedics	4.0–8.0
COM	8029B	Orthopedic Surgery: Foot and Ankle Orthopedics	4.0–8.0
COM	8029C	Orthopedic Surgery: Musculoskeletal Oncology	4.0–8.0
COM	8029D	Orthopedic Surgery: Orthopedic Sports Medicine	4.0–8.0
COM	8029E	Orthopedic Surgery: Orthopedic Surgery of the Spine	4.0–8.0

COM	8029F	Orthopedic Surgery: Orthopedic Trauma	4.0–8.0
COM	8029G	Orthopedic Surgery: Pediatric Orthopedics	4.0–8.0
COM	8011	Otolaryngology	4.0–8.0
COM	8011A	Otolaryngology: Otology/Neurotology	4.0–8.0
COM	8011B	Otolaryngology: Pediatric Otolaryngology	4.0–8.0
COM	8334	Pain Medicine	4.0–8.0
COM	8031	Pathology	4.0–8.0
COM	8031A	Pathology: Blood Banking/Transfusion Medicine	4.0–8.0
COM	8031B	Pathology: Chemical Pathology	4.0–8.0
COM	8031C	Pathology: Cytopathology	4.0–8.0
COM	8031D	Pathology: Dermatopathology	4.0–8.0
COM	8031E	Pathology: Forensic Pathology	4.0–8.0
COM	8031F	Pathology: Medical Microbiology	4.0–8.0
COM	8031G	Pathology: Neuropathology	4.0–8.0
COM	8031I	Pathology: Pediatric Pathology	4.0–8.0
COM	8031J	Pathology: Selective Pathology	4.0–8.0
COM	8297	Pediatric Emergency Medicine	4.0–8.0
COM	8032	Pediatrics	4.0–8.0
COM	8032A	Pediatrics: Adolescent Medicine	4.0–8.0
COM	8032B	Pediatrics: Neonatal/Perinatal Medicine	4.0–8.0
COM	8032C	Pediatrics: Cardiology	4.0–8.0
COM	8032D	Pediatrics: Critical Care Medicine	4.0–8.0
COM	8032E	Pediatrics: Endocrinology	4.0–8.0
COM	8032F	Pediatrics: Gastroenterology	4.0–8.0
COM	8032G	Pediatrics: Hematology/Oncology	4.0–8.0
COM	8032I	Pediatrics: Infectious Diseases	4.0–8.0
COM	8032J	Pediatrics: Nephrology	4.0–8.0
COM	8032K	Pediatrics: Pulmonology	4.0–8.0
COM	8032M	Pediatrics: Rheumatology	4.0–8.0
COM	8038	Physical Medicine and Rehabilitation	4.0–8.0
COM	8038A	Physical Medicine and Rehabilitation: Spinal Cord Injury Medicine	4.0–8.0
COM	8035	Plastic Surgery	4.0–8.0
COM	8035A	Plastic Surgery: Craniofacial Surgery	4.0–8.0
COM	8030	Preventive Medicine	4.0–8.0
COM	8030A	Preventive Medicine: Aerospace Medicine	4.0–8.0

COM	8030B	Preventive Medicine: Occupational Medicine	4.0–8.0
COM	8030C	Preventive Medicine: Public Health Medicine	4.0–8.0
COM	8036	Psychiatry	4.0–8.0
COM	8036A	Psychiatry: Addiction Psychiatry	4.0–8.0
COM	8036B	Psychiatry: Child and Adolescent Psychiatry	4.0–8.0
COM	8036C	Psychiatry: Forensic Psychiatry	4.0–8.0
COM	8036D	Psychiatry: Geriatric Psychiatry	4.0–8.0
COM	8170	Public Health	4.0–8.0
COM	8020	Radiation Oncology	4.0–8.0
COM	8037	Radiology: Diagnostic	4.0–8.0
COM	8037A	Radiology: Diagnostic—Abdominal Radiology	4.0–8.0
COM	8037B	Radiology: Diagnostic—Cardiothoracic Radiology	4.0–8.0
COM	8037C	Radiology: Diagnostic—Endovascular Surgical Neuroradiology	4.0–8.0
COM	8037D	Radiology: Diagnostic—Musculoskeletal Radiology	4.0–8.0
COM	8037E	Radiology: Diagnostic—Neuroradiology	4.0–8.0
COM	8037F	Radiology: Diagnostic—Nuclear Radiology	4.0–8.0
COM	8037G	Radiology: Diagnostic—Pediatric Radiology	4.0–8.0
COM	8037I	Radiology: Diagnostic—Vascular and Interventional Radiology	4.0–8.0
COM	8357	Research Principles in Integrative Medicine and Medication Therapy Management	4.0–8.0
COM	8355	Sleep Medicine	4.0–8.0
COM	8336	Sports Medicine	4.0–8.0
COM	8014	Surgery: General	4.0–8.0
COM	8014A	Surgery: Pediatric Surgery	4.0–8.0
COM	8014B	Surgery: Surgical Critical Care	4.0–8.0
COM	8014C	Surgery: Vascular Surgery	4.0–8.0
COM	8014D	Surgery: Vascular Surgery: Integrated	4.0–8.0
COM	8042	Thoracic Surgery	4.0–8.0
COM	8356	Undersea and Hyperbaric Medicine	4.0–8.0
COM	8044	Urology	4.0–8.0
COM	8044A	Urology: Pediatric Urology	4.0–8.0

**Total: 48.0**

Electives may be taken in four-week or two-week increments. No more than four two-week electives may be taken in the fourth year of study.

## Course Descriptions

### COM 5000—Student Wellness

This course provides activities that focus on different areas that are critical to student wellness including mindfulness, academic wellness, physical wellness, personal wellness, relational wellness, and nutritional wellness. It also provides students with contact information for various resources that are available to help achieve and maintain wellness.

### COM 5010—Gross Anatomy

This course will introduce the students to the study of the structural and functional features of the human trunk, extremities, head, and neck. The course includes the dissection of cadavers by teams of students. (6.5 credit hours)

### COM 5011—Medical Neuroanatomy

This course will introduce students to structural, functional, and developmental features of the human nervous system with an emphasis on clinical concepts. This course is an introduction to neurology. (3.0 credit hours)

### COM 5020—Medical Histology

Histology is the study of the microscopic anatomy of the cell, tissues, and organs of the body. In this course, the normal microscopic anatomy of the parts of the body is presented and each part is correlated with its function. Histology is a course that serves as a bridge between the disciplines of physiology, gross anatomy, and pathology. Basic physiological concepts and relevant areas in pathology are presented with the goal of understanding the function of, as well as any abnormal changes that may occur in, the cells and organs of the body. This course includes an introduction to human embryology, with emphasis on the embryo's first eight weeks. The study of embryology is a foundation for understanding normal anatomy and birth defects. (3.5 credit hours)

### COM 5021—Medical Biochemistry

Clinical practice is changing so rapidly that the physician must be a perpetual student and must be able to read and understand the literature in order to keep up to date. This course offers the fundamentals of biochemistry, many aspects of which are currently and directly relevant to medicine. Other aspects serve to round out scientific preparation, and in the future, may emerge at the center of medical advances. This course covers biochemical reactions and pathways of normal human health; nutrition from a biochemical viewpoint; and the biochemistry of the body systems including, but not limited to, the gastrointestinal, pulmonary, renal, musculoskeletal, and endocrine systems. (5.5 credit hours)

### COM 5030—Medical Microbiology I

This course will be presented in lecture/required readings format to emphasize immunology, bacteria, and viruses involved in infectious diseases. The immunology section covers both innate and adaptive immune responses of humans with a focus on the host's interaction with an environment containing a variety of potential pathogens. In addition, other aspects of immunology, such as immunodeficiencies, autoimmunities, allergies, graft rejection, and immunity to tumors, are presented. Bacteria and viruses commonly involved in human diseases, as well as newly and reemerging pathogens, will be presented from a clinically relevant perspective. The sections on microorganisms will stress practical clinical skills by presenting pathogens employing a systems approach involving case studies, visual illustrations of typical clinical symptoms, and the most common therapies. (5.5 credit hours)

### COM 5031—Medical Microbiology II

This course will consist of lectures on parasites and fungi that produce infectious disease states. Parasites and fungi commonly involved in human diseases, as well as new and reemerging pathogens, will be presented from a clinically relevant perspective in a systems format. The sections will stress practical clinical skills by presenting case studies, visual illustrations of typical clinical symptoms, and the most common therapies. (1.5 credit hours)

### COM 5061—Medical Physiology I

This course reviews the physiological functions and regulation of the major human organ systems. Topics covered in the first semester include cell physiology, membranes and membrane transport mechanisms, electrophysiology, muscle physiology, the autonomic nervous system, and cardiovascular physiology. (3.0 credit hours)

### COM 5080—Basic Life Support

An American Heart Association course that includes both didactic material (including methods of reducing cardiovascular risk) and instruction in the psychomotor skills necessary for the initial resuscitation of the cardiac arrest patient. (1.0 credit hour)

### COM 5121—Osteopathic Principles and Practice (OPP) I

OPP I presents the first unit of a four-course sequence that addresses osteopathic theory, philosophy, and manipulative procedures. OPP I provides an introduction to the general principles and techniques of osteopathic diagnosis of the axial skeleton and paraspinal regions. Student doctors will

be exposed to basic terminology and examination skills through lecture, demonstration, and hands-on performance. **(4.0 credit hours)**

#### **COM 5122—Osteopathic Principles and Practice (OPP) II**

OPP II covers the second unit of a four-course sequence that addresses osteopathic theory, philosophy, and osteopathic manipulative procedures. OPP II provides an introduction to the general principles and techniques of osteopathic diagnosis of the axial skeleton and paraspinal regions, including the lumbar, thoracic, and cervical spines, as well as the rib cage. Student doctors will be exposed to basic terminology and examination skills through lecture, demonstration, and hands-on performance. **(3.5 credit hours)**

#### **COM 5171—Interdisciplinary Generalist Curriculum Preceptorship I**

The Interdisciplinary Generalist Curriculum (IGC) Preceptorship for first-year students is composed of the IGC Primary Care Physician Mentor Preceptorship and the Explore Selective. The premise of the IGC Program is that exposure to professional role models is a significant determinant of medical students' career choices. In addition, an early clinical experience is an essential learning component for medical students to begin to correlate classroom knowledge with actual patient encounters. The IGC Preceptorship I and II courses expose first-year medical students to clinical settings by matching each student with a community-based physician mentor for a primary care rotation. Based on selection preferences, students are also assigned to an Explore Selective in either an Osteopathic Principles and Practice (OPP) clinic on or off campus, a Dr. Kiran C. Patel College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) site, a clinical sub-specialty session from one of at least five disciplines, or a prerequisite training program that will enable students to provide special services (e.g., HIV testing, reproductive health counseling). **(1.0 credit hour)**

#### **COM 5172—Interdisciplinary Generalist Curriculum Preceptorship II**

The Interdisciplinary Generalist Curriculum (IGC) Preceptorship for first-year students is composed of the IGC Primary Care Physician Mentor Preceptorship and the Explore Selective. The premise of the IGC Program is that exposure to professional role models is a significant determinant of medical students' career choices. In addition, an early clinical experience is an essential learning component for medical students to begin to correlate classroom knowledge with actual patient encounters. The IGC Preceptorship I and II courses expose first-year medical students to clinical settings by matching each student with a community-based physician mentor for a primary care rotation. Based on selection preferences,

students are also assigned to an explore selective in either an Osteopathic Principles and Practice (OPP) clinic on or off campus, a Dr. Kiran C. Patel College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) site, a clinical sub-specialty session from one of at least five disciplines, or a prerequisite training program that will enable students to provide special services (e.g., HIV testing, reproductive health counseling). **(1.0 credit hour)**

#### **COM 5800—Foundations and Applications of Clinical Reasoning I**

This course will integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills necessary to effectively assimilate knowledge from the basic sciences into the disease processes and apply this knowledge to varied patient presentations. **(1.5 credit hours)**

#### **COM 5801—Foundations and Applications of Clinical Reasoning II**

This course will integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills necessary to effectively assimilate knowledge from the basic sciences into the disease processes and apply this knowledge to varied patient presentations. **(1.5 credit hours)**

#### **COM 5802—Tobacco Use and Dependence**

This course will focus on providing first-year osteopathic medical students with knowledge and skills-based training covering the following topics: (1) health effects of tobacco use; (2) pharmacology and drug delivery systems in tobacco cessation; (3) nicotine addiction; and (4) attitude and behavioral changes in tobacco cessation. **(1.0 credit hours)**

#### **COM 5830—Physical Diagnosis I**

Students will learn the components of a patient history and physical examination and will develop effective interviewing techniques and physical examination skills. The course will consist of assigned readings, lectures, and laboratory sessions in which diagnostic techniques will be practiced and performed by students under faculty assistance and supervision. Simulation manikins and standardized patients will be utilized in training students to perform a modified history and physical examination. **(2.0 credit hours)**

#### **COM 5840—Physical Diagnosis II**

Students will learn the components of a complete history and physical examination and be able to recognize normal findings in a healthy patient, as well as some abnormal findings that may represent disease. In addition, they will begin to develop proper documentation skills for both



patient history and physical exam findings. This will be accomplished through a series of write-ups and SOAP notes on the various history and physical exam areas taught throughout the semester. **(2.0 credit hours)**

#### **COM 5835—Humanism in Medicine I**

This course consists of lectures, small group assignments, patient panel discussions, journaling, and online learning modules that run throughout the M1 year of the medical curriculum. The first semester course covers the broad humanism topics of physician/patient communication and cultural competency. The course is designed to be an innovative and forward-looking way of linking the humanities and social sciences to the practice of medicine. Throughout the course, evaluations are used to measure the student's mastery of concepts through group assignments, participation in class discussion, journaling, simulated patient experiences, self-assessment tools, and online experiences. **(1.5 credit hours)**

#### **COM 5845—Humanism in Medicine II**

This course consists of interactive lectures, small group assignments, patient panel discussions, journaling, and online learning modules that run throughout the M1 year of the medical curriculum. The second semester course covers the humanism topics of medical ethics, social issues (including domestic violence, physician and patient addiction, and the homeless population), and wellness (including nutrition, exercise, complementary and alternative medicine, spirituality, public health, and health sexuality). The course is designed to be an innovative and forward-looking way of linking the humanities and social sciences to the practice of medicine. Throughout the course, evaluations are used to measure the student's mastery of concepts through group assignments, participation in class discussion, journaling, self-assessment tools, and online experiences. **(2.0 credit hours)**

#### **COM 6030—Principles of Radiology**

This course provides an overview of common imaging modalities used in clinical practice. The course syllabus, as well as selected course content and radiological images, will be posted on the student Blackboard throughout the duration of the course. It is the students' responsibility to visit the Blackboard prior to and after each lecture and the final exam. Students are responsible for knowing and understanding all posted content and being able to interpret all posted radiological images. Students are also expected to complete the required reading prior to each lecture. **(1.0 credit hour)**

#### **COM 5990—Preclinical Medical Science Review**

The study of the medical sciences contains a broad scope of knowledge in both science disciplines and organ systems of the body. This information is the foundation of knowledge needed for study of human body functions and diseases.

It is essential to master this knowledge to be successful in both the medical school curriculum and medical licensing examinations. This course provides an opportunity for students to complete a review of medical science content using an independent study program. It allows students to work at their own pace to prepare for upcoming courses within the medical school curriculum. **(3.0 credit hours)**

#### **COM 6000—Principles of Clinical Medicine I**

This course has several components. Using multiple learning modalities, the course begins in the fall semester and continues as Principles of Clinical Medicine II during the winter semester. The components of the course include Interactive Learning Group (ILG), a problem-based, small group using patient cases for discussion and analysis with a clinical facilitator; Standardized Patient Encounters (SPE) with an interpersonal skills review session—a one-on-one student experience with patients who have been trained to portray medical problems; Clinical Skills Exam (CSE), a cumulative examination at the end of the semester similar to the SPE but involving multiple clinical stations; and KBIT, an online, advanced, instructional sciences-derived, artificial intelligence-based approach to differential diagnosis training and assessment. **(2.0 credit hours)**

#### **COM 6001—Principles of Clinical Medicine II**

This course is a continuation of Principles of Clinical Medicine I. It has several components. Using multiple learning modalities, the course that began in the fall semester will now continue as Principles of Clinical Medicine II during the winter semester. The components of the course include Interactive Learning Group (ILG), a problem-based, small group using patient cases for discussion and analysis with a clinical facilitator; Clinical Skills Exam (CSE), cumulative examinations midway and at the end of the semester involving multiple clinical stations; lectures on male and female exams; guided practical sessions for male and female exams; and KBIT, an online, advanced, instructional sciences-derived, artificial intelligence-based approach to differential diagnosis training and assessment. **(2.0 credit hours)**

#### **COM 6005—Medical Jurisprudence**

An attendance-required, mandatory, interactive program involving the issues of law that impact on a medical student and physician. Specific vignettes, clinical interactions, and role play are used to underscore some of the issues concerning actions by the Board of Osteopathic Medicine, and the issues around malpractice. Legal principles and specific cases involved in medical negligence, as well as those factors that also adversely affect the practice of osteopathic medicine, will be emphasized. **(0.5 credit hours)**

### **COM 6040—Principles of Pathology**

The purpose of this course is to introduce the fundamental concepts of general pathology so the student may understand the basic pathological processes involved in development of diseases most likely to be encountered in hospitals and clinics. The gap between preclinical and clinical subjects may thus be spanned with a scientific foundation of the etiology, pathogenesis, morphologic alterations, and effects of diseases. The course consists of fundamental principles of general pathology, such as cell injury, inflammation, hemodynamic derangements (including thrombosis, infarction, and shock), basic pathologic processes of infectious diseases and immunity in contributing to disease, and general discussion of neoplasia. (2.0 credit hours)

### **COM 6050—Principles of Pharmacology**

This 30-hour course consists of basic pharmacological concepts and principles needed for the applied clinical courses to follow during the semester. (2.0 credit hours)

### **COM 6082—Pediatric Advanced Life Support**

PALS presents a systematic, interactive approach dealing with the survival of critically ill and injured children. This care includes a broad spectrum of services, from early identification of problems through pre-hospital, hospital, and rehabilitative care. It also presents a way for resuscitation providers to treat a desperately ill patient in a coordinated way, regardless of whether the response team consists of one person, two people, or a team. PALS-trained providers will use the same guidelines and approaches inside and outside the hospital, as well as nationally and internationally. This course will consist of 13 hours of interactive instruction supplemented by audiovisuals; demonstration of required skills on Pediatric Advanced Life Support Manikins; and practice using defibrillators, EKG monitors, and intubation equipment. Instruction will be formatted on case-based scenarios. (1.0 credit hour)

### **COM 6090—Geriatrics**

This course of instruction provides an overview of geriatric problems or syndromes affecting older adults, using a case-based approach with an emphasis on differential diagnosis, systematic evaluation, and management incorporating the interprofessional team. Concepts of physiological changes with aging and psychosocial and functional aspects, as well as their effects on general medical disorders, will be incorporated into the lectures. (1.0 credit hours)

### **COM 6100—Integumentary System**

This course introduces students to clinical aspects of skin diseases, infections of the skin, skin pathology, neoplastic disorders of the skin, burn management, and cutaneous manifestations of systemic disorders. The course consists of lectures supplemented by visual materials and pathology slides, independent reading assignments, and instruction in basic procedures. (1.5 credit hours)

### **COM 6101—Hematopoietic and Lymphoreticular System**

This course covers the diagnosis and management of diseases of the hematopoietic and lymphoreticular system. It will include a discussion of cancer chemotherapy and principles of surgical oncology. Indications for, and adverse reactions to, blood transfusion will also be addressed. The systems component of the interdisciplinary curriculum involves participation by the Departments of Internal Medicine, Surgery, Pathology, and Pharmacology. Traditional classroom lecture topics are integrated so that clinical aspects, pathophysiology of diseases, and disorders of each system are addressed. (1.5 credit hours)

### **COM 6102—Respiratory System**

This course presents pathophysiology, diagnosis and management of selected respiratory disorders, infectious disorders, and neoplasms of the respiratory system. Ventilatory functions and management of respiratory failure are described. Speakers are from the Departments of Internal Medicine, Family Medicine, Pathology, Pharmacology, OPP, and Surgery (including the Division of Otorhinolaryngology). This course consists of lectures supplemented by independent reading assignments and instruction in basic procedures. (2.5 credit hours)

### **COM 6103—Cardiovascular System**

This course covers pathophysiology, diagnosis, and management of common cardiovascular disorders. (2.5 credit hours)

### **COM 6104—Gastrointestinal System**

This course covers pathophysiology, diagnosis, and management of gastrointestinal diseases and diseases of the lower and biliary system. The instruction involves the participation of faculty members from the Departments of Internal Medicine (Gastroenterology division), Surgery, Pediatrics, Pathology, Pharmacology, and Osteopathic Principles and Practice. (2.5 credit hours)

### **COM 6105—Endocrine System**

This course presents the pathophysiology, diagnosis, and management of hormonal disorders, including diseases of the endocrine glands, as well as neoplasms and infectious diseases affecting the endocrine system. The system component of the interdisciplinary curriculum involves participation by the Departments of Internal Medicine, Pediatrics, Surgery, Pathology, Pharmacology, and Osteopathic Principles and Practice. Lectures are integrated so that clinical aspects, pathophysiology of diseases, and disorders of each system are addressed. (2.0 credit hours)

### **COM 6106—ECG**

This course provides an overview of electrocardiography and cardiopulmonary auscultation used in clinical practice. It will help students obtain a basic understanding of selected

electrocardiographic and cardiopulmonary auscultation findings and will foster an interest in continued learning in these fields. This course utilizes a standard lecture format as well as interactive auscultatory learning sessions that may be supplemented with learning technologies and modalities, such as reading assignments. (1.5 credit hours)

#### **COM 6107—Musculoskeletal System**

This course introduces students to diseases and other disorders of the musculoskeletal system; the pathophysiology, diagnosis, and management of rheumatologic disorders; orthopedics; and physical medicine and rehabilitation. Pathology, pharmacology, osteopathic principles and practice, instruction in basic procedures, and independent reading assignments will be integrated into this course. (2.5 credit hours)

#### **COM 6108—Psychiatry and Behavioral Medicine**

Through lecture and self-study, this course introduces the fundamental clinical concepts and official nomenclature used within the realm of psychiatry and behavioral medicine. This includes the use of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) for the evaluation and diagnosis of the major psychiatric disorders. Current methodologies of treatment, communication with patients, and select topics in behavioral medicine will be discussed. (2.0 credit hours)

#### **COM 6109—Renal/Urinary System**

This course presents renal and genitourinary pathophysiology; glomerular and tubulointerstitial diseases; acute and chronic kidney failure; congenital disorders; metabolic, functional, and benign disorders; and neoplasms of the renal/urinary system. The instruction involves the participation of the Departments of Internal Medicine (Nephrology division), Surgery (Urology division), Pathology, and Osteopathic Principles and Practices. (2.5 credit hours)

#### **COM 6110—Women's Health System**

The course begins with the role of the history and physical examination in a diagnostic approach to the female patient. This is followed by a review of the reproductive cycle and by general gynecologic topics including the evaluation and treatment of the victim of sexual assault, the embryology and anatomy of the female genitalia, and the application of osteopathic principles and practice to women's health. Lectures dealing with disorders of the breast serve as a transition between the gynecologic topics and the lectures dealing with normal and abnormal pregnancy. Genomics and minimally invasive surgical techniques, including robotic surgery, will be discussed. (3.5 credit hours)

#### **COM 6111—Pediatrics**

This course of instruction covers the details of normal and abnormal growth and development in children. Issues involving preventive care and health interventions of newborns, growing children, and adolescents will be addressed. Specifics regarding illnesses in the integumentary, hematologic, respiratory, cardiac, gastrointestinal, endocrine, renal, and neuromuscular systems will be presented. (2.5 credit hours)

#### **COM 6112—Neurology**

This course, consisting of 38 hours presented in a multidisciplinary approach, covers pathology, neurologic dysfunction, pathophysiologic mechanisms of neurologic diseases, and pharmacotherapeutics. In addition, it addresses rehabilitation of nervous system dysfunctions and introduces the students to ophthalmology. (2.5 credit hours)

#### **COM 6123—Osteopathic Principles and Practice (OPP) III**

This course presents the third unit in a four-course sequence that addresses osteopathic theory, philosophy, and manipulative procedures. The second-year curriculum is designed to organize all information learned in year 1 into clinical frames of reference (e.g., cardiovascular disease and OPP, sports injuries and OPP, pregnancy and OPP). The student doctor is also presented with an opportunity to review and master all techniques presented in year 1, as well as an opportunity to master advanced manipulative treatment techniques. All OPP courses are presented in lecture and laboratory sessions. Laboratories in this year are designed to both review earlier material and to present new techniques for mastery. (2.5 credit hours)

#### **COM 6124—Osteopathic Principles and Practice (OPP) IV**

This course presents the fourth unit in a four-course sequence that addresses osteopathic theory, philosophy, and osteopathic manipulative procedures. The second-year curriculum is designed to organize all information learned in year 1 into clinical frames of reference (e.g., family medicine and OPP, pediatrics and OPP, pregnancy and OPP). The student doctor is also presented with an opportunity to review and master all techniques presented in year 1, as well as an opportunity to master advanced manipulative treatment techniques. All OPP courses are presented in lecture and laboratory sessions. Laboratories in this year are designed to both review earlier material and to present new techniques for mastery. During the second half of the course, students will be required to attend one of three selectives in advanced osteopathic manipulative treatment. (2.5 credit hours)

### **COM 6173—Interdisciplinary Generalist Curriculum Preceptorship III**

The Interdisciplinary Generalist Curriculum (IGC) Program has three components: (1) The IGC Physician Mentor Program; (2) The IGC Business of Medicine Program; (3) the Dr. Kiran C. Patel College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) Experience. The premise of the IGC Program is that exposure to professional role models is a significant determinant of medical students' career choices. In addition, an early clinical experience is an essential learning component for medical students to begin to correlate classroom, laboratory, small group, and independent learning with actual patient encounters. The IGC Preceptorship III course exposes second-year medical students to clinical settings by matching each student with a community-based physician mentor for a primary care clinical rotation where they are also exposed to the central role of the primary care physician in the management of their patients and practices. Students also learn about the business aspects of medical practice, including private and public models of health care finance and delivery and systems-based components of providing cost-effective and evidence-based medicine. As part of the IGC COM<sup>2</sup>Serve Experience, students also rotate through community-based clinics and other service organizations and experiences that provide health care to medically underserved or at-risk populations. (1.0 credit hour)

### **COM 6221— Advanced Cardiac Life Support**

Advanced Cardiac Life Support (ACLS) is an American Heart Association program that is accepted and required in most hospitals and clinics throughout the United States. It is required for second-year medical students from the Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine. ACLS presents a systematic, interactive approach to dealing with people experiencing a cardiopulmonary emergency, sudden death, or an acute cerebral vascular accident. ACLS presents a way for resuscitation providers to treat a desperately ill patient in a coordinated way, regardless of whether the response team consists of one person, two people, or a larger team. ACLS-trained providers will use the same guidelines and approaches inside and outside the hospital, as well as nationally and internationally. This course will consist of 12 hours of interactive instruction supplemented by audiovisuals; demonstration of required skills on Advanced Life Support Manikins; and practice using defibrillators, EKG monitors, and intubation equipment. Instruction will be formatted on case-based scenarios. (1.0 credit hour)

### **COM 6300—Foundations and Applications of Clinical Reasoning III**

This course will integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills

necessary to effectively diagnose and manage patients. This course also includes a two-hour mandatory academic review most weeks. (3.5 credit hours)

### **COM 6301—Foundations and Applications of Clinical Reasoning IV**

This course will integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills necessary to effectively diagnose and manage patients. This course also includes a weekly, two-hour session of academic review. (3.0 credit hours)

### **COM 6990—Preclinical Academic Review**

The study of the medical sciences contains a broad scope of knowledge in both science disciplines and organ systems of the body. Additionally, students must be able to analyze and apply knowledge to diagnose presentations and conditions of patients, as well as to synthesize and evaluate data to develop treatment and management plans for patients presenting with varying conditions. It is essential to master this knowledge as the medical licensing examinations are required to graduate from the Dr. Kiran C. Patel College of Osteopathic Medicine. This course provides students with an in-depth review of medical science content, clinical case study, practice exam questions, and a mock board examination. This online, independent study course provides resources to the students and allows them to work at their own pace to prepare for the COMLEX Level 1 licensing examination. It provides several opportunities to assess knowledge and track the student's progression toward preparation. (3.0 credit hours)

### **COM 7091—Family Medicine I (M3 Core)**

Family medicine is a primary care medical specialty that provides continual and comprehensive health care for the individual and the family. It integrates the biological, clinical, and behavioral sciences with a broad understanding of all health care disciplines. The scope of family medicine encompasses all ages, sexes, and organ systems. It deals with every disease entity and includes an understanding and application of the principles of osteopathic medicine. It places in the forefront of medical care the advancement of wellness and the prevention of disease and promotes advocacy for the benefit of its patients. Family physicians possess unique attitudes, skills, and knowledge that qualify them to provide continual and comprehensive medical care within the context of social, economic, cultural, psychological, and environmental factors. The family practitioner may be involved in all aspects of medical care both in and out of the hospital setting. The family practitioner must know and use community resources to benefit the patient and the family. Most often, family medicine is practiced within the ambulatory setting, which includes outpatient clinics and private physician offices. (8.0 credit hours)

### **COM 7092—Family Medicine II (M3 Core)**

Family medicine is a primary care medical specialty that provides continual and comprehensive health care for the individual and the family. It integrates the biological, clinical, and behavioral sciences with a broad understanding of all health care disciplines. The scope of family medicine encompasses all ages, sexes, and organ systems. It deals with every disease entity and includes an understanding and application of the principles of osteopathic medicine. It places in the forefront of medical care the advancement of wellness and the prevention of disease and promotes advocacy for the benefit of its patients. Family physicians possess unique attitudes, skills, and knowledge that qualify them to provide continual and comprehensive medical care within the context of social, economic, cultural, psychological, and environmental factors. The family practitioner may be involved in all aspects of medical care both in and out of the hospital setting. The family practitioner must know and use community resources to benefit the patient and the family. Most often, family medicine is practiced within the ambulatory setting, which includes outpatient clinics and private physician offices. **(8.0 credit hours)**

### **COM 7093—Geriatrics (M3 Core)**

Geriatric medicine is the primary care medical specialty that addresses the unique health care issues of the elderly. The clinical rotation in geriatrics provides students with the opportunity to understand the special needs of the geriatric patient and the unique disease presentation and progression in the elderly. It also enables students to identify psychosocial needs and functional disabilities of the elderly and their impact on developing appropriate care planning and medical management. The focus is on an interprofessional approach, functional and neuropsychological assessment, and treatment of the geriatric patient as directed by patient needs and wishes. The objectives of this course incorporate evidence-based geriatric competencies for medical students recommended by the American Association for Colleges of Osteopathic Medicine (AACOM), Association of American Medical Colleges (AAMC), American Geriatrics Society (AGS), Directors of Geriatric Academic Programs (ADGAP), and the Association for Gerontology in Higher Education (AGHE). **(8.0 credit hours)**

### **COM 7094—Psychiatry (M3 Core)**

The rotation in general psychiatry is designed for students to learn and practice the rapport-building skills necessary for working with patients in a mental health setting. The focus is on developing awareness of the impact of the patients' biological, developmental, sociological, ethnic, and economic background on their presenting problems. Students are expected to establish professional working relationships with members of a multidisciplinary, mental health treatment team. Students will develop the ability

to communicate effectively with other professionals, support an atmosphere of collegiality, and expand both their medical education and their personal growth. **(8.0 credit hours)**

### **COM 7095—Emergency Medicine (M4 Core)**

The goal of the emergency medicine rotation is to introduce students to the myriad medical and surgical conditions encountered in the practice of emergency medicine. Student will have the opportunity to acquire the knowledge and practice the skills necessary to evaluate and treat any patient who presents to the emergency department. **(8.0 credit hours)**

### **COM 7102—Internal Medicine I (M3 Core)**

Internal Medicine is hospital-based, content-driven specialty training that places a premium on the cognitive work and interpersonal skills necessary for providing well-patient care and for managing medical problems seen on this clinical service. Emphasis is placed on differentiating normal from abnormal history and physical findings, interpreting diagnostic tests, establishing differential diagnoses, developing skills for accurate reporting and recording of data and problems, and developing management plans—including health education for patients and families and referrals. **(8.0 credit hours)**

### **COM 7103—Internal Medicine II (M3 Core)**

Internal Medicine is hospital-based, content-driven specialty training that places a premium on the cognitive work and interpersonal skills necessary for providing well-patient care and for managing medical problems seen on this clinical service. Emphasis is placed on differentiating normal from abnormal history and physical findings, interpreting diagnostic tests, establishing differential diagnoses, developing skills for accurate reporting and recording of data and problems, and developing management plans—including health education for patients and families and referrals. **(8.0 credit hours)**

### **COM 7104—General Surgery I (M3 Core)**

During this two-block clinical course, the student will be exposed to a variety of clinical problems routinely seen on the surgical service. Emphasis will be placed on preoperative, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques, operating room principles, and assisting in surgery **(8.0 credit hours)**

### **COM 7105—General Surgery II (M3 Core)**

During this two-block clinical course, the student will be exposed to a variety of clinical problems routinely seen on the surgical service. Emphasis will be placed on preoperative, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques, operating room principles, and assisting in surgery **(8.0 credit hours)**

**COM 7110—Obstetrics and Gynecology (M3 Core)**

Obstetrics and gynecology is the medical specialty that provides care for those problems unique to women dealing with diseases of the reproductive tract and with pregnancy. The rotation acquaints the student with the concepts and practices utilized in this care. It is intended that the student become familiar with techniques and procedures used in this specialty as well as with diagnosis and management of commonly encountered obstetrical and gynecological problems. (8.0 credit hours)

**COM 7131—Pediatrics/Ambulatory (M3 Core)**

Pediatrics is the study of the comprehensive care of the growing child. This includes screening for proper growth and development, preventive health care, and the recognition and management of illnesses in infants, children, and adolescents.

The emphasis in pediatrics is on learning to perceive the child as a dynamic, growing, and developing patient. All aspects of the child's health are based upon the foundation formed during previous periods of growth. As pediatricians, it will be vital for students to be cognizant of these changes and to assist in maximizing health in each of these stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, they can assure the best future for maturing, young patients. (8.0 credit hours)

**COM 7132—Pediatrics/Hospital (M3 Core)**

Pediatrics is the study of the comprehensive care of the growing child. This includes screening for proper growth and development, preventive health care, and the recognition and management of illnesses in infants, children, and adolescents. The emphasis in pediatrics is on learning to perceive the child as a dynamic, growing, and developing patient. All aspects of the child's health are based upon the foundation formed during previous periods of growth. As pediatricians, it is vital for us to be cognizant of these changes, and to assist in maximizing health in each of these stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for our maturing young patients. (8.0 credit hours)

**COM 7151—Rural or Urban Underserved Medicine I (M4 Core)**

This course addresses the applicable core competencies of patient care, interpersonal and communication skills, professionalism, OPP, medical knowledge, and systems-based practice. (8.0 credit hours)

**COM 7152—Rural or Urban Underserved Medicine II (M4 Core)**

This course addresses the applicable core competencies of patient care, interpersonal and communication skills,

professionalism, OPP, medical knowledge, and systems-based practice. (8.0 credit hours)

**COM 7153—Rural or Urban Underserved Selective (M4 Selective #2)****Domestic Rural or Urban Underserved Selective**

Student training in the rural and medically underserved urban settings stresses development of primary care practitioner skills. This practitioner, with limited availability of sophisticated technical and ancillary services, will have the ability to diagnose and formulate a treatment plan based on information gathered through history, physical examination, laboratory, and X-ray reports. The Rural and Urban Underserved Medicine Rotation will increase the knowledge and awareness of multicultural health and unique value systems. It should also serve as an introduction to community medicine and the health care needs of the underserved population. (8.0 credit hours)

**International Rural or Urban Underserved Medicine Selective**

Student training in international settings stresses the development of primary care practitioner skills. This practitioner, with limited availability of sophisticated technical and ancillary services, will have the ability to diagnose and formulate a treatment plan based on information gathered through history, physical examination, laboratory, and X-ray reports. Students will learn diagnostic and therapeutic modalities not necessarily practiced in the United States. The International Rural and Urban Underserved Medicine Selective Rotation will increase the knowledge and awareness of international health care systems; introduce pathology that is, or may become, apparent in the United States; and expose students to the unique value systems of different cultures. Students will develop an understanding of the disparities and inequalities in global health systems and observe the interrelated medical, political, economic, and environmental factors influencing health care in other countries. This rotation will serve as an introduction to community medicine and the health care needs of underserved populations around the world. (8.0 credit hours)

**COM 7990—Clinical Board Review Course COMLEX 2CE (M3 Core)**

The study of the medical sciences contains a broad scope of knowledge in both science disciplines and organ systems of the body. Additionally, students must be able to analyze and apply knowledge to diagnose presentations and conditions of patients, as well as to synthesize and evaluate data to develop treatment and management plans for patients presenting with varying conditions. It is essential to master this knowledge as the medical licensing/examinations are

required to graduate from the Dr. Kiran C. Patel College of Osteopathic Medicine. This course provides students with an in-depth review of medical science content, clinical case study, practice exam questions, and a mock board examination. This online independent study course provides resources to the students and allows them to work at their own pace to prepare for the COMLEX Level 2CE licensing examination. It provides several opportunities to assess knowledge and track the student's progression toward preparation. **(3.0 credit hours)**

#### **COM 8001—Academic Medicine**

The goal of the academic medicine clerkship is to provide students with an opportunity to learn and practice the basic educational techniques needed to teach and administrate programs for students and residents within academic medical settings. **(8.0 credit hours)**

#### **COM 8004—Senior Seminar**

A series of presentations prior to graduation to reinforce knowledge and skills useful for the internship experience. Topics include medical economics, risk management, on-call medication, physician impairment, professional liability, medical licensure, and emergency management. A mock trial is presented. **(1.0 credit hour)**

#### **COM 8006—Internal Medicine Selective #1**

This clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. Students must select from the following subspecialties:

- Internal Medicine
- Internal Medicine: Cardiovascular Disease
- Internal Medicine: Clinical Cardiac Electrophysiology
- Internal Medicine: Critical Care Medicine
- Internal Medicine: Endocrine, Diabetes, and Metabolism
- Internal Medicine: Gastroenterology
- Internal Medicine: Hematology and/or Oncology
- Internal Medicine: Infectious Disease
- Internal Medicine: Interventional Cardiology
- Internal Medicine: Nephrology
- Internal Medicine: Pulmonary Disease
- Internal Medicine: Pulmonary Disease and Critical Care Medicine
- Internal Medicine: Rheumatology
- Neurology

**(8.0 credit hours)**

#### **COM 8009—Emergency Medicine**

This is a two–four-week elective where students gain exposure to a variety of emergency room systems, including both operational and practical issues. The student will learn the fundamentals of emergency room care. **(4.0–8.0 credit hours)**

#### **COM 8009A—Emergency Medicine: Medical Toxicology**

The division runs a four-week rotation introducing emergency residents to the care of poisoned, intoxicated, or exposed patients, including recognizing toxidromes, appropriate use of laboratory testing, familiarity with antidotes, decontamination techniques, and disposition that is a required part of the Emergency Medicine Residency Program syllabus. **(4.0–8.0 credit hours)**

#### **COM 8009B—Emergency Medicine: Pediatric Emergency Medicine**

The clerkship will expose the student to a variety of emergency room systems, including both operational and practical issues as related to and applied to the pediatric patient. The student will learn the fundamentals of emergency room care in this patient population. **(4.0–8.0 credit hours)**

#### **COM 8011—Otolaryngology**

The clerkship will expose the student to otolaryngology through lectures; interactive participatory groups; clinical rounds; operative experiences; and other formats leading to the understanding of the structure, function, pathology, and performance of ENT (otolaryngology) surgery and nonoperative otolaryngology as it relates to the diagnosis and treatment of ENT lesions. There will be a practical element of the rotation such that the student is introduced to basic and intermediate nonoperative, preoperative, operative, and postoperative otolaryngology and otolaryngology surgery care, practice, and critical skills as they pertain to ENT pathology.

The clerkship is designed to promote the understanding of the relationship between surgery; specialized ENT conditions and ENT surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for otolaryngologic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8011A—Otolaryngology: Otology/Neurotology**

The clerkship will consist of lectures, interactive participatory groups, clinical rounds, operative experience, and other formats leading to the understanding of the structure, function, pathology, and performance of ENT (otolaryngology) surgery and nonoperative otolaryngology as it relates to the diagnosis and treatment of ENT lesions,

especially as it relates to the ear, hearing, and vestibular apparatus. There will be a practical element of the rotation such that the student is introduced to basic and intermediate nonoperative, preoperative, operative, and postoperative otolaryngology and otolaryngology surgery care, practice, and critical skills as they pertain to ENT pathology and hearing and vestibular functions.

The clerkship is designed to promote the understanding of the relationship between surgery; specialized ENT conditions and ENT surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for otolaryngologic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

**COM 8011B—Otolaryngology:  
Pediatric Otolaryngology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

**COM 8012—Family Medicine**

Family medicine is a primary care medical specialty that provides continual and comprehensive health care for the individual and the family. It integrates the biological, clinical, and behavioral sciences with a broad understanding of all health care disciplines. The scope of family medicine encompasses all ages, sexes, and organ systems. It deals with every disease entity and includes an understanding and application of the principles of osteopathic medicine. It places in the forefront of medical care the advancement of wellness and the prevention of disease and promotes advocacy for the benefit of its patients. Family physicians possess unique attitudes, skills, and knowledge that qualify them to provide continual and comprehensive medical care within the context of social, economic, cultural, psychological, and environmental factors. The family practitioner may be involved in all aspects of medical care both in and out of the hospital setting. The family practitioner must know and use community resources to benefit the patient and the family. Most often, family medicine is practiced within the ambulatory setting, which includes outpatient clinics and private physician offices. **(4.0–8.0 credit hours)**

**COM 8014—Surgery: General**

The fourth-year medical student general surgery elective should include advanced training in the preoperative, intraoperative and postoperative management of general surgery patients. The student should work with patients on the general surgery wards, in the operating room, in the emergency room, and in the clinic. **(4.0–8.0 credit hours)**

**COM 8014A—Surgery: Pediatric Surgery**

In this clerkship, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the skills learned in the pediatric and surgery rotations already taken. Knowledge of surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine in the pediatric patient.

During this clerkship, the student will be exposed to a variety of clinical problems routinely seen in the pediatric surgical service. Emphasis will be placed on preoperative, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques and operating room principles and assist in surgery. **(4.0–8.0 credit hours)**

**COM 8014B—Surgery: Surgical Critical Care**

In this clerkship, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance within the objectives and goals of the general surgery rotation as follows. This will involve inpatient care of critically ill patients coming from the emergency room, the intensive care units or complications arising on the floor. Emphasis will be placed on preoperative evaluation of the critically ill patient, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques and operating room principles and assist in surgery as well as in procedures performed outside the operating room as necessary. **(4.0–8.0 credit hours)**

**COM 8014C—Surgery: Vascular Surgery**

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance within the objectives and goals of the general surgery rotation as follows. This will provide the student with a focused study of disease processes of the peripheral vascular system. This will include problems related to lower extremity occlusive disease, arterial aneurysms, and venous disorders. There is a special emphasis on preoperative patient assessment, both clinically and radiographically. The student will be exposed to the management of vascular patients by both traditional open techniques and newer minimally invasive endovascular routes. **(4.0–8.0 credit hours)**

**COM 8014D—Surgery:  
Vascular Surgery—Integrated**

In this elective, the student will spend time with both the vascular surgery and interventional radiology services. Student and preceptors will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance within the objectives and goals of the general surgery rotation and diagnostic radiology. This will provide the student with a focused study



of disease processes of the peripheral vascular system. This will include problems related to lower extremity occlusive disease, arterial aneurysms, and venous disorders. There is a special emphasis on preoperative patient assessment both clinically and radiographically. The student will be exposed to the management of vascular patients by both traditional open techniques and newer minimally invasive endovascular routes. (4.0–8.0 credit hours)

#### **COM 8015—Geriatric Medicine**

Geriatric medicine is the primary care medical specialty that addresses the unique health care issues of the elderly. The clinical rotation in geriatrics provides students with the opportunity to understand the special needs of the geriatric patient and unique disease presentation and progression in the elderly. It also enables students to identify psychosocial needs and functional disabilities of the elderly and their impact on developing appropriate care planning and medical management. The focus is on an interprofessional approach, functional and neuropsychological assessment, and treatment of the geriatric patient as directed by patient needs and wishes. (4.0–8.0 credit hours)

#### **COM 8018—Internal Medicine**

Internal medicine is a broad-based, content-driven medical specialty that places a premium on the cognitive work and interpersonal skills necessary to providing well-patient care and in caring for medical problems seen on clinical service. Emphasis is placed on determining normal from abnormal history and physical findings, using diagnostic tests, making logical selections, and defending hypotheses (preliminary problem list), as well as accurate reporting and recording of data and problems and beginning development of management plans, including health education for patients and families and referrals. (4.0–8.0 credit hours)

#### **COM 8018A—Internal Medicine: Cardiovascular Disease**

The goals of the elective are to provide the student with instruction and a broad experience in clinical cardiology. (4.0–8.0 credit hours)

#### **COM 8018B—Internal Medicine: Clinical Cardiac Electrophysiology**

The goals of the elective are to provide the student with instruction and a broad experience in clinical cardiology. (4.0–8.0 credit hours)

#### **COM 8018C—Internal Medicine: Critical Care Medicine**

Internal medicine is a broad-based, content-driven medical specialty that places a premium on the cognitive work and interpersonal skills necessary to providing well-patient care and caring for medical problems seen on clinical service. Emphasis is placed on determining normal from abnormal history and physical findings, using diagnostic tests, making

logical selections, and defending hypotheses (preliminary problem list), as well as accurate reporting and recording of data and problems and beginning development of management plans, including health education for patients and families and referrals. (4.0–8.0 credit hours)

#### **COM 8018D—Internal Medicine: Endocrine, Diabetes, and Metabolism**

This elective will involve inpatient and ambulatory care. During the elective, students will be exposed to the consultative practice of endocrinology and will participate in the evaluation and management of a broad spectrum of endocrine disorders. This will include the evaluation and treatment of patients with diabetes, hyperlipidemia, and nutritional disorders. (4.0–8.0 credit hours)

#### **COM 8018E—Internal Medicine: Gastroenterology**

This elective is designed to allow ambulatory and hospital-based exposure to patients with gastroenterology issues. The student will gain exposure to a variety of common, and some uncommon, gastrointestinal disorders, both through evaluation of the patient and through observation of endoscopy. The student will gain preliminary experience in managing gastrointestinal disorders and, in particular, the use of endoscopic intervention for diagnosis and treatment of gastrointestinal disorders. (4.0–8.0 credit hours)

#### **COM 8018F—Internal Medicine: Hematology and/or Oncology**

This elective will involve inpatient and ambulatory care in the care of hematology and oncology patients. The student is expected to learn the diagnostic and therapeutic approaches for hematologic and oncologic diseases through direct patient contact. The student will participate in bone marrow aspirate and biopsy procedures, as well as the interpretation of peripheral blood smears and serum protein electrophoresis results. The student will be expected to expand his or her basic knowledge with appropriate reading materials, as well as weekly clinical conferences (4.0–8.0 credit hours)

#### **COM 8018G—Internal Medicine: Infectious Disease**

This elective will involve inpatient and ambulatory care in the care of infectious diseases. The student will see both inpatient and outpatient consults that have a broad range of infectious disease problems. There will be a variety of infectious disease presentations, ranging from complicated, hospital-acquired, multidrug-resistant infections to outpatient consults for fevers of unknown origin or for vector-transmitted infections. Students will also be exposed to the primary and longitudinal care of patients with human immunodeficiency virus (HIV) infection. Students on this elective are expected to review relevant literature and present that review. (4.0–8.0 credit hours)

**COM 8018H—Internal Medicine:  
Interventional Cardiology**

The goals of the elective are to provide the student with instruction and a broad experience in clinical cardiology. (4.0–8.0 credit hours)

**COM 8018I—Internal Medicine: Nephrology**

This elective will involve inpatient and ambulatory care in the evaluation and treatment of a range of kidney and urinary tract clinical problems. It is designed to provide the student with an opportunity to actively engage in patient-based learning experiences under the guidance of a faculty member (preceptor). The clinical experience will emphasize the diagnosis and management of acute and chronic kidney and urologic tract diseases and the management of risk factors associated with the diseases. Objectives will focus on the complete and accurate patient history and physical examination, indications for appropriate diagnostic studies, and the understanding of first-line therapy for common nephrology diseases. (4.0–8.0 credit hours)

**COM 8018J—Internal Medicine: Pulmonary Disease**

This pulmonary medicine elective is scheduled with a preceptor who is an expert in this field. The student will experience the day-to-day activities of clinicians assisting in the care of ambulatory and hospitalized patients. This will give the student opportunity to practice interview and documentation skills. The student may be given the opportunity to participate in procedures as the preceptor determines his or her readiness. (4.0–8.0 credit hours)

**COM 8018K—Internal Medicine:  
Pulmonary Disease and Critical Care Medicine**

This elective is designed for hospitalized patient care. It will combine critical care in the hospital while focusing on pulmonary disease and management. The specifics of this elective will be agreed to by the student and preceptor, with the student participating in treatment and assisting in procedures as felt appropriate by the preceptor. (4.0–8.0 credit hours)

**COM 8018L—Internal Medicine: Rheumatology**

The clerkship will involve primarily ambulatory patients. It is designed to provide the student with an opportunity to actively engage in patient-based learning experiences under the guidance of a faculty member (preceptor). The clinical experience will emphasize the diagnosis and management of rheumatologic diseases and the management of risk factors associated with the diseases. Objectives will focus on the complete and accurate patient history and physical examination, indications for appropriate diagnostic studies, and the understanding of first-line therapy for common rheumatology diseases. It will involve the practice of rheumatology in an office and possibly a hospital setting. It is expected to incorporate a musculoskeletal, orthopedic

and multidisciplinary approach to various rheumatologic diseases. There will be direct patient contact under supervision. (4.0–8.0 credit hours)

**COM 8019—International Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8020—Radiation Oncology**

This rotation is designed as an introduction to radiation oncology. During this rotation, the medical student will work with the preceptor and see patients in clinic and the Radiation Oncology Department. This is designed to expose the student to the entire spectrum of radiation oncology. Students will participate in discussions with the preceptor or resident staff on different radiation oncology topics and will also be expected to make case presentations and give presentations on general radiation oncology and treatment planning. (4.0–8.0 credit hours)

**COM 8021—Medical Genetics and Genomics**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8022—Nuclear Medicine**

The purpose of the elective is to teach the appropriate use of nuclear medicine as a diagnostic tool, as well as to teach the fundamentals of nuclear medicine interpretation and application. The student will also be exposed to the use of nuclear medicine in the treatment of disease. This will provide the student with a base of information of great use to him or her during postgraduate education and practice. The preceptor and student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8023—Neurology**

This rotation is the introduction to clinical neurology. It is a four-week rotation exposing the student to inpatient and outpatient acute and chronic neurologic diseases and treatment. It is a prerequisite for taking more advanced rotations in neurology. (4.0–8.0 credit hours)

**COM 8023A—Neurology: Child Neurology**

This rotation is the introduction to child neurology. It is a four-week rotation exposing the student to inpatient and outpatient acute and chronic neurologic diseases and treatment. It is a prerequisite for the student to have taken rotation COM 8023 in neurology and COM 8032 in pediatrics. (4.0–8.0 credit hours)

**COM 8023B—Neurology: Clinical**

This rotation is the introduction to clinical neurology. It is a four-week rotation exposing the student to inpatient and outpatient acute and chronic neurologic diseases and treatment. It is a prerequisite for taking more advanced rotations in neurology. The preceptor and student will define the focus of this clinical neurology rotation in advance. (4.0–8.0 credit hours)

**COM 8023C—Neurology: Neuromuscular Medicine**

This rotation is the introduction to neuromuscular medicine. It is a four-week rotation exposing the student to building upon lessons and methods learned in COM 8023 Neurology. It will involve inpatient and outpatient medicine in patients with ALS, myasthenia gravis, myopathies, muscular dystrophy and other neuromuscular diseases. (4.0–8.0 credit hours)

**COM 8024—Neurological Surgery**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experience, and other formats leading to the understanding of the structure, function, pathology, and performance of neurological surgery. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative, and postoperative neurological surgery care, practice, and critical skills. The course is designed to promote the understanding of the relationship between surgery; specialized neurological surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for neurological surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8024A—Neurological Surgery:  
Endovascular Surgical Neuroradiology**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experience, and other formats leading to the understanding of the structure, function, pathology, and performance of endovascular neurological surgery. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative and postoperative neurological surgery care, practice, and critical skills. The course is designed to promote the understanding of the relationship between surgery; specialized neurological surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for endovascular neurological surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8025—Obstetrics and Gynecology**

Obstetrics and gynecology is the medical specialty that provides care for those problems unique to women dealing with diseases of the reproductive tract and with pregnancy. The rotation acquaints the student with the concepts and practices utilized in this care. It is intended that the student become familiar with techniques and procedures used in this specialty as well as with diagnosis and management of commonly encountered obstetrical and gynecological problems. (4.0–8.0 credit hours)

**COM 8025A—Obstetrics and Gynecology:  
Maternal/Fetal Medicine**

Upon completion of COM 8025 Obstetrics and Gynecology, the student may take this elective rotation. The rotation on maternal/fetal medicine is an inpatient service. Students will participate in the admission and follow-up of patients, participating in their procedures and deliveries. The students are expected to follow their panel of patients under the supervision of the obstetrics and gynecology as well as neonatology staff members. Formal, structured teaching occurs during didactic sessions, after morning rounds, and during weekly perinatal conferences. Students are expected to take night call, but the schedule is flexible. Grading is based on evaluations from resident staff and faculty members. (4.0–8.0 credit hours)

**COM 8025B— Obstetrics and Gynecology:  
Reproductive Endocrinology and Infertility Elective**

Upon completion of COM 8025 Obstetrics and Gynecology, the student may take this elective rotation. The course is designed to acquaint students with current concepts of infertility and management of interrelated reproductive endocrine problems and to familiarize them with laboratory techniques used in evaluating patients with such problems. Students will observe the workup and care of fertility and endocrinology patients, as well as patients with recurrent miscarriage. There is exposure to surgical management of such patients, including minimally invasive surgery. Students will have exposure to laboratory techniques used in the work up and treatment of such patients. There will be exposure to assisted reproductive technologies in clinics and laboratories, as well as endocrinology. (4.0–8.0 credit hours)

**COM 8025C— Obstetrics and Gynecology:  
Women's Health Elective**

Upon completion of COM 8025 Obstetrics and Gynecology, the student may take this elective rotation. This rotation includes the disciplines of gynecology/obstetrics and women's health. (4.0–8.0 credit hours)

**COM 8025D—Obstetrics and Gynecology:  
Gynecological Oncology**

Upon completion of COM 8025 Obstetrics and Gynecology, the student may take this elective rotation. The student will have the opportunity to participate in

the field of gynecologic oncology and care for women with gynecologic cancer, as well as fully participate in the connection between gynecologic oncology and integrative medicine. The student will be exposed to all outpatient areas of gynecologic oncology and integrative medicine including new patient visits, follow-up visits, surgical gynecologic oncology, chemotherapy, radiation oncology, and clinical research. **(4.0–8.0 credit hours)**

#### **COM 8027—OPP Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

#### **COM 8027A—OPP Medicine: Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine (NMM/OMM)**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

#### **COM 8028—Ophthalmology**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experience, and other formats leading to the understanding of the structure, function, pathology, and performance of ophthalmic surgery and nonoperative ophthalmology. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative, and postoperative ophthalmology and ophthalmic surgery care, practice, and critical skills. The course is designed to promote the understanding of the relationship between surgery; specialized ophthalmic conditions and ophthalmic surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for ophthalmic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8028A—Ophthalmology: Retina Surgery**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of ophthalmic surgery and nonoperative ophthalmology as it relates to the diagnosis and treatment of retinal lesions. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative, and postoperative ophthalmology and ophthalmic surgery care, practice,

and critical skills as they pertain to retinal pathology. The course is designed to promote the understanding of the relationship between surgery; specialized ophthalmic retinal conditions and ophthalmic retinal surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for ophthalmic retinal surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8028B—Ophthalmology: Cornea Surgery**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experience, and other formats leading to the understanding of the structure, function, pathology, and performance of ophthalmic surgery and nonoperative ophthalmology as it relates to the diagnosis and treatment of corneal lesions. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative, and postoperative ophthalmology and ophthalmic surgery care, practice, and critical skills as they pertain to corneal pathology. The course is designed to promote the understanding of the relationship between surgery; specialized ophthalmic corneal conditions and ophthalmic corneal surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for ophthalmic corneal surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8029—Orthopedic Surgery**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will be exposed to a variety of clinical problems routinely seen in the orthopedic surgical service. Emphasis will be placed on preoperative, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques and operating room principles and assist in surgery. **(4.0–8.0 credit hours)**

#### **COM 8029A—Orthopedic Surgery: Adult Reconstructive Orthopedics**

Once the student has completed the basic COM 8029 orthopedic rotation, the student may take this elective.

The student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the adult reconstructive orthopedic surgery rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will experience hands-on exposure to adult reconstructive surgery. The student will be able to integrate surgical knowledge in the care of orthopedic patients in both the inpatient and outpatient settings. (4.0–8.0 credit hours)

**COM 8029B—Orthopedic Surgery:  
Foot and Ankle Orthopedics**

Once the student has completed the basic COM 8029 orthopedic rotation, the student may take this elective. The student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the orthopedic surgery rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will participate in the preoperative, postoperative, and surgical care of patients with foot and ankle disorders. The student is exposed to inpatient and outpatient settings. Objectives include understanding of the evaluation and management of arthritis, sports medicine, common deformities, tendonopathies, and neuropathy pertaining to the foot and ankle as well as orthotic and pedorthic management. (4.0–8.0 credit hours)

**COM 8029C—Orthopedic Surgery:  
Hand Orthopedic Surgery**

Once the student has completed the basic COM 8029 orthopedic rotation, the student may take this elective. The student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the hand orthopedic surgery rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will have exposure to hand surgery. The student will be able to integrate surgical knowledge in the care of orthopedic patients in both the inpatient and outpatient settings. This will include congenital hand deformities, musculoskeletal hand injuries, arthritis, and tendonopathies in both inpatient and outpatient settings. (4.0–8.0 credit hours)

**COM 8029D—Orthopedic Surgery:  
Musculoskeletal Oncology**

Once the student has completed the basic COM 8029 orthopedic rotation, the student may take this elective. The student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the orthopedic musculoskeletal oncology rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective the student will be exposed to patients with orthopedic diagnoses and problems arising from musculoskeletal oncology. This will involve integration of medical, surgical, pathological, and radiological patient information. Patients are evaluated in both the inpatient and outpatient settings. (4.0–8.0 credit hours)

**COM 8029E—Orthopedic Surgery:  
Orthopedic Sports Medicine**

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the orthopedic sports medicine rotation as listed follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

This elective is designed to help the student integrate medical and surgical knowledge in the care of athletics-related injuries. The student is expected to participate in patient care as determined by the attending and resident staff members. This will involve preoperative, surgical, postoperative hospital, and outpatient diagnostic and therapeutic care of athletics injuries and all injuries of the knee and shoulder or other orthopedic injuries. (4.0–8.0 credit hours)

### **COM 8029F—Orthopedic Surgery: Orthopedic Surgery of the Spine**

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the orthopedic spine surgery rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

This elective is designed help the student integrate medical and surgical knowledge in the care of patients with spine-related deformities and injuries. This will be both inpatient and outpatient and will include a wide variety of spinal disorders. The rotation is designed to provide assessment of patients with low back pain and spinal injuries with and without neurological involvement. The student is expected to participate in preoperative, surgical, postoperative hospital, and outpatient diagnostic and therapeutic care of the orthopedic spine patient. **(4.0–8.0 credit hours)**

### **COM 8029G—Orthopedic Surgery: Orthopedic Trauma**

The student will have already been on rotation COM 8029 Orthopedic Surgery. In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the orthopedic trauma rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will have exposure to patients with orthopedic trauma. The student will use medical and surgical skills in the care of trauma victims and musculoskeletal injuries in the inpatient and outpatient setting. This is to include orthopedic preoperative, operative, postoperative hospital, and outpatient diagnostic and therapeutic care of orthopedic trauma patients. **(4.0–8.0 credit hours)**

### **COM 8029H—Orthopedic Surgery: Pediatric Orthopedics**

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. This elective involves the specialty of orthopedics exclusively in the pediatric and adolescent patient. The basic rotations of COM 8029

Orthopedic Surgery and COM 8032 Pediatrics should be completed before this elective.

Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will be exposed to a variety of clinical problems routinely seen in the pediatric orthopedic surgical service. Emphasis will be placed on preoperative, intraoperative, and postoperative management of the patient. In the operating room, the student will practice aseptic techniques and operating room principles and assist in surgery. **(4.0–8.0 credit hours)**

### **COM 8030—Preventive Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

### **COM 8030A—Preventive Medicine: Aerospace Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

### **COM 8030B—Preventive Medicine: Occupational Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

### **COM 8030C—Preventive Medicine: Public Health Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

### **COM 8031—Pathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. **(4.0–8.0 credit hours)**

**COM 8031A—Pathology: Blood Banking/  
Transfusion Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031B—Pathology: Chemical Pathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031C—Pathology: Cytopathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031D—Pathology: Dermatopathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031E—Pathology: Forensic Pathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031F—Pathology: Medical Microbiology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031G—Pathology: Neuropathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031I—Pathology: Pediatric Pathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8031J—Pathology: Selective Pathology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8032—Pediatrics**

Pediatrics is the study of the comprehensive care of the growing child. This includes screening for proper growth and development, preventive health care, and the recognition and management of illnesses in infants, children, and adolescents.

The elective is to build upon fundamentals learned in Pediatrics Rotation I Ambulatory Care and Pediatrics II Hospital Care. (4.0–8.0 credit hours)

**COM 8032A—Pediatrics: Adolescent Medicine**

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics Adolescent Medicine, the study of the comprehensive care of the adolescent. This includes screening for proper growth and development, preventive health care, and the recognition and management of illnesses in adolescents.

The emphasis is on learning to perceive the adolescent as a dynamic, growing and developing patient. All aspects of the patient's health are based upon the foundation formed during previous periods of growth. As pediatricians, it is vital for us to be cognizant of these changes and to assist in maximizing health in each of these stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for our maturing, young patients. (4.0–8.0 credit hours)

**COM 8032B—Pediatrics:  
Neonatal/Perinatal Medicine**

Neonatal/perinatal medicine is the study of the comprehensive care of the neonatal/perinatal patient. This includes screening for proper growth and development, preventive health care, and the recognition and management of illnesses in the neonatal/perinatal patient. The emphasis is on learning to perceive the neonatal/perinatal patient as a growing and developing patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with

the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032C—Pediatrics: Cardiology**

Pediatric cardiology is the study and comprehensive care of cardiologic issues in the pediatric patient. This includes screening for and recognition and management of cardiac illnesses in the pediatric patient. The emphasis is on learning to perceive the pediatric patient as a growing and developing patient. As pediatricians, it is vital for us to be cognizant of, and to assist in understanding and diagnosing, cardiac diseases and findings in these early stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032D—Pediatrics: Critical Care Medicine**

Pediatric critical care is the study and comprehensive care of the pediatric patient in the critical care setting. This will be primarily an inpatient rotation and may involve outpatient follow-up. The emphasis is on learning to perceive, understand, and learn treatment strategies in the growing and developing pediatric patient in a critical care setting. As pediatricians, it is vital to learn to treat the pediatric patient and help the families when critical care settings and diseases arise.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032E—Pediatrics: Endocrinology**

Pediatric endocrinology is the study of the comprehensive care of the pediatric patient with endocrinologic disease. This includes screening for proper growth and development, preventive health care, and the recognition and management of these illnesses in the pediatric patient. The emphasis is on learning to perceive the pediatric endocrinology patient as a growing and developing patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties,

lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032F—Pediatrics: Gastroenterology**

Pediatric gastroenterology is the study of the comprehensive care of the pediatric patient with gastroenterologic disease. This includes screening for proper growth and development, preventive health care, and the recognition and management of these illnesses in the pediatric patient. The emphasis is on learning to perceive the pediatric gastroenterology patient as a growing and developing patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032G—Pediatrics: Hematology/Oncology**

Pediatric hematology/oncology is the study of the comprehensive care of the pediatric patient with hematologic or oncologic disease. This will include the recognition and management of these illnesses in the pediatric patient and family. The emphasis is on learning to perceive the pediatric hematology/oncology patient as a growing and developing patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screening, anticipatory guidance, and preventative medicine techniques. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032H—Pediatrics: Infectious Diseases**

Pediatric infectious disease is the study of the comprehensive care of the pediatric patient with infectious diseases. This will include the recognition and management of these illnesses in the pediatric patient. The emphasis is on learning to recognize and treat infectious diseases in the pediatric patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screenings, testing for, and diagnosing infectious diseases. In this way, we can assure the best future for this group of patients.



In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032I—Pediatrics: Nephrology**

Pediatric nephrology is the study of the comprehensive care of the pediatric patient with nephrologic disease. This will include the recognition and management of these illnesses in the pediatric patient. The emphasis is on learning to recognize and treat nephrology in the pediatric patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screenings, testing for, and diagnosing nephrologic diseases. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032J—Pediatrics: Pulmonology**

Pediatric pulmonology is the study of the comprehensive care of the pediatric patient with pulmonology disease. This will include the recognition and management of these illnesses in the pediatric patient. The emphasis is on learning to recognize and treat pulmonology diseases in the pediatric patient. As pediatricians, it is vital for us to be cognizant of, and to assist in, maximizing health in these early stages through health screenings, testing for, and diagnosing pulmonology diseases. In this way, we can assure the best future for this group of patients.

In this elective, the student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of general pediatric rotations I and II as outlined in the General Curriculum for Pediatrics. (4.0–8.0 credit hours)

#### **COM 8032M—Pediatrics: Rheumatology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8035—Plastic Surgery**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8035A—Plastic Surgery: Craniofacial Surgery**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8036—Psychiatry**

The rotation in general psychiatry is designed for students to learn and practice the rapport-building skills necessary for working with patients in a mental health setting. The focus is on developing awareness of the impact of the patients' biological, developmental, sociological, ethnic, and economic background on their presenting problems. Students are expected to establish professional working relationships with members of a multidisciplinary mental health treatment team. Students will develop the ability to communicate effectively with other professionals, support an atmosphere of collegiality, and expand both their medical education and personal growth. (4.0–8.0 credit hours)

#### **COM 8036A—Psychiatry: Addiction Psychiatry**

The rotation in general psychiatry is designed for students to build upon those skills learned in the COM 8036 Psychiatry rotation and apply them to evaluation, diagnosis, and treatment of addiction. The elective is designed to provide intensive experience in the diagnosis and management of patients with addiction or addiction with comorbid psychiatric illness under the supervision of the faculty attending addiction psychiatrist or addiction medicine specialist. Students are expected to establish professional working relationships with members of a multidisciplinary mental health treatment team. (4.0–8.0 credit hours)

#### **COM 8036B—Psychiatry: Child and Adolescent Psychiatry**

This four-week, elective course is designed to give students interested in psychiatry a more focused experience in the area of child and adolescent psychiatry. The student will work with attending physicians and/or residents in a variety of settings that may include a combination of outpatient clinics, residential facilities, hospitals, rural community mental health facilities, and/or schools. (4.0–8.0 credit hours)

#### **COM 8036C—Psychiatry: Forensic Psychiatry**

The objective of this rotation is to provide a clinical experience in forensic psychiatry, thereby, increasing the students' skills, knowledge, and comfort in the interface between psychiatry and the law. The student will work up some inpatients and may help prepare some written reports for the court. There is no night call, but students will be available five days a week. The basic psychiatry rotation is a prerequisite for this rotation. (4.0–8.0 credit hours)

**COM 8036D—Psychiatry: Geriatric Psychiatry**

This is a four-week rotation that will provide experience and information in the psychiatric care of the geriatric patient. This will expose the student to inpatient and ambulatory care in the geriatric population. Among the patients are those who are community dwelling, inpatient, undergoing palliative care, and in the hospice unit. It is required that students have been through both the basic psychiatry and geriatric rotations. Students will gain medical knowledge about established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences and the application of this knowledge to geriatric patient care. (4.0–8.0 credit hours)

**COM 8037—Radiology: Diagnostic**

The purpose of the elective is to teach the appropriate use of radiology as a diagnostic tool, as well as to teach the fundamentals of X-ray interpretation. This will involve all areas of diagnostic radiology and will provide the student with a base of information of great use to him or her during postgraduate education and practice. (4.0–8.0 credit hours)

**COM 8037A—Radiology:****Diagnostic—Abdominal Radiology**

After completion of the initial diagnostic radiology rotation COM 8037, the student may choose to take this elective rotation. It will be an introduction to abdominal imaging and include, but not be limited to, abdominal X-ray studies; ultrasound of the GI, GU, and vascular structures; CT; CT colonography; and MRI. The preceptor and student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037B—Radiology:****Diagnostic—Cardiothoracic Radiology**

After completion of the initial diagnostic radiology rotation COM 8037, the student may choose to take this elective rotation. It will be an introduction to basic chest X-ray and interpretation, cardiac CT, coronary CTA, pulmonary CT angiography, and radionuclear chest studies. It may also include echocardiography, dependent on the prior rotations of the student. The preceptor and student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037C—Radiology:****Diagnostic—Endovascular Surgical Neuroradiology**

After completion of the initial diagnostic radiology rotation COM 8037 and completion of surgical rotations I and II, the student may choose to take this elective rotation. It will involve the observation and participation in endovascular surgical neuroradiology procedures, with integration of the techniques into appropriate patient management. Appropriate management includes the recognition of the importance of signs and symptoms and

the understanding of indications for, and contraindications to, endovascular surgical neuroradiology procedures. The preceptor and the student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037D—Radiology:****Diagnostic—Musculoskeletal Radiology**

After completion of the initial diagnostic radiology rotation COM 8037, and completion of surgical rotations I and II, the student may choose to take this elective rotation. It will involve the observation and participation in endovascular surgical neuroradiology procedures, with integration of the techniques into appropriate patient management. Appropriate management includes the recognition of the importance of signs and symptoms and the understanding of indications for, and contraindications to, endovascular surgical neuroradiology procedures. The preceptor and the student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037E—Radiology:****Diagnostic—Neuroradiology**

After completion of the initial diagnostic radiology rotation COM 8037, the student may choose to take this elective rotation. It will involve the observation of and participation in neuroradiology procedures, with integration of the techniques into appropriate patient management. Appropriate management includes the recognition of the importance of signs and symptoms and the understanding of indications for, and contraindications to, performing neuroradiology procedures. The preceptor and student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037F—Radiology:****Diagnostic—Nuclear Radiology**

Upon completion of the basic radiology rotation, the student may choose to take this rotation. The purpose of the elective is to teach the appropriate use of nuclear medicine as a diagnostic tool, as well as to teach the fundamentals of nuclear medicine interpretation and application. The student will also be exposed to the use of nuclear medicine in the treatment of disease. This will provide the student with a base of information of great use to his or her during postgraduate education and practice. The preceptor and student will outline available studies and course expectations prior to the beginning of the rotation. (4.0–8.0 credit hours)

**COM 8037G—Radiology:****Diagnostic—Pediatric Radiology**

After completion of the initial diagnostic radiology rotation COM 8037 and pediatrics 8035, the student may choose to take this elective rotation. The purpose of

the elective is to teach the appropriate use of radiology as a diagnostic tool in the pediatric patient, as well as to teach the fundamentals of X-ray interpretation. This will involve all areas of pediatric diagnostic radiology and will provide the student with a base of information of great use to him or her during postgraduate education and practice. **(4.0–8.0 credit hours)**

#### **COM 8037I—Radiology:**

##### **Diagnostic—Vascular and Interventional Radiology**

Upon completion of COM 8037, diagnostic radiology, the student may consider taking this rotation in interventional radiology (IR). IR is a therapeutic and diagnostic specialty. It comprises minimally invasive, image-guided therapeutic procedures as well as invasive diagnostic imaging. The range of diseases and organs amenable to image-guided therapeutic and diagnostic procedures are extensive and constantly evolving and include, but are not limited to, diseases and elements of the vascular, gastrointestinal, hepatobiliary, genitourinary, pulmonary, musculoskeletal, and the central nervous system. As part of the IR rotation, students will participate in the evaluation and management relevant to image-guided interventions. This rotation is to provide the student with a base of information of great use to him or her during postgraduate education and practice. **(4.0–8.0 credit hours)**

#### **COM 8038—Physical Medicine and Rehabilitation**

Physical medicine and rehabilitation, also known as physiatry, is a specialty that emphasizes the prevention, diagnosis, and treatment of individuals with physical disabilities. These disabilities may arise from conditions affecting the musculoskeletal system, neurological trauma, and/or painful conditions secondary to various hereditary and acquired diseases.

Physiatrists utilize skills to achieve maximal restoration of physical, psychosocial, and vocational functioning through a comprehensive, multidisciplinary team approach, which may include, but is not limited, to physical therapists, occupational therapists, speech-language pathologists, rehabilitation nurses, psychologists, and social workers. **(4.0–8.0 credit hours)**

#### **COM 8038A—Physical Medicine and Rehabilitation: Spinal Cord Injury Medicine**

Spinal cord injury medicine is a specialty that addresses the prevention, diagnosis, treatment, and management of traumatic spinal cord injury and nontraumatic etiologies of spinal cord dysfunctions by working in an interdisciplinary manner. The interdisciplinary team is composed of health care professionals providing care on a lifelong basis, including related medical, physical, psychological, and vocational disabilities and complications. This specialty encompasses patients of all ages. **(4.0–8.0 credit hours)**

#### **COM 8042—Thoracic Surgery**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of thoracic surgery. There will be a practical element of the rotation such that the student is introduced to basic and intermediate level of nonoperative, preoperative, operative, and postoperative thoracic surgery care, practice, and critical skills. The course is designed to promote the understanding of the relationship between surgery, specialized thoracic surgery, and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for thoracic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8044—Urology**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of urologic surgery and nonoperative urology as it relates to the diagnosis and treatment of urologic lesions. There will be a practical element of the rotation such that the student is introduced to basic and intermediate level of nonoperative, preoperative, operative and postoperative urology and urologic surgery care, practice, and critical skills as they pertain to genitourinary pathology. The course is designed to promote the understanding of the relationship between surgery; specialized urologic conditions and urologic surgery; and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for urologic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. **(4.0–8.0 credit hours)**

#### **COM 8044A—Urology: Pediatric Urology**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of pediatric urologic surgery and nonoperative urology as it relates to the diagnosis and treatment of pediatric urologic lesions. There will be a practical element of the rotation such that the student is introduced to basic and intermediate level of nonoperative, preoperative, operative and postoperative urology and urologic surgery care, practice, and critical skills as they pertain to the pediatric genitourinary pathology. The course is designed to promote the understanding of the relationship between surgery, specialized pediatric urologic conditions and pediatric urologic surgery, and the patient in the nonoperative, preoperative, operative, and postoperative care including

indications and contraindications for pediatric urologic surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8095—Emergency Medicine (M4 Core)**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (8.0 credit hours)

**COM 8103—Allergy and Immunology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8103A—Allergy and Immunology: Clinical and Laboratory Immunology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

**COM 8104—Anesthesiology**

Students will receive instruction and clinical experience in anesthesiology. Time is spent in operating rooms representing all surgical specialties. There are options for time in the obstetrical suite, chronic pain clinic, preoperative screening clinic, pediatric anesthesia, regional anesthesia, cardiac anesthesia, and intraoperative and postoperative acute pain management. (4.0–8.0 credit hours)

**COM 8104A—Anesthesiology: Critical Care**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of anesthesia critical care skills. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of preoperative, operative, and postoperative anesthesia care, practice, and critical care skills. The course is designed to promote the understanding of the relationship between anesthesia and surgery and anesthesia and the patient, as well as critical care anesthesia, especially in the postoperative recovery phase. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8104B—Anesthesiology: Pain Management**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other

formats leading to the understanding of the structure, function, pathology, and performance of anesthesia critical care skills. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of preoperative, operative, and postoperative anesthesia care, practice, and critical care skills. The course is designed to promote the understanding of the relationship between anesthesia and surgery and anesthesia and the patient, as well as critical care anesthesia, especially in the postoperative recovery phase. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8104AC—Anesthesiology: Pediatric Anesthesiology**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of anesthesia critical care skills. There will be a practical element of the rotation such that the student is introduced to basic and intermediate level preoperative, operative, and postoperative anesthesia care, practice, and critical care skills. The course is designed to promote the understanding of the relationship between anesthesia and surgery and anesthesia and the patient, as well as critical care anesthesia, especially in the postoperative recovery phase. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8105—Colon and Rectal Surgery**

The course will consist of lectures, interactive participatory groups, clinical rounds, operative experiences, and other formats leading to the understanding of the structure, function, pathology, and performance of colon and rectal surgery. There will be a practical element of the rotation such that the student is introduced to basic and intermediate levels of nonoperative, preoperative, operative, and postoperative colon and rectal care, practice, and critical skills. The course is designed to promote the understanding of the relationship between surgery, specialized colon and rectal surgery, and the patient in the nonoperative, preoperative, operative, and postoperative care including indications and contraindications for colon and rectal surgery. The course will assist the student in preparing for the clinical questions on the COMLEX-USA and other licensing examinations. (4.0–8.0 credit hours)

**COM 8108—Dermatology**

The goals of the elective are to provide the student with instruction and a broad experience in dermatology. The student will participate in the outpatient setting. The student will attend all teaching conferences and the focus will be on the history and physical examination skills

particularly pertaining to dermatology. In the outpatient setting, the student will be assigned to a clinic and evaluate patients under supervision of an attending physician. (4.0–8.0 credit hours)

#### **COM 8170—Public Health**

This course provides a structured and supervised experience at a public health agency or public health-related institution. The student will acquire skills and experiences in the application of basic public health concepts and specialty knowledge of the solution to community health problems. (4.0–8.0 credit hours)

#### **COM 8215—Hand Surgery**

Once the student has completed the basic COM 8029 Orthopedic Rotation, the student may take this elective. The student and preceptor will establish the goals of the elective, as well as testing, on-call duties, lectures, and presentations. It will be in accordance with the objectives and goals of the hand surgery rotation as follows. Knowledge of orthopedic surgery, surgical indications, and surgical contraindications is essential for the competent practice of osteopathic medicine. The Department of Surgery closely partners with all areas of clinical instruction of all academic courses and programs of a clinical nature in the Dr. Kiran C. Patel College of Osteopathic Medicine.

During this elective, the student will have exposure to hand surgery. The student will be able to integrate surgical knowledge in the care of hand surgery patients in both the inpatient and outpatient settings. This will include congenital hand deformities and musculoskeletal hand injuries, arthritis, and tendonopathies in both inpatient and outpatient settings. (4.0–8.0 credit hours)

#### **COM 8240—Clinical Informatics**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8241—Hospice and Palliative Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8279—Medical Toxicology**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8297—Pediatric Emergency Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8336—Sports Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8334—Pain Medicine**

Pain Medicine is a specialty that is concerned with the prevention of pain and the evaluation, treatment, and rehabilitation of people in pain. Acute and chronic pain are common reasons for patients to seek medical attention. Pain may be due to a localized process, but may also represent life-threatening primary disorders or indicate serious internal disorders. Because of their frequency and potential importance, it is necessary to recognize different pain syndromes and initiate management. Students should become familiar with different therapeutic modalities utilized for treatment of pain. (4.0–8.0 credit hours)

#### **COM 8355—Sleep Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8356—Undersea and Hyperbaric Medicine**

The clerkship will expose the student to the practice of medicine in the inpatient and ambulatory environments. Students will be engaged in the care of patients under the direct supervision of a physician certified in a specialty. (4.0–8.0 credit hours)

#### **COM 8357—Research Principles in Integrative Medicine and Medication Therapy Management**

This rotation reviews basic principles in integrative medicine and focuses on clinical nutrition; herbal therapy; mindful meditation; and other researched, science-informed topics. Students will work with patients one day each week, comprehend and assess the pharmacology of the medications they are currently taking, and consider where complementary therapies might also be appropriately incorporated into patients' wellness plans. Students will select and research subject matter within the scientific literature relevant to areas covered within the rotation. Students will present a slide presentation and write a research paper on their selected topic(s). (4.0–8.0 credit hours)

### **COM 9100—Osteopathic Principles and Practice Fellowship**

The Predoctoral OPP Fellowship Program is a unique opportunity that is made available to exceptional students. It expands the medical training period from four to five years by including a one-year fellowship with two years of clinical rotations. The fellowship program is a 12-month program that takes place between the M2 and M3 years. The curriculum includes guided clinical experience, teaching in the OPP courses, participation in department research activities, and a program of didactics. (8.0–48.0 credit hours)

### **COM 9200—Research Fellowship**

The goal of the research fellowship is to provide a year-long, structured training experience in conceptualizing, conducting, and disseminating research for select medical students in the Dr. Kiran C. Patel College of Osteopathic Medicine (KPCOM). The fellowship consists of three core activities: completing academic coursework, serving as research associate on an existing research study, and participating in communication of scientific knowledge. The percentage of time each fellow will dedicate to the three activities will be outlined in an individualized fellowship training plan. Following the model of the OPP fellowship, the fellowship year will occur between the M2 and M3 years. In addition to their fellowship year, fellows will receive tuition remission for their M3 and M4 years. (8.0–48.0 credit hours)

### **COM 9300—Medical Spanish**

This course is designed for students in health care with little or no formal background in Spanish to obtain the language skills needed to carry out a basic conversation with a Spanish-speaking patient. This course also provides students who are fluent in Spanish with the opportunity to learn medical terminology and/or to use Spanish in a patient encounter. It utilizes an online format of independent modules supplemented by optional weekly tutoring sessions. The modules focus on medical vocabulary, phrases, and grammar needed to communicate in Spanish during a patient encounter. The tutoring sessions focus on providing live practice and help with pronunciation. Students are evaluated by three online, modular quizzes and a language skills examination (a competency-based, standardized, patient assessment). (1.5 credit hours)

### **COM 9400—Preclinical Preceptorship**

This course provides the opportunity for the student to participate in a self-guided experience in health-related fields. The student will be under the supervision of a Dr. Kiran C. Patel College of Osteopathic Medicine faculty member. Publications and presentations may be generated from this experience. (2.0 credit hours)

### **COM 9500—Guided Study**

Special assignment on a clinical or scientific subject, under faculty supervision. (2.0 credit hours)

### **COM 9600A—Research**

This course provides the opportunity for the student to participate in scientific research in health-related fields. The student will be under the supervision of a research scientist/faculty member. Publications and presentations may be generated from this experience. (3.0 credit hours)

### **COM 9600B—Research Elective Rotation**

This course provides the opportunity for the M4 student to participate in scientific research in health-related fields as a four-week elective rotation. The student will be under the supervision of a research scientist/faculty member. Publications and presentations may be generated from this experience. (8.0 credit hours)

### **COM 9707—Honors Histology**

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in histology. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences histology course (3.0 credit hours)

### **COM 9708—Honors Microbiology I**

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in microbiology. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences Microbiology I course (5.5 credit hours)

### COM 9709—Honors Microbiology II

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in microbiology. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences physiology course (1.5 credit hours)

### COM 9710—Honors Biochemistry

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in biochemistry. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences biochemistry course (5.5 credit hours)

### COM 9711—Honors Summer Gross Anatomy Fellowship

This course will provide an opportunity for medical students to further dissect a human cadaver, and afford them the chance to assist graduate- and professional-level students with the acquisition and application of gross anatomy. The goal for the enrollees is to facilitate laboratory and classroom learning. Students will work in groups in which they will dissect cadaveric specimens and facilitate graduate- and professional-level students throughout the gross anatomy laboratories. Additionally, students will make weekly presentations. (4.5 credit hours)

### COM 9703—Honors Anatomy

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in anatomy. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences anatomy course (6.5 credit hours)

### COM 9704—Honors Neuroanatomy

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in neuroanatomy. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences neuroanatomy course (3.0 credit hours)

### COM 9705—Honors Physiology I

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in physiology. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade

of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences Physiology I course (3.0 credit hours)

#### **COM 9706—Honors Physiology II**

This course will provide an opportunity for medical students to assist first-year students with acquisition and application of basic science knowledge in physiology. The goal for the enrollees will be to learn the skills necessary to facilitate self-directed learning. After a brief training period that will include specific tutoring skills training, expectations and process will be clearly discussed, and the enrollee will be expected to effectively facilitate group sessions that occur in the M1 curriculum. Specifically, the student will be assigned to facilitate a group of M1 students throughout the courses. Each session will be one–two hours, for a total of two hours per week during the semester. It is expected that enrollees will broaden their understanding of group learning, which can be used to facilitate basic science knowledge. **Prerequisite:** Grade of 90 or higher in NSU College of Medical Sciences Master of Biomedical Sciences Physiology II course (4.5 credit hours)

#### **COM 9990—Community Service**

NSU-COM students are enrolled in the Community Service Course in order to provide direct community service to improve the world around them, in the best traditions of holistic and complimentary care. The goal of the NSU-COM Community Service Program is to provide altruistic service to the community at large, treating all people with dignity and respect, to foster among NSU-COM students a sense and habit of stewardship for people and the environment. (2.0 credit hours)

### **Affiliated Hospitals**

The Dr. Kiran C. Patel College of Osteopathic Medicine affiliates with a large variety of teaching partners throughout local, regional, and national territories to provide valuable clinical training experiences. A sample selection of these sites is highlighted below.

**Bethesda Health, Inc.**  
Boynton Beach, Florida

**Broward Health System**  
South Florida locations

**Florida Hospital East Orlando**  
Orlando, Florida

**Florida Hospital Tampa**  
Tampa, Florida

**Good Samaritan Hospital**  
West Islip, New York

**JFK Medical Center—North Campus**  
West Palm Beach, Florida

**Lakeside Medical Center**  
Belle Glade, Florida

**Largo Medical Center**  
Largo, Florida

**Larkin Community Hospital**  
Miami, Florida

**Lee Memorial Health Systems**  
Fort Myers, Florida

**Magnolia Regional Health Center**  
Corinth, Mississippi

**Memorial Hospital Health Systems**  
South Florida locations

**Mount Sinai Medical Center**  
Miami Beach, Florida

**Northwest Medical Center**  
Margate, Florida

**Palm Beach Gardens Medical Center**  
Palm Beach Gardens, Florida

**Palmetto General Hospital**  
Hialeah, Florida

**Palms West Hospital**  
Loxahatchee, Florida

**Plantation General Hospital**  
Plantation, Florida

**St. Lucie Medical Center**  
St. Lucie, Florida

**Stony Brook Southampton Hospital**  
Southampton, New York

**University Hospital and Medical Center**  
Fort Lauderdale, Florida

**Westside Regional Medical Center**  
Fort Lauderdale, Florida

### **Special Academic Programs**

#### **The Interdisciplinary Generalist Curriculum (IGC) Program**

The IGC Program exposes medical students to primary care clinical settings from the beginning of their first year, with the long-term goal of increasing the numbers of graduates who will pursue careers in family medicine, general internal medicine, and general pediatrics. The premise of the program is that exposure to professional role models is a significant determinant of medical students'



career choices, and that an early clinical experience is an essential learning component for medical students to begin to correlate classroom knowledge with actual patient encounters. The IGC Program is composed of three components: (1) the IGC Physician Mentor Program, (2) the IGC Business of Medicine/Managed Care Program, and (3) the Dr. Kiran C. Patel College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) Program.

#### **IGC Physician Mentor Program**

Students are placed with physician mentors, either one or two students at a time. They may elect to switch mentors every semester and are required to switch primary care disciplines and mentors after their first year. In addition to providing a broad exposure to the role of a primary care physician, the physician mentor provides the student with the opportunity to perform patient histories and physical examinations within the limits of the student's ability, and educates the student by providing timely feedback and engaging in discussions and explanations of his or her decision making. There are approximately 140 primary care physician mentors who teach first- and/or second-year medical students in their private offices. This network of preceptors is composed of physicians in the three primary care disciplines; they are located throughout the tricounty area. Students will need a car or easy access to transportation to get to and from their IGC sites.

#### **IGC Business of Medicine/Managed Care Program**

Students learn the business aspects of practice as well as the various components of managed care organizations (MCOs). Each student is either assigned to an MCO teaching partner, or attends a special conference or seminar on health care systems, policies, and access. Students learn how a managed care organization operates by participating in seminars and small group discussions led by professionals representing various departments/experiences such as medical operations, physician committee meetings, utilization management, quality management, and provider/practice management.

#### **IGC COM<sup>2</sup>Serve Program**

This is the community service component of the IGC preceptorship, in which second-year medical students are involved in service learning with community health centers, public health departments, homeless assistance centers, migrant farmworker clinics, and other subsidized community clinics. The COM<sup>2</sup>Serve partner organizations provide health care and other needed services to medically underserved, minority, and at-risk populations.

#### **Osteopathic Principles and Practice Laboratories**

The development of the palpatory skills used for diagnosis and treatment is a significant distinction between the educational programs in osteopathic and allopathic

medical schools. *Stedman's Medical Dictionary* defines palpation as "examination with the hands and fingers; touching, feeling, or perceiving by the sense of touch." Palpation in the osteopathic medical education context is the use of touch to examine the body. Palpatory skills are used in all areas of osteopathic medical practice and are especially important in the evaluation, diagnosis, and treatment of the musculoskeletal system.

The development of palpatory skills is taught in the first- and second-year osteopathic principles and practice (OPP) courses. Successful completion of these courses requires active participation in all laboratory sessions. During the two years, each student will palpate, in the laboratory setting, a variety of people, representing both genders and individuals with different body types to simulate the diversity of patients expected in a practice setting. Being palpated by other students helps the student understand from the patient's perspective how palpation feels and enables the students to provide feedback to their laboratory partners, thus enhancing the palpatory skills of all students.

The osteopathic medical profession uses a variety of treatment models, and through the skills development process, the student learns the art and skills of manipulative treatment. Psychomotor skills are developed by repeated practice. Reading and observation, although helpful, do not develop the skills required to perform palpatory diagnosis and manipulative treatment. Each student is required to actively participate in all skills development laboratory sessions. These skills are taught by treating and being treated by a cadre of students of both genders and with varying body types to simulate a medical practice setting.

#### **Osteopathic Principles and Practice Fellowship**

KPCOM offers a Predoctoral OPP Fellowship Program annually to at least six students through a competitive application process. This is a unique opportunity that is made available to exceptional students. It expands the medical training period from four to five years by including a one-year fellowship with two years of clinical rotations. The fellowship program is a 12-month program that takes place between the M2 and M3 years. The curriculum includes guided clinical experience, teaching in the OPP courses, participation in department research activities, and a program of didactics.

#### **KPCOM Student Research Opportunities**

Director, Student Research Alison Bested M.D., FRCPC

#### **Undergraduate KPCOM Research Fellowship Program**

This is a unique opportunity for two second-year osteopathic students to participate in one fully funded year of research. The fellowship year occurs between the second and third years of study. Research fellows are

included in the department as members of the research staff. Fellows participate as team members in an ongoing study or conduct an individual research project. During this fellowship process, they acquire skills in conceptualizing, writing, and submitting an application to the Institutional Review Board. They learn the principles guiding the treatment of human participants in research studies. The research fellow acquires experience in budgeting a research project using university and federal guidelines. During this fellowship year, fellows develop writing skills as they conceptualize their research ideas and submit their scholarly manuscripts to peer-reviewed journals. This opportunity includes presenting their research at a national/international meeting.

The KPCOM rewards the fellows for their research efforts. The university pays their tuition for years three, four, and five of the fellows' medical training. This eliminates tuition expense for clinical years, including the fellowship year.

### Research Course

**M1 or M2: COM 9600A (3 credit hours)**

**M4: COM 9600B Block Rotation (8 credit hours)**

This course is a research elective that can be taken by first-, second-, and fourth-year KPCOM students. The difference in credit hours is due to the time spent in the course with the fourth-year students spending one month in a block rotation.

Under the supervision of a research scientist/faculty member, this course provides the opportunity for the student to develop an original research project or participate in scientific research in a health-related field. This experience will encourage students to publish and/or present their research findings. This course allows the student to select an area of interest to learn and/or apply research concepts applicable to that specific area of interest and level of knowledge, as determined by the course instructor. Dependent on the individual student needs and/or the instructor's area of research, each student who enrolls in this course may have different responsibilities and assignments. Examples of possible projects/experiences may include, but are not limited to, the following options:

- **Theoretical/Literary Research Option**

Under the supervision of a research scientist/faculty member, this course provides the opportunity for the student to develop an original research project

- **Experiential Research Option**

Under the supervision of a research scientist/faculty member, this course provides the opportunity for the student to participate in scientific research in a health-related field.

Course Director: Daniel E. Shaw, Ph.D., Ed.S., M.Ed.

### **KPCOM Student Research Club—Student Osteopathic Association for Research (SOAR)**

The mission of the Student Osteopathic Association for Research is to encourage and foster interest in clinical and laboratory research through Nova Southeastern University and other venues. Through informational meetings, campus events, and speakers, SOAR aims to provide information on how to initiate and participate in research and gain a better understanding of its impact on medicine and the lives of medical students. SOAR also promotes connections with physicians and faculty members to initiate not only current, but also future opportunities for student participation in research.

Faculty Advisers: Bindu S. Mayi, M.Sc., Ph.D., and Alison Bested M.D., FRCPC ([abested@nova.edu](mailto:abested@nova.edu))

### **Student Research Days**

KPCOM faculty members contribute to or host several research days throughout the school year at Nova Southeastern University where students and residents have the opportunity to present their research and case studies. These include the following: Consortium for Excellence in Medical Education (CEME) Scientific Research Case and Experimental Research Poster Competition, Council of Osteopathic Student Government Presidents (COSGP) Research Symposium, HPD Research Day, Florida Osteopathic Medical Association (FOMA) Annual Poster Competition, and Osteopathic Surgical Association Spring Conference (OSASC).

Faculty Advisers: Janet Hamstra, Ed.D., and Kathleen Hagen, Ed.D.

### **Area Health Education Center (AHEC) Program**

The mission of NSU's Area Health Education Center (AHEC) Program is to improve the access to and the quality of primary health care service to medically underserved communities by linking the resources of academic health centers with community-based health care providers. Nova Southeastern University's Dr. Kiran C. Patel College of Osteopathic Medicine, the first medical school in the state of Florida to develop an AHEC Program, officially began its program in 1985. Since its inception, the program has worked to develop effective and comprehensive training programs that improve access to quality primary health care for Florida's medically underserved rural and inner-city urban communities.

Our nationally recognized program now serves underserved communities and populations throughout a nearly 20,000 square mile area of South and Central Florida. Our first AHEC center—the Everglades AHEC—reaches underserved areas within a 10-county region extending from Broward County to rural communities around Lake Okeechobee. Based on the success of the Everglades AHEC, the university was awarded additional funding to

develop a Central Florida AHEC, which now serves nine counties and extends from Lake Okeechobee to north of Orlando. By including training programs in community settings, we expose students to the challenges, rewards, and practice opportunities related to working in medically underserved areas. Students have opportunities to work together while learning to provide valuable primary care services to the community.

### **The Office of Graduate Medical Education and the Consortium for Excellence in Medical Education (CEME)**

The Dr. Kiran C. Patel College of Osteopathic Medicine recognizes its role in supporting graduate medical education (GME), both as a benefit for its students during their clinical training years and as it benefits our graduates in finding positions upon graduation. Historically, the Consortium for Excellence in Medical Education Osteopathic Postgraduate Training Institute (CEME-OPTI) has been the mechanism the KPCOM has used in supporting AOA-accredited GME. With the transition to the single accreditation system, KPCOM has been transitioning the work of the CEME-OPTI to the recently established KPCOM Office of Graduate Medical Education. Currently, CEME is composed of 24 Hospitals, 76 training programs, 963 current trainees, and more than 1,000 training spots. This alliance of affiliated clinical training sites, linked through electronic networks, collaborates in the areas of teaching, research, and community health and a shared commitment to excellence in the education of tomorrow's physicians. CEME partners are joining forces on graduate medical education, research initiatives, and public health and preventative medicine programs.

The KPCOM Office of Graduate Medical Education is charged with assisting new and existing graduate medical education programs in meeting the requirements for accreditation by the Accreditation Council for Graduate Medical Education (ACGME), including ACGME Osteopathic Recognition.

### **Rural and Urban Underserved Medicine Program**

Since its establishment in 1979, the Dr. Kiran C. Patel College of Osteopathic Medicine has been committed to educating students about rural medicine and having them train in underserved communities. The Department of Rural Medicine's instructional programs have been recognized nationally for helping to meet the health care needs of underserved communities and enhancing the medical skills of our students.

Our fourth-year medical students train for three months in rural and underserved settings. They are expected to expand their diagnostic and therapeutic skills as well as their patient and community proficiency in relation to

addressing multicultural populations. Training sites include community health centers, private physicians' offices, ambulatory care facilities operated by the West Palm Beach Veterans Affairs Medical Center, and leading health care institutions of the Florida Department of Corrections.

The Rural Medicine Training Program provides our students with a unique and enriching experience. A number of our graduates are now clinical directors at the community health centers or have established successful practices in a rural Florida region.

### **Concurrent Degree and Certificate Programs**

The Dr. Kiran C. Patel College of Osteopathic Medicine administers a number of graduate and certificate programs.

Master of Public Health (M.P.H.)

Master of Science in Biomedical Informatics (M.S.)

Master of Science in Disaster and Emergency Medicine (M.S.)

Master of Science in Medical Education (M.S.)

Master of Science in Nutrition (M.S.)

Graduate Certificate in Emergency Medicine

Graduate Certificate in Functional Nutrition and Herbal Therapy

Graduate Certificate in Health Education

Graduate Certificate in Medical Informatics

Graduate Certificate in Public Health

Graduate Certificate in Public Health Informatics

Graduate Certificate in Social Medicine

Information about these programs can be found in their respective sections of this catalog.

Students in the D.O. Program may enroll in any of these graduate and certificate programs provided they have completed the first semester of the first year of medical school and are in good academic standing. Continued participation is contingent on maintaining good academic standing in the D.O. Program and is at the discretion of the dean of the Dr. Kiran C. Patel College of Osteopathic Medicine.

### **M.P.H. Dedicated Tuition Reduction**

All Dr. Kiran C. Patel College of Osteopathic Medicine students who have completed the first semester of their first year and are currently enrolled in NSU-KPCOM classes and in good academic standing are eligible to receive a tuition reduction for the payment of M.P.H. tuition if they are enrolled in the on-campus program option. To apply for the M.P.H. tuition reduction, a brief letter must be submitted to the dean of the Dr. Kiran C. Patel College

of Osteopathic Medicine. The student should indicate the reasons for requesting the tuition reduction in the letter. Students who receive the tuition reduction must remain in good standing with the college. Students are eligible for the tuition reduction while they are enrolled in the Dr. Kiran C. Patel College of Osteopathic Medicine. The tuition reduction is not available after graduation, unless the student continues as an intern, resident, or fellow with any of the Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine affiliated institutions. All tuition reductions require renewal by the Dr. Kiran C. Patel College of Osteopathic Medicine each academic year.

### **D.O./D.M.D. Dual-Degree Program**

In order to address the access to care issue and meet the needs of underserved populations, Nova Southeastern University's (NSU's) College of Dental Medicine and Dr. Kiran C. Patel College of Osteopathic Medicine have structured a curriculum that provides students with an opportunity to receive a D.O. (Doctor of Osteopathic Medicine) and a D.M.D. (Doctor of Dental Medicine) degree. This D.O./D.M.D. Dual-Degree Program is in accord with the missions of both schools. This dual program will prepare health care practitioners to use a totally holistic approach to health care that will address preventive medicine and general dentistry, as well as access to care issues, meeting the needs of rural and underserved populations.

Once students complete this six-year program, they will be qualified for licensure in dentistry and for postgraduate, one-year residencies that are required prior to medical licensure. Only a select number of motivated students who have attained the highest academic standards and embody the spirit of this collaborative initiative will be considered.

## Public Health Program

The Master of Public Health (M.P.H.) Program is an accredited, graduate-level program designed to prepare students to define, critically assess, and resolve public health problems. The program provides training in the theories, concepts, and principles of public health and their application. To meet the rapidly changing needs of health service professionals, including preventive medicine specialists, the curriculum is structured to accommodate a diversity of backgrounds and individual career goals.

There is a need for public health professionals to address emerging and re-emerging diseases, environmental health concerns, health care reform, health care system, sociopolitical factors affecting our nation's health, and expansion of health issues that are global in scope. Professionals with the M.P.H. degree may hold positions of responsibility in a variety of settings including health care facilities, county and state health departments, social service agencies, health policy and planning organizations, universities, and community-based health education and health promotion settings, nongovernmental organizations, governmental agencies, international health organizations, and the corporate world. These positions often involve active participation of the M.P.H. graduate in the coordination, planning, development, implementation, and evaluation of health programs and services. Some students pursue further advancement in their graduate education upon completion of the M.P.H. degree program.

### Concurrent Degree Programs

Health Professions Division students have an option to pursue the M.P.H. degree concurrently with osteopathic medicine, pharmacy, physician assistant, dental medicine, optometry, and health science degrees. Schedules will allow students the opportunity to achieve and meet the requirements of both degrees within three to four years. Students must maintain good academic standing.

### Program Vision

The Master of Public Health Program of the Dr. Kiran C. Patel College of Osteopathic Medicine fully embraces the vision and core values of Nova Southeastern University.

### Program Mission

To improve the health of the population through education, research, and service, with emphasis on multicultural and underserved populations.

### Goal: Education

To provide quality education in public health

### Objectives

- Maintain a progressive and innovative Master of Public Health curriculum that addresses the essential knowledge and skills for a qualified public health workforce.
- Contribute to the education of public health professionals, health care providers, and alumni.
- Provide prevention-based educational initiatives to address community-determined public health needs.

### Goal: Research

To contribute to the discovery and application of knowledge in public health

### Objectives

- Conduct research activity as primary investigators or collaborators.
- Participate in collaborative research initiatives with other disciplines.
- Engage in scholarly activities, such as research publications and presentations.

### Goal: Service

To provide public health leadership and service in the community

### Objectives

- Provide leadership in service initiatives that promote community health.
- Contribute to the improvement of health through community service, with attention to underserved and culturally diverse populations.
- Provide consultation and technical assistance to the community on matters of public health interest.

### Course of Study

The M.P.H. Program offers a general Master of Public Health (M.P.H.) degree, which requires a minimum of 42 semester hours of study. This consists of 27 semester hours of required core courses, including a public health field experience (6 semester hours), a minimum of 15 semester hours of public health elective courses, and a written comprehensive examination. Coursework may be taken on a full-time or part-time basis. M.P.H. students are required to complete their course of study within five years of matriculation. A full-time student may be able to complete the requirements within two years. The M.P.H. degree may be completed on-site or online. Online courses have both synchronous and asynchronous components. A Spanish-language version

of the online program is available for those who wish to complete their M.P.H. in Spanish. The curricula for the three options are identical, although the modality of instruction is different. On-site classes are offered in the evening, with each class generally scheduled one evening per week. Up to 15 credits of online courses are allowable to complete the on-site option. A face-to-face orientation is required for both online and on-site students prior to matriculation into the program. Students must maintain a grade point average (GPA) of 3.0 to remain in good academic standing. The culminating public health experiences at the end of the program include a supervised field experience (with an oral evaluation) and the Integrative Learning Experience course. There are supervised elective field-based courses, projects, and research opportunities available to students. The on-site orientation session is available prior to each semester. Graduating students have the opportunity to participate in a commencement exercise in May of each year. Each M.P.H. student must pass the Integrative Learning Experience course to successfully complete the course of study. A capstone session for graduating students is held annually, in May, just prior to commencement.

The schedule of course offerings and other pertinent information about the program is available on the program website: [nova.edu/ph](http://nova.edu/ph).

### Accreditation and Authorization

The M.P.H. Program is accredited by the Council on Education for Public Health (CEPH) ([ceph.org](http://ceph.org)).

Nova Southeastern University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS).

Nova Southeastern University is authorized by the Washington Student Achievement Council (WSAC) and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Nova Southeastern University to offer specific degree programs. The WSAC may be contacted for a list of currently authorized programs. Authorization by the WSAC does not carry with it an endorsement by the board of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the WSAC at P.O. Box 43430, Olympia, WA 98504-3430.

### Admissions Requirements

The M.P.H. Program evaluates the overall quality of its applicants, including academic achievement, personal motivation, knowledge about the public health profession, health care and life experience, and recommendations. Criteria for admission are as follows:

- The applicant must hold a bachelor's, master's, or doctoral degree from a regionally accredited college or university.
- A cumulative grade point average (GPA) of 3.0 or above, on a 4.0 scale, is preferred.
- Public health or health-care related experience is desirable, but not required.
- Evidence of having taken one of the following standardized tests: GRE, PCAT, OAT, AHPAT, MCAT, DAT, GMAT, or LSAT, if the applicant does not hold a health-related graduate or professional degree. The scores must be no more than five years old. Applicants with a health-related graduate or professional degree may be required to submit official test scores upon evaluation of their application.
- Applicants enrolled in another area of study within Nova Southeastern University must provide a letter of recommendation from the dean or program director of the other college or program, and must meet the M.P.H. admission requirements.
- All application materials must be received in a timely manner to enable the Office of Admissions and the admissions committee to process the application promptly.

### Application Procedures

The Office of Admissions processes applications on a year-round basis. Applicants may apply for matriculation into any one of three semesters (fall, winter, summer), and may contact the Office of Admissions at (954) 262-1101 or 877-640-0218 or access the M.P.H. Program website ([nova.edu/ph](http://nova.edu/ph)) for the exact deadline and start dates.

All application materials should be sent to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Kiran C. Patel College of Osteopathic Medicine  
M.P.H. Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Applicants must provide the following:

1. a completed online application, along with a \$50, nonrefundable application fee (online application can be found at [nova.edu/ph/admissions/procedures.html](http://nova.edu/ph/admissions/procedures.html))

2. official transcripts of all coursework attempted by the applicant at all colleges and universities (It is the responsibility of the applicant to ensure that arrangements are made for all transcripts to be sent. A final transcript of all the applicant's work up to the time of matriculation must be forwarded to the Office of Admissions prior to matriculation.)

3. official scores of one of the following standardized tests taken by the applicant: GRE, PCAT, OAT, AHPAT, MCAT, DAT, GMAT, or LSAT, if the applicant does not hold a health-related graduate or professional degree (The scores must be no more than five years old. Applicants with a health-related graduate or professional degree may be required to submit official test scores upon evaluation of their application.)

4. official scores from the Test of English as a Foreign Language, Pearson Test of English—Academic, or International English Language Test System (IELTS), if applicable.

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Attn: Documentation Center  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average (GPA) must be sent directly from the evaluation service to NSU's Enrollment Processing Services.

Any applicant who has graduated from a college or university in another country where English is not the primary language, regardless of United States residency status, must obtain a minimum score of 550 on the written, 213 on the computerized, or 79–80 on the Internet-based TOEFL, a score of 6.0 on the IELTS, or a score of 54 on the Pearson Test of English—Academic. An official set of scores must be sent directly from the testing service to NSU's EPS.

5. two letters of recommendation, one of which must be from a health professional (The other letter of evaluation must be from an individual—other than a relative—such as an academic adviser, professor, coworker, or supervisor who is familiar with the applicant's character, scholastic aptitude, and work ethic.)

Upon receipt of the completed application and required material, the committee on admissions will review the application and make recommendations to the program director. The committee may request a phone interview to gather additional information before a recommendation is submitted. The director submits his or her recommendation on admission to the dean. The final decision on admission is made by the dean of the NSU Dr. Kiran C. Patel College of Osteopathic Medicine.

### Graduate Certificate Programs

The M.P.H. Program offers graduate certificates in public health and health education.

Criteria for admission are as follows:

- The applicant must hold a bachelor's, master's, or doctoral degree from a regionally accredited college or university.
- A cumulative grade point average (GPA) of 3.0 or above on a 4.0 scale is preferred.

Applicants must provide the following:

- completed online application form
- official transcripts
- nonrefundable application fee of \$50
- one letter of recommendation (professional)

### Graduate Certificate in Public Health

The Graduate Certificate in Public Health program is designed to educate students on the fundamental principles, concepts, and skills applied to public health practice. It consists of the following courses, totaling 15 credit hours, and a capstone session. The program must be completed within two years of matriculation.

PUH 5430 Epidemiology  
3 Credit Hours

PUH 6001 Social and Behavioral Sciences  
Applied to Health  
3 Credit Hours

PUH 5512 Health Policy, Planning, and Management  
3 Credit Hours

PUH 5301 Biostatistics  
3 Credit Hours

PUH 5220 Environmental and Occupational Health  
3 Credit Hours

This certificate will be presented to the student after all program requirements are successfully met and a capstone session is successfully completed. If, after taking classes in the M.P.H. Program, a certificate-seeking student decides to pursue the M.P.H. degree, the student must submit a new and complete application to the program to become a degree-seeking student and must meet all the requirements for admission to the M.P.H. Degree Program. Previous coursework taken may be transferable if performance equals or exceeds the grade of *B* in the course.

### Graduate Certificate in Health Education

The Graduate Certificate in Health Education program is designed to enable the student to learn the fundamental principles, concepts, and skills applied to health education, health promotion, and disease prevention at the graduate level. It consists of the following courses, totaling 15 credit hours, and a capstone session. The program must be completed within two years of matriculation.

PUH 5115 Principles of Health Education  
3 Credit Hours

PUH 6604 Research Methods in Public Health  
3 Credit Hours

PUH 5002 Health Promotion and Disease Prevention  
3 Credit Hours

PUH 6120 Public Health Program Planning  
and Evaluation  
3 Credit Hours

PUH 5210 Public Health Communications  
3 Credit Hours

This certificate will be presented to the student after all program requirements are successfully met and the capstone session is successfully completed. A student who wishes to pursue National Certification (Certified Health Education Specialists) may take 10 additional credits of recommended coursework to meet the 25 credits, with additional competencies, required to be eligible for the national certification examination.

For more information on the graduate certificates in public health and health education, please visit our website ([nova.edu/ph](http://nova.edu/ph)).

### Nondegree-Seeking Students

A nondegree-seeking student is one who wishes to take a course in the public health program, but does not intend to pursue the Master of Public Health degree at the time of application. The nondegree-seeking student must provide the following admission requirements in order to take classes in the M.P.H. Program:

- completed online application form
- official transcripts

- nonrefundable application fee of \$50
- one letter of recommendation (academic)

Undergraduate students must have a minimum cumulative GPA of 3.0 with at least 90 hours of coursework, 30 hours of which must be upper level courses. An official transcript showing the coursework is required.

Application for nondegree status by students holding a bachelor's degree or higher will be considered by the admissions committee, through a review of the required records.

Nondegree-seeking students are limited to a maximum of 12 semester hours of public health program courses. Enrollment in these courses does not guarantee acceptance into the Master of Public Health degree-seeking program. After taking classes in the program as a nondegree-seeking student, the student must submit a complete application to the program to become degree-seeking. The student must also meet all the requirements for admission.

Graduate students from other NSU programs who elect to take public health courses may do so with the written consent of the course director.

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the Dr. Kiran C. Patel College of Osteopathic Medicine.

The college reserves the right to require the student's withdrawal at any time the college deems it necessary to safeguard its standards of scholarship, conduct, and compliance with the regulations, or for such other reason as deemed appropriate. The student, by his or her act of matriculation, concedes the college this right.

### Tuition and Fees

Tuition for the M.P.H. Degree Program for 2018–2019 will be posted on our website ([nova.edu/ph](http://nova.edu/ph)). Tuition and fees are subject to change without notice. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. There is a registration fee of \$30 each semester.

Tuition for the Graduate Certificate Programs for 2018–2019 will be posted on our website ([nova.edu/ph](http://nova.edu/ph)). An NSU student services fee of \$1,350 is required annually. All tuition and fees are subject to change by the board of trustees without notice.

### Expenses and Financial Aid

The purpose of the Student Financial Assistance Program at Nova Southeastern University is to help as many qualified students as possible to complete their educational pursuit. Various loans, scholarships, and grants are available to qualified students to help ease the high cost of their education. These financial assistance programs are described in a variety of separate university publications.



Students pursuing the M.P.H. degree should anticipate spending approximately \$3,100 per year on books and supplies, as well as \$17,647 (on campus) and \$22,212 (off campus) per year for living expenses.

### Transfer of Credits

Applicants to or enrollees of the NSU-COM M.P.H. Program may petition for transfer of a maximum of 12 credit hours of elective or core courses from a regionally accredited graduate program toward their M.P.H. degree. The core courses must have been taken at a program, school, or college accredited by the Council on Education for Public Health (CEPH).

Any courses taken at another academic program or institution that the student wants to transfer to meet the requirements of this M.P.H. degree program must have the prior approval of the program director. All courses considered for transfer into the program must have been successfully completed with a grade of B (80 percent) or better and must not have been applied to another awarded degree. Transfer course grades are not calculated toward the student's grade point average.

The course transfer applicant must submit a written request to the program director, along with the appropriate verification documents (i.e., official transcripts, syllabi, and catalogs). The Curriculum Committee will review all applications for transfer of credit, including the documents provided on the petitioned courses. The committee will submit its recommendations to the program director who makes the final decision. The program does not give course credit for prior work experience.

### Graduation Requirements

To be eligible for the M.P.H. degree, the student must

- satisfactorily complete, with a grade point average of 3.0 or higher and within five years of matriculation (15 semesters), the course of study required for the M.P.H. degree—a minimum of 42 semester hours of courses (27 hours of required core courses, including the Public Health Field Experience, and 15 hours of electives)
- successfully pass the Integrative Learning Experience course
- complete an exit survey
- satisfactorily meet all financial and library obligations

Upon satisfactory completion of degree requirements, the student is expected to attend the rehearsal and commencement program, at which time the degree is conferred. Students who do not plan to attend the commencement ceremonies must notify the program office before the established deadline for the commencement application.

### Curriculum Outline

Core Courses (required)			Instruction	Practice	Semester Hours
PUH	5220	Environmental and Occupational Health	45	0	3
PUH	5301	Biostatistics	45	0	3
PUH	5430	Epidemiology	45	0	3
PUH	5512	Health Policy, Planning, and Management	45	0	3
PUH	5520	Legal and Ethical Issues in Public Health	45	0	3
PUH	6001	Social and Behavioral Sciences Applied to Health	45	0	3

PUH	6002	Public Health Field Experience	0	200	3
PUH	6604	Research Methods in Public Health	30	30	3
PUH	6700	Integrative Learning Experience	30	30	3

<b>Elective Courses</b>			Instruction	Practice Hours	Semester
PUH	5002	Health Promotion and Disease Prevention	45	0	3
PUH	5003	Public Health Seminar	30	15	3
PUH	5004	Public Health Grant Writing	45	0	3
PUH	5014	Principles and Practice of Clinical Trials	45	0	3
PUH	5050	Substance Abuse Prevention and Intervention	45	0	3
PUH	5110	Culture, Ethnicity, and Health	45	0	3
PUH	5111	Public Health Issues of the Elderly	45	0	3
PUH	5112	All-Hazards Preparedness	45	0	3
PUH	5115	Principles of Health Education	45	0	3
PUH	5201	Foundations of Public Health	45	0	3
PUH	5210	Public Health Communications	15	60	3
PUH	5305	Advanced Biostatistics	45	0	3
PUH	5311	Public Health Genomics	45	0	3
PUH	5313	Vaccines and Vaccine-Preventable Diseases	45	0	3
PUH	5314	Global Health	45	0	3
PUH	5420	Epidemiology of Diseases of Major Public Health Importance	45	0	3
PUH	5431	Community Health Assessment	45	0	3
PUH	5500	School Health	45	0	3
PUH	5502	Children's Health	45	0	3
PUH	5503	Women's Health	45	0	3
PUH	5504	Public Health Issues in Child Protection	45	0	3
PUH	5510	Maternal and Child Health	45	0	3
PUH	5513	Public Health Nutrition	45	0	3
PUH	5516	Public Health Informatics	45	0	3
PUH	5802	Epidemiologic Surveillance and Outbreak Investigation	30	30	3
PUH	6008	Public Health Advocacy	45	0	3
PUH	6016	Survey Methods in Public Health	15	60	3
PUH	6017	Special Studies in Public Health	0	90	3

PUH	6022	Community Health Project	0	90	3
PUH	6025	Interprofessional Leadership	45	0	3
PUH	6101	Health Care Organization and Administration	45	0	3
PUH	6104	Health Service Planning and Evaluation	45	0	3
PUH	6120	Public Health Program Planning and Evaluation	45	0	3
PUH	6201	Tropical Diseases	45	0	3
PUH	6521	Budgeting and Accounting for Health Care Organizations	45	0	3
PUH	6522	Strategic Marketing for Health Care Organizations	45	0	3
PUH	6523	Strategic Leadership in Management of Human Resources	45	0	3
PUH	6605	Grant Proposal Writing Practicum	15	60	3
PUH	6606	Introduction to SAS	15	60	3
PUH	6608	Public Health Research	0	90	3

## Course Descriptions

Note: Listed at the end of each entry are lecture hours, laboratory hours, and semester hours. Prerequisites are also listed.

### PUH 5002—Health Promotion and Disease Prevention

Students learn health education strategies that can be incorporated into multiple settings, focusing on wellness and preventive interventions. This course addresses individual and social factors as well as behavioral issues, health detriments, and community resources. (45-0-3)

### PUH 5003—Public Health Seminar

This course requires viewing a minimum of 45 public health special lectures—some live at NSU, others accessed from online sources preapproved by the course director. A written report and reaction is required following each lecture. (45-0-3)

### PUH 5004—Public Health Grant Writing

Introduction to the skills of grant writing in public health. Each student will submit a grant as a culminating experience. (45-0-3)

### PUH 5014—Principles and Practice of Clinical Trials

This course introduces students to the principles and practice of clinical trials and their application to public health. Ethical issues and the role of the Institutional Review Board will also be addressed. **Prerequisites:** PUH 5430, PUH 5301 (45-0-3)

### PUH 5050—Substance Abuse Prevention and Intervention

This course provides an overview of substance abuse in a public health context, focusing on local, national, and global issues. It will enhance the student's understanding of current prevention and intervention strategies. (45-0-3)

### PUH 5110—Culture, Ethnicity, and Health

Introduces students to skills and insights necessary in promoting health in diverse populations. Issues discussed include the need for effective communication, with an understanding of cultural factors and how they impact on preventive efforts, health care status, access to health care, and use and cost of health care services. The course also explores traditional modalities of health maintenance among various populations. (45-0-3)

**PUH 5111—Public Health Issues of the Elderly**

Examines important determinants of morbidity and mortality among the aged population. Emphasizes social, cultural, economic, behavioral, and physical characteristics of importance in the design and development of appropriate prevention efforts directed at the elderly. (45-0-3)

**PUH 5112—All-Hazards Preparedness**

Students will review the ecological, sociological, environmental, and general health effects of disasters, natural and man-made. The course will explore the interprofessional roles and responsibilities of professionals, paraprofessionals, and volunteers in all-hazards emergency planning, response, mitigation, and recovery. Students will gain insights into all-hazard preparedness within the health system, community, and state and local agencies. (45-0-3)

**PUH 5115—Principles of Health Education**

Historical and philosophical foundations of health education, focusing on the principles of the discipline and preparation for service as a professional. Theoretical models will be discussed. (45-0-3)

**PUH 5201—Foundations of Public Health**

This course provides an introduction to the history, concepts, values, principles, and practice of public health. The course suggests the sense of purpose that unites the myriad occupations and tasks in public health practice and provides an orientation to each of the five traditional core disciplines of public health practice. (45-0-3)

**PUH 5210—Public Health Communications**

This course provides an overview of basic principles of communication as applied to health behaviors. Attention will be given to the theories, design, and implementation of health communication used to reach the public. The course involves practice and offers feedback to students in the effective use of major modes of communication in public health work. Students will acquire skills in writing reports, speaking in public, and applying various media to publications. (15-60-3)

**PUH 5220—Environmental and Occupational Health**

Investigates environmental and occupational factors that contribute to the development of health problems in industrialized and developing countries. Includes such topics as toxic substances, pests and pesticides, food quality, air and water pollution, solid and hazardous waste disposal, occupational hazards, and injury prevention. (45-0-3)

**PUH 5301—Biostatistics**

This course focuses on the principles and reasoning underlying modern biostatistics and on specific inferential techniques commonly used in public health research. At course completion, students will be able to apply basic

inferential methods in research endeavors, and improve their abilities to understand the data analysis of health-related research articles. (45-0-3)

**PUH 5305—Advanced Biostatistics**

This course addresses advanced statistical methodologies for students who want to pursue research in the public health or medical professions. The concepts of regression, correlation, and prediction will provide practical methods to answer clinical/health research questions. Three types of regressions (linear, logistic, and time-to-event) are taught.

**Prerequisite:** PUH 5301 (15-60-3)

**PUH 5311—Public Health Genomics**

This course addresses the principles and practices of genetics and genomics, as well as the ethical, legal, and social issues of genetics and genomics in public health practice. (45-0-3)

**PUH 5313—Vaccines and Vaccine-Preventable Diseases**

This course addresses the spectrum of vaccine-preventable diseases and vaccines administered routinely to children, adults, and travelers. The benefits and problems associated with vaccinations will be addressed. (45-0-3)

**PUH 5314—Global Health**

This course addresses global health problems and trends translated to the needs and demands of populations, as well as the socioeconomic and political impact on health delivery. The role of international health agencies will also be addressed. (45-0-3)

**PUH 5420—Epidemiology of Diseases of Major Public Health Importance**

In-depth study of the distribution and determinants of specific infectious, chronic, behavioral, and environmentally caused diseases of major public health importance. **Prerequisites:** PUH 5301, PUH 5430 (45-0-3)

**PUH 5430—Epidemiology**

Examines basic principles and methods of modern epidemiology used to assess disease causation and distribution. Students develop conceptual and analytical skills to measure association and risk, conduct epidemiological surveillance, evaluate screening and diagnostic tests, and investigate disease outbreaks and epidemics. (45-0-3)

**PUH 5431—Community Health Assessment**

Community Health Assessment (CHA) is a process of collecting, analyzing, and reviewing public health data to understand community health needs and facilitate planning of community health resources. CHA serves a core function for local health departments and organizations. In this course, students will learn to locate appropriate public health data sources, analyze public health data, and write a community health profiling report. **Prerequisite:** PUH 5430 (45-0-3)

**PUH 5500—School Health**

Study of the development and enhancement of school level health education and health service programs that support student health and academic achievement. (45-0-3)

**PUH 5502—Children’s Health**

This course addresses disease and disorders of children of public health significance as well as public health issues in children such as child safety, child abuse, and newborn screening. (45-0-3)

**PUH 5503—Women’s Health**

This course addresses disease and disorders of women of public health significance as well as public health issues of women such as domestic violence and breast cancer. (45-0-3)

**PUH 5504—Public Health Issues in Child Protection**

In this course, students will learn to apply public health planning principles to the creation and refinement of programs that protect children from negative health impacts of abuse and neglect. This includes both follow-up restorative programs for children already identified as abused/neglected and community programs to prevent abuse/neglect before it occurs. Since research knowledge in this field is expected to continue growing, students will become accustomed to adding to their personal knowledge base through critical study of new findings. (45-0-3)

**PUH 5510—Maternal and Child Health**

This course addresses public health issues pertaining to mothers and children. It also addresses programs for prevention, both in the United States and globally, and resources for the programs. (45-0-3)

**PUH 5512—Health Policy, Planning, and Management**

Discusses principles and logic involved in health policy, planning, and management. Addresses history, political, and environmental contexts, and their incorporation into population research. (45-0-3)

**PUH 5513—Public Health Nutrition**

This course will provide students with methods and skills to identify nutrition-related health problems and to plan community-based prevention programs for diverse populations. (45-0-3)

**PUH 5516—Public Health Informatics**

This course focuses on developing the knowledge and skills of systemic application of information, computer science, and technology to public health practice, research, and learning. Students will acquire a basic understanding of informatics in public health practice, and be able to apply the skills of use of some informatics tools in public health practice. **Prerequisites:** PUH 5301, PUH 5430 (45-0-3)

**PUH 5520—Legal and Ethical Issues in Public Health**

This course introduces nonlawyers to the important roles law and ethics play in determining the public’s health. Students develop skills in analyzing political, legislative, and ethical aspects of public health issues. (45-0-3)

**PUH 5802—Epidemiologic Surveillance and Outbreak Investigation**

This course provides a descriptive analysis of basic components and strategies required for the surveillance and investigation of disease outbreaks. Surveillance data collection, analysis, and reporting are emphasized as well as indicators for assessing the effectiveness of such programs. **Prerequisites:** PUH 5430, PUH 5301 (30-30-3)

**PUH 6001—Social and Behavioral Sciences Applied to Health**

Introduces students to the social, cultural, and behavioral foundations of modern public health practice as applied to interventions for disease prevention and health enhancement. Reviews the linkage between public health and other social sciences. Students gain knowledge and awareness of today’s most pressing public health problems and the social and behavioral factors determining them. (45-0-3)

**PUH 6002—Public Health Field Experience**

The field experience is a culminating experience for all M.P.H. students. This required course (200 hours of structured activities) takes place at a public health agency or public health-related institution. The student will work under the supervision of a site-based preceptor and a faculty adviser, who identify the appropriate educational objectives for the experience. The student is expected to acquire skills and experiences in the application of basic public health concepts and specialty knowledge to the solution of community health problems. A comprehensive written report and an oral presentation will be required upon completion of the field experience. **Prerequisites:** PUH 5430, PUH 5301, PUH 5512, PUH 5220, PUH 6001 (0-200-3)

**PUH 6008—Public Health Advocacy**

This course will enable students to develop tools and skills to influence the political processes at the national, state, and community levels to enhance the public’s health and welfare. A number of faculty and guest lecturers will share their insights and strategies. Speakers will include elected officials, public health leaders, and community advocates. Students will analyze their own attitudes and insights and enhance their political advocacy skills. Case study methods will be used with emphasis on communication, marketing, and education. (45-0-3)

#### **PUH 6016—Survey Methods in Public Health**

This course addresses the theory and practice of designing and conducting surveys in public health research and practice. Topics will include survey designs, sampling strategies, data collection methods, interviewing skills, coding, and data analysis. **Prerequisites:** PUH 5430, PUH 5301 (30-30-3)

#### **PUH 6017—Special Studies in Public Health**

This elective is a guided-study course designed to address a specific area of public health interest to the student that is not specifically or significantly addressed in other courses. The course director and faculty adviser will guide the student to define the objectives of the course and to fulfill the desired expectations. This course is didactic, not original research, or field experience. (0-90-3)

#### **PUH 6022—Community Health Project**

This course is designed to give the student the opportunity to plan, implement, or evaluate a specific community health initiative. It is an applied experience in collaboration with a field-based site. The project is approved and monitored by the course director. (0-90-3)

#### **PUH 6025—Interprofessional Leadership**

This course covers best practices in interprofessional education and practice in public health. Students will learn and practice competencies included in the four core competency domains of interprofessional collaborative practice, as well as leadership skills for team-based, community-oriented health care. (45-0-3)

#### **PUH 6101—Health Care Organization and Administration**

Building on knowledge of the basic structure and organization of health systems, this course provides an overview of the application of management concepts to the health care field. A general introduction to the process of management is presented. Particular emphasis is placed on organization, planning, control, quality improvement, and evaluation of health care management. **Prerequisite:** PUH 5512 (45-0-3)

#### **PUH 6104—Health Service Planning and Evaluation**

This course is an in-depth review of basic planning and evaluation techniques for the implementation of a community health care program. It is designed and will be taught using multiple international examples and experiences. The course covers the interdependence between policy and planning and management. It consists of policy analysis techniques as well as the conceptual framework for the planning and management of health care programs. The course also reviews essential methods for effective planning and evaluation considering the economic, political, epidemiological, demographic, and other components that contribute to the assessment of health needs and resource allocation. (45-0-3)

#### **PUH 6120—Public Health Program Planning and Evaluation**

This course provides students with the knowledge necessary to perform public health program planning, management, and evaluation. Students will critically identify and define a public health need, create a plan for responding to the need, implement and manage the planned intervention, and evaluate the extent to which the intervention effectively addresses the public health need. To accomplish these ends, students will develop and critique both a unique public health program plan and an evaluation plan for the program during the course of the semester. **Prerequisites:** PUH 5430, PUH 6001 (45-0-3)

#### **PUH 6201—Tropical Diseases**

This course will address tropical diseases in the world today and their public health significance. Malaria, yellow fever, trypanosomiasis, leishmaniasis, filariasis, dengue fever, malnutrition, diarrheal diseases, and other tropical diseases will be discussed in relation to epidemiology, clinical presentation, and management. The impact of these diseases on global health and economic issues will be discussed. (45-0-3)

#### **PUH 6521—Budgeting and Accounting for Health Care Organizations**

This course will provide knowledge and skills in various aspects of budgeting and accounting as it applies to health care organizations. (45-0-3)

#### **PUH 6522—Strategic Marketing for Health Care Organizations**

This course will provide students with knowledge and strategies in marketing as it applies to health care. (45-0-3)

#### **PUH 6523—Strategic Leadership in Management of Human Resources**

This course focuses on the concepts and dynamics of leadership in health care organizations. It emphasizes the interactions and influence processes of leadership to effectively use problem-solving mechanisms in the management of human resources. The student will develop competencies through application of the case study approach in public health practice. (45-0-3)

#### **PUH 6604—Research Methods in Public Health**

Provides an intermediate level review of basic research methodology, concepts, and principles common in public health and epidemiological studies. Issues related to the design, development, and realization of public health studies, including sampling, surveying, data collection, and management as well as the interpretation and reporting of findings are discussed. **Prerequisites:** PUH 5430, PUH 5301 (30-30-3)

**PUH 6605—Grant Proposal Writing Practicum**

In this course, the student will prepare a grant proposal for a public health project of utility to an existing organization. The student will be guided individually by the course director in the planning, writing, and submission of the grant proposal. (15-60-3)

**PUH 6606—Introduction to SAS**

This course introduces students to the basic data concepts and the structure of the SAS programming language. The course will cover both SAS data management and the statistical programming features. A review of those statistical procedures to be programmed in SAS will occur prior to the actual SAS programming. Students will learn how to manipulate actual data sets as well as how to analyze sample data. SAS will be briefly compared with SPSS. **Prerequisites:** PUH 5301, PUH 5430 (15-60-3)

**PUH 6608—Public Health Research**

Students conduct supervised research in any of the major areas of public health. The student and faculty adviser define the project and its objectives. **Prerequisites:** PUH 5301, PUH 5430 (0-90-3)

**PUH 6700—Integrative Learning Experience**

M.P.H. students will complete the Integrative Learning Experience as the culminating experience in the public health core curriculum. This course presents case studies in various themes of public health practice to demonstrate synthesis of foundational and concentration competencies. Students will integrate the knowledge they have gained and then synthesize and apply problem-solving methodology to analyze public health issues from local, national, and global perspectives. Working in interdisciplinary groups, students will recommend interventions and evaluation methods to address specific problems. **Prerequisites:** PUH 5220, PUH 5301, PUH 5430, PUH 5512, PUH 5520, PUH 6001, PUH 6604 (30-30-3)

## Biomedical Informatics Program

NSU's Dr. Kiran C. Patel College of Osteopathic Medicine's Biomedical Informatics Program is designed to train future leaders in the development, dissemination, and evaluation of health information technologies that are utilized by hospitals and health systems, health information technology system vendors, eHealth companies, insurers, pharmaceutical companies, and academic institutions.

With its focus on clinical informatics, the program's curriculum emphasizes the areas of computer science and its clinical applications, management, and evaluation of information technology in the health care environment.

The Biomedical Informatics Program offers coursework in both on-campus and online formats to enable working professionals to earn a master's degree or graduate certificates in health informatics without career disruption.

Biomedical informatics is an interdisciplinary field encompassing computer and information sciences, cognitive and decision-making sciences, medicine and epidemiology, telecommunications, business management, education sciences, and a collaboration of a number of other fields. In short, biomedical informatics is the intersection of health care, technology, and people, with the implicit goals of improving the quality and safety of the world's health care systems while reducing cost.

As terminology continues to evolve along with the field itself, the more broadly encompassing term "biomedical informatics" can generally be broken down into three more distinct levels: bioinformatics, medical informatics, and public health informatics.

At the molecular level, incorporating things such as gene sequencing research and pharmaceutical development, **bioinformatics** looks to change the way biological data is stored, retrieved, organized, and analyzed, ultimately producing new tools/methods for generating valuable biological knowledge.

**Medical informatics**, at an individual patient level, can further be divided into a number of more specific areas including nursing informatics, imaging informatics, pharmacy informatics, dental informatics, and consumer health informatics. Medical informatics aims to manage an individual's health data—including storage, retrieval, sharing, and optimal use—with the goals of providing safer, more efficient, and more affordable health care. Integration of advanced clinical information systems into the health care decision-making process allows health care professionals to accomplish tasks in a more competent and effective manner. Furthermore, this integration affords development of novel tasks. It produces new knowledge and allows providers to begin thinking like epidemiologists in addition to providing patient care.

At a population level, **public health informatics** aims to apply information technology advances to traditional public health research and practice. Detection, management, and prevention of disease across populations—through the collection and analysis of vital statistics and health data—have the potential to be significantly influenced and advanced through the auspices of evolving information technology.

People who have a degree in biomedical informatics have a wide variety of career opportunities. The type of informatics career options that an individual can pursue is, to some extent, dependent on his or her background and selected area of study. Biomedical informatics trained professionals may become

- chief medical information officers (CMIOs)
- chief medical officers (CMOs)
- chief information officers (CIOs)
- directors of medical informatics
- chief nursing information officers (CNIOs)
- project managers
- implementation specialists
- project designers
- researchers
- programmers
- clinical systems analysts
- health information technology (HIT) educators and trainers
- HIT consultants
- template writers
- nursing informatics specialists
- account representatives

The following are examples of settings in which they might work:

- hospitals and health systems
- community health centers
- physician practices and clinics
- health care agencies within the federal and state government
- health information technology system vendors
- eHealth companies
- health insurance companies



- pharmaceutical companies
- academic institutions
- consulting services

The Biomedical Informatics program is a participant of the Electronic Campus program of the Southern Regional Education Board (SREB). The SREB certifies that the online programs and courses it approves for this program are in full compliance with its comprehensive set of Principles of Good Practice.

### **Course of Study—Master of Science in Biomedical Informatics**

The Master of Science in Biomedical Informatics (M.S.) Program is designed to prepare students for careers in information management, teaching, and research in academic health centers, other health care institutions and organizations, and the health care computing industry. It has become almost axiomatic that the organization and retrieval of information is essential for the development of new knowledge. The quality of a medical school's computing and information technology environment will profoundly affect its ability to compete in both education and research. In addition, the quality of the biomedical informatics program will influence a school's opportunities to collaborate with health organizations such as hospitals, health departments, medical societies, and physicians in remote areas. The major areas included in the M.S. program are computer science and its clinical application in medical informatics, management, and program evaluations of health information technology.

The program provides a course of study leading to the degree of Master of Science in Biomedical Informatics, which will lead to

1. the use of informatics to improve the performance of health care providers and the health care system in order to
  - enhance wellness and disease prevention
  - improve patient outcomes
  - reduce morbidity and mortality
  - reduce medical error and promote patient safety
  - promote cost-effective health care
2. facilitation of the adoption of health information technology
3. a career in health information technology
4. becoming a self-directed lifelong learner

At the end of the course of study leading to the degree of Master of Science in Biomedical Informatics, the graduate will be able to

1. identify the fundamentals of a telecommunication network design

2. develop practical health care applications using popular database management systems
3. evaluate information technology for integration into health care
4. utilize the knowledge, skills, and concepts of health information technology in evidence-based practice
5. apply principles of information security and policy formation
6. assess existing and emerging health information technologies
7. appraise health information exchange system standards
8. analyze project management strategies in health information technology

### **Course of Study—Graduate Certificate in Medical Informatics**

The Medical Informatics Certificate is designed to enable students to acquire the core knowledge that applies to the fundamentals, principles, and practice of medical informatics. This certificate option consists of 18 credits of graduate-level courses that are presented using online learning technology.

If, after taking courses in the certificate program, a certificate-seeking student decides to pursue the M.S. degree, the student must submit a new and complete application to become a degree-seeking student and must meet all requirements for admission to the M.S. program. Previous coursework taken as a certificate-seeking student does not guarantee acceptance into the M.S. degree-seeking program. If accepted into the degree program, credits with the prefix MI taken as a certificate-seeking student will be automatically applied toward the degree.

### **Course of Study—Graduate Certificate in Public Health Informatics**

The Public Health Informatics Certificate is designed to enable students to acquire the core knowledge that applies to the fundamentals, principles, and practice of public health informatics. This certificate option consists of 18 credits of graduate-level courses that are presented using online technology.

If, after taking courses in the certificate program, a certificate-seeking student decides to pursue the M.S. degree, the student must submit a new and complete application to become a degree-seeking student and must meet all requirements for admission to the M.S. program. Previous coursework taken as a certificate-seeking student does not guarantee acceptance into the M.S. degree-seeking program. If accepted into the degree program, credits with the prefix MI taken as a certificate-seeking student will be automatically applied toward the degree.

## Admissions Requirements

The Biomedical Informatics program evaluates the overall quality of its applicants, looking at academic achievement, personal motivation, knowledge of health care, life experience, and recommendations. Priority will be given to those individuals already holding degrees in the health professions or computer information sciences.

All applicants for admission must

- hold a bachelor's, master's, or doctoral degree from a regionally accredited college or university
- demonstrate a background in the language of the biomedical sciences by credentials or work experience
- possess a cumulative grade point average of 3.0 or above on a 4.0 scale (preferred)
- demonstrate competency in the use of computers by credentials or work experience
- demonstrate the ability to clearly communicate in a written manner

A health professions degree is desirable, but not required. Students without prior degrees or work experience in health care and/or information technology may have to take additional prerequisite courses. An applicant may be offered admission as a nondegree-seeking student to provide him or her with the opportunity to demonstrate academic competency. All application material must be received in a timely manner to enable the Office of Admissions and the admissions committee to process the application promptly.

## Application Procedures

The Office of Admissions processes applications on a year-round basis. Applicants may apply for matriculation into any one of the three semesters (fall, winter, summer).

To be considered by the admissions committee, all applicants must

- complete the online application
- send the nonrefundable application fee of \$50
- provide one signed letter of recommendation on organizational letterhead (recommendation is requested electronically through the online application system)\*
- submit official transcripts of all undergraduate, graduate, and professional education

Please mail all supplemental admissions material to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Kiran C. Patel College of Osteopathic Medicine  
Biomedical Informatics Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Upon receipt of the completed application and required material, the Committee on Admissions will review the application and the applicant's file and make recommendations to the program director. The director submits his or her recommendation on admission to the dean. The final decision on admission is made by the dean of the Dr. Kiran C. Patel College of Osteopathic Medicine.

Should you have any questions, please email [healthinformatics@nova.edu](mailto:healthinformatics@nova.edu) or call 800-356-0026, ext. 21032.

\*A recommendation is not required for admission to the graduate certificates in Medical Informatics or Public Health Informatics programs.

## Nondegree-Seeking Students

A nondegree-seeking student is one who wishes to take courses in the Biomedical Informatics program, but does not intend to pursue the master's degree at the time of application. The nondegree-seeking student must provide the following admissions requirements in order to take classes in the Biomedical Informatics program:

- completed online application form
- official transcripts of all undergraduate, graduate, and professional education
- nonrefundable application fee of \$50

Nondegree-seeking students are not guaranteed future acceptance into the Master of Science in Biomedical Informatics Program. If, after successfully completing 9 credits as a nondegree-seeking student in good standing, the student wishes to become degree seeking, he or she must apply to the M.S. program as a new student and meet all the requirements for admission. If accepted into the degree program, credits with the prefix MI that were taken as a nondegree-seeking student will be automatically applied toward the degree.

## Other Degree Options

An M.S.N. in Nursing Informatics is offered in conjunction with the Ron and Kathy Assaf College of Nursing. For more information, visit [osteopathic.nova.edu/msbi/nursinginformatics.html](http://osteopathic.nova.edu/msbi/nursinginformatics.html).

A concurrent Pharm.D./M.S. in Biomedical Informatics option is also available. For more information, visit [osteopathic.nova.edu/msbi/pharm.d.m.s.b.i.-concurrent-degrees-nsu.html](http://osteopathic.nova.edu/msbi/pharm.d.m.s.b.i.-concurrent-degrees-nsu.html).

## International Applicants

International students who wish to be considered for admissions must submit official course-by-course evaluation of all foreign transcripts (Agencies that can complete this evaluation can be found at [nova.edu/internationalaffairs/students/prospective/credentialservices](http://nova.edu/internationalaffairs/students/prospective/credentialservices).) Applicants whose native language is not English are required to demonstrate English proficiency. One of the standardized tests listed

below will currently satisfy the university's English requirement for nonnative English speakers.

- Test of English as a Foreign Language (TOEFL): score of 213 on the computer-based test or 79–80 on the Internet-based test
- International English Language Testing System (IELTS): score of 6.0 on the test module
- Pearson Test of English—Academic: score of 54
- GMAT: score of 450
- GRE: score of 1,000 (old format) or score of 306 (new format)
- Scholastic Assessment Test (SAT): score of at least 500 in the reading section
- American College Test (ACT): score of at least 20 on the verbal section

Test results must be sent directly from the testing agency to the center you applied to. Proof of English language competency can also be in the form of successful completion of a degree at an approved U.S. institution of higher education.

### **Tuition and Fees**

Tuition for 2018–2019 will be posted on our website (<http://osteopathic.nova.edu/msbi/tuition-fees.html>). It is subject to change by the board of trustees without notice. Students taking courses at other NSU schools or colleges may be subject to varying tuition rates. A registration fee of \$30 per semester, an NSU student services fee of \$1,350 and a Health Professions Division student access fee of \$145 are required annually for degree- and nondegree-seeking students. Tuition and fees are subject to change without notice.

### **Transfer of Credits**

Applicants or enrollees of the NSU-KPCOM Biomedical Informatics Program may petition for transfer of credits earned from a regionally accredited institution. Degree-seeking students may petition for a maximum of 12 credit hours toward their degree, and certificate-seeking students may petition for a maximum of 6 credit hours toward their certificate. Any exceptions require the written approval of the program director. To be considered for transfer of credit, courses must have been completed less than five years prior to the beginning of the student's first semester in the program. All courses to be transferred must be substantially equivalent to courses offered in the program, as determined by the program director and appropriate faculty members.

All courses considered for transfer into the program must have been successfully completed with a grade of B (80 percent) or better. Transfer course grades are not calculated toward the student's grade point average.

An accepted applicant to the program who wishes to receive transfer credit must submit a written request and the appropriate verification documents (e.g., official transcripts, syllabi, and catalogs) to the program director.

### **Graduation Requirements**

To be eligible for the degree or Medical Informatics/Public Health Informatics Graduate Certificates, students must fulfill the following requirements:

- satisfactorily complete, with a grade point average of B (3.0) or higher, within seven years of matriculation, the course of study required for the M.S. degree (minimum of 44 semester hours of courses and any required additional courses, if applicable) or graduate certificates (minimum of 18 semester hours of courses and any required additional courses, if applicable)
- satisfactorily meet all university financial and library obligations

Upon satisfactory completion of degree requirements, the student is expected to attend the rehearsal and commencement program, at which time the degree is conferred. Students who do not plan to attend the commencement ceremony must notify the program office before the established deadline.

### **Curriculum Requirements**

The didactic courses will be offered online using NSU's state-of-the-art, web-based distance learning technology, as well as on-site. Students will be required to complete a practicum within the environment in which it is being conducted. Students must have a GPA of at least 3.0 to be eligible to register or participate in practicum work.

## Curriculum Outline—Master of Science in Biomedical Informatics

Required Courses			Credits
MI	5000	Orientation to the Biomedical Informatics Program	1
MI	5100	Survey of Biomedical Informatics	3
MI	5121	Information Systems Project Management in Health Care	3
MI	5130	Database Systems in Health Care	3
MI	5152	Information Security in Health Care	3
MI	5153	Telecommunications and Computer Networking in Health Care	3
MI	5160	System Analysis and Design for Health Care	3
MI	5400	Leadership Management and Organizational Behavior in Informatics	3
MI	6413	Lean Six Sigma Yellow Belt for Health Care	3
MI	6700	Computational Informatics	3
MI	7000	Biomedical Informatics Project/Practicum	4
<b>Subtotal</b>			<b>32</b>

Elective Courses (12 credits required)			Credits
MI	5120	Management Information Systems in Health Care	3
MI	5204	Clinical Decision Support Systems	3
MI	5205	Program Evaluation in Health Information Technology	3
MI	6426	Introduction to Health Care Analytics and Data Visualization II	3
MI	6428	Artificial Intelligence for Health Care	3
MI	6430	Methods of Health Care Analytics	3
MI	6432	Big Data Analysis in Health Care	3
MI	5180	Human-Computer Interaction in Health Care Settings	3
MI	6401	Biostatistics	3
MI	6403	Epidemiology	3
MI	6404	Special Topics in Health Informatics	3
MI	6405	Public Health Informatics	3
MI	6407	Grant Writing	3
MI	6408	Health Policy, Planning, and Management	3
MI	6409	Health Services Planning and Evaluation	3
MI	6410	Consumer Health Informatics	3
MI	6411	Health Information Technology Acquisition and Assessment	3
MI	6412	Leadership in Health Information Technology	3

MI	6413	Lean Six Sigma Yellow Belt for Health Care	3
MI	6414	Basic Skills for Clinical Analysts	3
MI	6415	Information Technologies in Medicine and Telehealth	3
MI	6417	Meaningful Use of Electronic Health Record Systems—A NextGen Approach	3
MI	6418	App Development for Health Information Technology Projects	3
MI	6420	Medical Image Processing and Analysis	3
MI	6421	Geographical Information Systems: Fundamentals for Health Care	3
MI	6422	Workflows and Process Improvements in Health Care Settings	3
MI	6423	Maximizing Talents in the Health Technology Workforce	3
MI	6424	Health Care Analytics and Data Visualization I	3
<b>Total Credits</b>			<b>44</b>

**Suggested Courses (These courses are recommended for students who do not have sufficient health care background or computer science knowledge.)** Credits

MI	4100	Medical Terminology	3
MI	4200	Health Care Organization and Administration	3
MI	4300	Foundations of Computing in Health Care	3
MI	4400	Foundations of Software in Health Care	3

### **Curriculum Outline—Graduate Certificate in Medical Informatics**

<b>Required Courses</b>			<b>Credits</b>
MI	5100	Survey of Biomedical Informatics	3
MI	5130	Database Systems in Health Care	3
MI	5152	Information Security in Health Care	3
MI	5153	Telecommunications and Computer Networking in Health Care	3
MI	6413	Lean Six Sigma Yellow Belt for Health Care	3
MI	6700	Computational Informatics	3
<b>Total Credits</b>			<b>18</b>

## Curriculum Outline—Graduate Certificate in Public Health Informatics

Required Courses			Credits
MI	5100	Survey of Biomedical Informatics	3
MI	5130	Database Systems in Health Care	3
MI 6401/PUH 5301		Biostatistics	3
MI 6403/PUH 5430		Epidemiology	3
MI 6405/PUH 5516		Public Health Informatics	3
MI	6421	Geographical Information Systems: Fundamentals for Health Care	3
<b>Total Credits</b>			<b>18</b>

### Course Descriptions

#### MI 4100—Medical Terminology

This self-paced online course provides a basic introduction to medical terminology using the body systems approach. It provides the student with guided practice and assessment of prefixes, suffixes, word roots, and combining forms. It includes vocabulary, definitions, spelling, and pronunciation. A problem-solving approach to learning is the key strategy and focus of this course. (3 credits)

#### MI 4200—Health Care Organization and Administration

This course provides students with an overview of health care management covering fundamental concepts and theories, including information systems management, operational leadership, strategic leadership, governance, foundations of clinical performance, clinical support services, community health, knowledge management, human resource management, the environment of care management, financial management, and marketing. A common theme of high-performance health care organizations (HCOs) are that they embrace a culture of transformational and evidence-based management. Both are carefully woven throughout the course. Also emphasized are critical management activities, including measures and metrics, benchmarking, negotiated goal setting, and continuous improvement, which are all essential to high-performance HCOs. (3 credits)

#### MI 4300—Foundations of Computing in Health Care

This course is designed to introduce students to architectures of information systems and the logic used by computers to solve problems. Even though many students

consider themselves “tech savvy” due to their prior use of information systems, most students do not have an appreciation of how computers actually work. In their future roles as biomedical informaticists, they will need to have a deeper understanding of how computers actually operate. This course will provide this deeper understanding of computer systems. (3 credits)

#### MI 4400—Foundations of Software in Health Care

The basic content of the course will be drawn from the IEEE Computer Society’s *Guide to the Software Engineering Book of Knowledge* (SWEBOOK) with the addition of specific exposure to programming in the object-oriented and Internet environments. It will focus on developing the knowledge and skills necessary for a biomedical informaticist to participate in the development of informatics systems, including the ability to understand and interact effectively with software development teams in health care environments. It will also give the student experience in actually developing software systems in JAVA, XML, and JSON for health care applications. The student will become knowledgeable about software development life cycles, such as waterfall and Agile (e.g., Scrum) methodologies that are commonly used in health care information technology. Finally, the students will become familiar with the economic issues related to software development/maintenance in health care. (3 credits)

#### MI 5000—Orientation to the Biomedical Informatics Program

This course provides an overview to the biomedical informatics program and technology skills necessary

for satisfactory participation in the graduate programs at Nova Southeastern University's Dr. Kiran C. Patel College of Osteopathic Medicine (KPCOM). Students will be introduced to Canvas, the Office of Student and Alumni Affairs, NSU Financial Aid, the Martin and Gail Press Health Professions Division (HPD) Library, NSU Public Safety, the NSU Bursar's Office, NSU Student Health Insurance, required Health Insurance Portability and Accountability Act (HIPAA) Training, the Collaborative Institutional Training Initiative (CITI), and the Biomedical Informatics Practicum Project.

Completion of this orientation is required by all students admitted into the Master of Science degree program in biomedical informatics. Students are required to complete MI 5000 concurrently with their first sequence of courses in the program of study, and will be automatically enrolled in the orientation course (online or in-person) during their first term of study. (3 credits)

#### **MI 5100—Survey of Biomedical Informatics**

This course is an introductory survey of the discipline of biomedical informatics. This course will introduce the student to the use of computers for processing, organizing, retrieving, and utilizing biomedical information at the molecular, biological system, clinical, and health care organization levels through substantial, but not overwhelming, reading assignments. The course is targeted at individuals with varied backgrounds including medical, nursing, pharmacy, administration, and computer science. The course will describe essential concepts in biomedical informatics that are derived from medicine, computer science, and the social sciences. (3 credits)

#### **MI 5120—Management Information Systems in Health Care**

This course covers major concepts, systems, and methodology in managing health care information systems. Topics will include concepts in system implementation and support, information architecture, IT governance in health care, information systems standards, organizing IT services, strategic planning, IT alignment with the health care facility, and management's role in major IT initiatives. Topics will include concepts in health care data quality; health care information regulations, laws, and standards; clinical information systems; systems acquisition, implementation, and support; technologies that support health care information systems; security of health care information systems; IT alignment and strategic planning in the health care facility; and management's role in major IT initiatives. (3 credits)

#### **MI 5121—Information Systems Project Management in Health Care**

This course introduces the fundamental principles of project management from an information technology (IT) perspective as it applies to health care organizations

(HCOs). Critical features of core project management are covered, including integration, scope, time, cost, quality, human resource, communication, risk, and procurement management. Also covered is information technology management related to project management (user requirements, infrastructure, conversion, workflow, security, interface, test, customer, and support management and software configuration). The following areas of change management related to project management will also be covered: realization, sponsorship, transformation, training, and optimization management. Students will explore and learn hands-on skills with project management software assignments and participate in a health care systems implementation, course-long, group project intended to apply these newly developed knowledge and skills in a controlled environment. (3 credits)

#### **MI 5130—Database Systems in Health Care**

This course covers basic to intermediate knowledge of the concept, the design and the implementation of database applications in health care. Students will study tools and data models for designing databases such as E-R Model and SQL. The course also covers Relational DBMS systems such as SQL Server, Access, Oracle, and MySQL. Database connectivity design (essential in data-driven web development) and database administration will also be introduced. Students will practice designing, developing, and implementing a test relational online health IT database application (myHealth) through a comprehensive project that contains the above topics. (3 credits)

#### **MI 5152—Information Security in Health Care**

The course will cover concepts, applications, and techniques of data security in health care systems. Topics include health care industry, regulatory environment, decision making, policy assurance, information management, access control, risks and vulnerabilities management, database security, web security, personnel and physical security issues, and issues of law and privacy. Areas of particular focus include secure health care system design, implementation, data encryption and decryption, attacks, and techniques for responding to security breaches. (3 credits)

#### **MI 5153—Telecommunications and Computer Networking in Health Care**

The understanding of telecommunications and networking is imperative for adequate functioning of health care organizations. This is due to the convergence of computing, data management, telecommunications, and the growing applications of information technology in the health care arena and medical facilities. The knowledge of these key areas of information systems also becomes essential for competitive advantage. This course combines the basic technical concepts of data communications,

telecommunications, and networking with the health care IT management aspects and practical applications. (3 credits)

**MI 5160—System Analysis and Design for Health Care**

The need to create effective, new solutions and innovative interventions to deliver quality patient care outside of the traditional medical setting is at the forefront of society today. The basis of this course will be to provide a solid educational foundation for systems design and analysis, as it relates to current and future health care systems. In addition, this course will build upon the fundamental systems design and analysis principles to explore current and future health care systems that will include integration of disparate clinical health care systems, mobile technologies, and a combination of remote-monitoring technology, sensors, and online communications and intelligence to improve patient adherence, engagement, and clinical outcomes. (3 credits)

**MI 5180—Human-Computer Interaction in Health Care Settings**

The dynamics of human-computer interaction (HCI) directly impacts health care. This course will introduce the student to usable interfaces and the study of social consequences associated with the changing environment due to technology innovation. (3 credits)

**MI 5204—Clinical Decision Support Systems**

This course introduces students to theoretical, statistical, and practical concepts underlying modern medical decision making. Students will be provided with a review of the multiple methods of knowledge generation for clinical decision support systems (CDSS) and will create their own prototype of CDSS. Current implementations of stand-alone and integrated CDSS will be evaluated. Techniques for planning, management, and evaluation of CDSS implementations will be reviewed. Human factors, including work-flow integration and the ethical, legal and regulatory aspects of CDSS use, will be explored, as applicable to commercial implementations in patient care settings. Future models of health care, supported by CDSS and evidence-based medicine, will be discussed and reviewed. (3 credits)

**MI 5205—Program Evaluation in Health Information Technology**

This interactive course will introduce students to various evaluation methods for health care informatics systems, projects, and proposals. Students will consider both quantitative and qualitative methods of evaluation as they examine the design and implementation processes. Topics will include why to evaluate health care informatics projects; deciding what to evaluate; deciding when evaluation should occur; quantitative evaluation methods; overview of some descriptive and inferential

statistical methods; barriers and facilitators to project implementation; and stakeholders, both internal and external to an organization. (3 credits)

**MI 5400—Leadership Management and Organizational Behavior in Informatics**

This online course is an introduction to the management of employees in health care organizations (HCOs). Students will gain a working knowledge of how to manage personal, interpersonal, and group processes by having the interpersonal skills to assume responsibility for leading and promoting teamwork among diverse stakeholders. Students will learn to manage individual and group behaviors in improving organizational productivity and performance. Students will be able to apply newly learned organizational skills, developed through experiential- and application-based learning scenarios in the form of case studies, as well as from their home, work, and educational observations and experiences. It is anticipated that this practical learning experience can be transferred to their day-to-day managerial responsibilities. (3 credits)

**MI 6401—Biostatistics**

This course focuses on the principles and reasoning underlying modern biostatistics and on inferential techniques commonly used in public health research. Students will be able to apply basic inferential methods in research endeavors and improve their abilities to understand the data analysis of health-related research articles. (3 credits)

**MI 6403—Epidemiology**

This course examines basic principles and methods of modern epidemiology used to assess disease causation and distribution. Students develop conceptual and analytical skills to measure association and risk, conduct epidemiological surveillance, evaluate screening and diagnostic tests, and investigate disease outbreaks and epidemics. (3 credits)

**MI 6404—Special Topics in Health Care**

This is an elective course designed as a student/self-directed course. In consultation with the chosen adviser/mentor and the course director, the student will determine a focused topic of quasi-independent study, research, or other appropriate learning activity. A final paper or other appropriate document(s) will serve as documentation of having met the mutually agreed upon objectives. (3 credits)

**MI 6405—Public Health Informatics**

Public health informatics is the systematic application of information and computer science and technology to public health practice, research, and learning. This course focuses on developing the knowledge and skills of systemic application of information, computer science, and technology to public health practice. Students will



acquire a basic understanding of informatics in public health practice and be able to use some informatics tools in public health practices. (3 credits)

#### **MI 6407—Grant Writing**

This course provides an introduction to the skills of grant writing in biomedical informatics. Each student will submit a completed grant application as a culminating experience. This course introduces students to grant development and preparation, so they can participate in the process of obtaining public or private funds to support research, education, and/or service projects. Topics will include writing specific aims and hypotheses; research plan significance; methods/approach and innovation; evaluation, time line, and budget; preliminary data, investigator, and human subjects; subcontracts (if necessary); and abstract, facilities/environment, and letters of support. (3 credits)

#### **MI 6408—Health Policy, Planning, and Management**

This course discusses the principles and logic involved in health policy, planning, and management. It addresses the historical, political, and environmental contexts, and their incorporation into population research. (3 credits)

#### **MI 6409—Health Services Planning and Evaluation**

This course is an in-depth review of basic planning and evaluation techniques for the implementation of a community health care program. It is designed, and will be taught, employing comparative methodology. The material will be taught using multiple international examples and experiences. The course covers the interdependence between policy and planning and management. It will consist of policy analysis techniques as well as the conceptual framework for the planning and management of health care programs. The course also reviews essential methods for effective planning and evaluation considering the economic, political, epidemiological, demographic, and other components that contribute to the assessment of health needs and resource allocation. (3 credits)

#### **MI 6410—Consumer Health Informatics**

Consumer Health Informatics is a relatively new application of information technologies in the field of health care that aims to engage and empower consumers to become involved in their health care. This course provides an introduction to, and overview of, consumer health informatics, mobile health (mhealth), and social media applications used in health care. It explores the development of consumers as ePatients and tools such as personal health records (PHRs), as well as the fluid nature of social media in medicine and the emerging area of mobile health (mhealth). Students will learn from a combination of lectures and a hands-on approach of interacting directly with the tools and technologies discussed. (3 credits)

#### **MI 6411—Health Information Technology Acquisition and Assessment**

This course immerses students in the technical, business, cultural, and organizational dynamics typically encountered during the HIT systems selection and contract-negotiation process. Real-world case studies—replete with dynamic political, financial, and technical roadblocks and opportunities—will be used to introduce the student to skills required to make the best cultural decisions and to negotiate a viable contract. (3 credits)

#### **MI 6412—Leadership in Health Information Technology**

This course provides the conceptual and technical skills needed in leading health information technology. It is designed to create a profound understanding of leadership at the cognitive and action levels to enable health information leaders to optimize decision making in the workplace. Students review remarkable leaders, organizations, and teams in order to hone their own observation, sense-making, and innovating skills in a health information setting. This leadership course reviews and builds upon the basic knowledge of leadership provided in the organizational behavior course by expanding the scope and depth of the student's knowledge of leadership theories and conflict management techniques and by developing the student's self-knowledge of his or her preferred leadership styles. (3 credits)

#### **MI 6413—Lean Six Sigma Yellow Belt for Health Care**

Lean Six Sigma for Health Care (Yellow Belt) participants will learn the basic philosophy, tools, and techniques to deliver breakthrough business improvements that will reduce waiting times, improve quality, and reduce costs in a health care environment. More specifically, they will learn to apply a comprehensive set of 15–20 Lean Six Sigma process improvement tools by using the PDCA (Plan, Do, Check, Act) problem-solving model. They will learn techniques for both quantitative and qualitative analysis, as well as methods and tools for waste reduction and process enhancement and acceleration. The course also covers how to map out processes and identify sources of variation, as well as to gain a basic understanding of descriptive statistical analysis. Finally, students will learn how to perform basic pilot studies and analyze the results in order to determine the most effective way to improve and stabilize processes. Candidates work on either an integrated health care case study or on an actual business project and will apply classroom techniques to the project. (3 credits)

#### **MI 6414—Basic Skills for Clinical Analysts**

This class will provide students with introductory understanding of clinical analysts' daily responsibilities and functions within hospitals. Students will be introduced to the daily operations of clinical software systems and lead

to understand how such systems are used by health care organizations to provide quality care services. (3 credits)

#### **MI 6415—Information Technologies in Medicine and Telehealth**

Telemedicine is the exchange of health information from one side to another utilizing electronic communications. This course introduces the student to fundamental concepts and knowledge of telemedicine technologies, as well as its application and usage. Essential aspects of communication networks and services, wired and wireless infrastructures, safeguarding medical data (including health information privacy), systems deployment, patient monitoring and care, information processing, and future trends in telemedicine will be studied. Discussion areas include telemedicine, technical perspectives, scalability to support future growth, integration with legacy infrastructures and interoperability, history, trauma, emergencies and disasters, clinical applications, and other critical components of telemedicine technologies. (3 credits)

#### **MI 6417—Meaningful Use of Electronic Health Record Systems—A NextGen Approach**

This course will provide students with the opportunity to learn the fundamentals of set-up and using the applications of one of the most commonly used electronic health record systems in the United States, NextGen, in clinical settings. Students will be required to complete the NextGen elearning modules before the on-campus, hands-on training sessions. This course is required for the competitive internship opportunity in the NSU clinics. (3 credits)

#### **MI 6418—App Development for Health Information Technology Projects**

This course provides an introduction to iOS Applications (apps) development with an emphasis on health information technology projects. Topics cover iOS development environment setup, the Swift language syntax, Model-View-Controller design patterns, iOS apps lifecycle, GUI implementation, multitouch handling, graphics processing, file handling, SQLite database handling, audio and video processing, multiplatform support for iPhone and iPad, maps displaying, and web service interfacing. (3 credits)

#### **MI 6420—Medical Image Processing and Analysis**

This course will provide students with a preliminary understanding of the theory and practice of medical image processing and analysis in health care. Basic concepts and fundamentals of medical image processing and analysis will be described in the course. The application of medical image processing and analysis in biomedical information systems will also be discussed. Students will be introduced to the fundamentals and methodology of medical image processing, image analysis, image compression, and molecular imaging. (3 credits)

#### **MI 6421—Geographical Information Systems: Fundamentals for Health Care**

This course will introduce students to geographic information systems (GIS) to map and spatially analyze public health and demographic data. Students will learn the fundamentals of the ArcMap software system and ways to integrate cartography into biomedical informatics practice. Beyond use of GIS for cartography, this course will also examine ethical issues and methods of analyzing demographic and spatial health patterns using GIS and demography analysis methods. The versatility of GIS in a public health setting will be examined and will include exercises involving GIS applications in health marketing, demography, epidemiology, and health care systems. For example, the course will look at how different socioeconomic groups use urban spaces differently in terms of transportation and how these differences in navigation impact contact points for health marketing. Other issues covered in the class will be the ethics of GIS, manipulation of data, sources of data, and understanding some commonly used public health datasets such as the YRBS, BRFSS, and U.S. Census. (3 credits)

#### **MI 6422—Workflows and Process Improvement in Health Care Settings**

The course will introduce the clinical workflow analysis as a method of choice to improve clinical processes in health care delivery systems. Students will review the primary objectives for process improvement in clinical health care: outcome quality (including patient safety) and the development of health information technology (HIT) to support the Electronic Health Record (EHR) with initiatives showing a significant impact on clinical workflows, such as meaningful use. Students will define the functional components of the health care activities and learn to map on a flowchart the standard symbols used to represent all tasks and steps, decision points, resources, and outcomes of the clinical workflow. Students will apply the tools of workflow analysis by assessing a workflow in a health care setting using graphical representations of the workflow phases (current state, desired state), and process defects identification and classification. The course will introduce the quantitative measures of workflow improvement used in Lean Six Sigma. Students will formalize a proposal for an intervention aimed at the modification and optimization of a clinical workflow. (3 credits)

#### **MI 6423—Maximizing Talents in the Health Technology Workforce**

In the ever-changing world of information and global economic competition, it is crucial that individuals and organizations understand their personal and group talents. Today's educational, health care, and institutional structures lack leadership and cutting-edge thinking. By applying strength-based leadership practices, one comes to

understand his or her own, as well as the group's, strengths and talents and is able to apply these practices in daily work, as well as in leadership roles. The course will produce a personal understanding of individual, as well as group personality/strengths and how these evolve and affect performance in individuals. Students will develop a better self-awareness of what strengths they possess and how this affects personal and work performance. It demonstrates how leaders continue to grow, if this is a chosen career path, and how they develop each of the group's talents to maximize the performance of the team and organization. The Affordable Care Act will be incorporated and students will discover what individual and organizational talents must be used to improve patient care in the future when utilizing technology. (3 credits)

#### **MI 6424—Health Care Analytics and Data Visualization I**

The course will expose students to health care “big data” focused on current needs—such as population health, outcome reporting, clinical decision support, physician quality measurement, and various other measures (including CMS initiatives like meaningful use and Medicare and payer-quality reporting requirements). The course will use current real-world problem scenarios where data analytics and visualization can be applied to successfully report on and solve various problems prevalent in today's value-based payer model. Students will learn how to do large scale data mining and the infrastructures needed to support the various system designs, such as Hadoop ecosystems and Hadoop-based tools. The student will be exposed to the application of predictive analytics specific to health care so he or she will understand the use of data to help deliver quality and safe patient care, as well as data-driven methods of improving care. The course will expose students to real-time data analytics where data is collected and reported on around the clock. It will also expose student to mobile data acquisition and analysis coming from various local and remote devices and will introduce students to data visualization methods that will teach them how to communicate analytical insights to both technical and nontechnical audiences. (3 credits)

#### **MI 6426—Introduction to Health Care Analytics and Data Visualization II**

This course is a continuation of MI 6424 (Introduction to Health Care Analytics and Data Visualization I). The course will expose students to health care “big” data focused on current needs such as population health, outcome reporting, clinical decision support, physician quality measurement, and various other measures (including CMS initiatives like meaningful use and Medicare and payer-quality reporting requirements). The course will use current, real-world problem scenarios where data analytics and visualization can be applied to successfully report on and solve various problem prevalent in today's value-based payer model. The student will learn how to

do large-scale data mining and the infrastructures needed to support the various system designs such as Hadoop ecosystems and Hadoop-based tools. The student will be exposed to the application of predictive analytics specific to health care with an understanding of using data to help deliver quality and safe patient care and providing data-driven methods of improving care. The course will expose students to real-time data analytics where data is collected and reported on around the clock and to mobile data acquisition and analysis coming from various local and remote devices. It will also introduce students to data visualization methods that will teach them how to communicate analytical insights to both technical and nontechnical audiences. (3 credits)

#### **MI 6428—Artificial Intelligence for Health Care**

This advanced cognitive engineering systems course will expand upon introductory topics presented as part of the clinical decision support, database management, and analytics courses to take a deeper dive into data science and artificial intelligence algorithms, with specific application to such medical specialties as oncology, cardiology, pulmonology, radiology, neurology, and psychology. It will provide students with skills necessary to undertake programmatic statistical analysis of complex patient information data sets; to apply unsupervised learning techniques that will enhance outcomes of the predictive and prescriptive analytics methods; to use supervised learning methods that represent evidence-based guidelines and detect medical fraud; to process and exchange structured and unstructured clinical data; to compare and analyze graphs (i.e., ECHO) and images (i.e., MRI/X-Ray); and to apply natural language processing techniques to ingest and analyze clinical data. Students will learn how to choose among various AI methods; integrate clinical data and algorithms; translate research applications into clinical practice; and perform longitudinal data analysis using primary sources of clinical data, such as electronic medical records, lab information systems, and imaging databases. Participants will combine research methods with real-world evidence to discover new ways of approaching drug performance and pharmacological surveillance through real-time aggregation and monitoring of health care provider databases. (3 credits)

#### **MI 6430—Methods of Health Care Analytics**

This course will introduce students to a variety of mathematical techniques that are commonly used in health care analytics and biomedical informatics. The emphasis will be on developing an understanding of the methods, their uses, and their limitations. Mathematical rigor would not be emphasized, but instead, an understanding of the meaning and uses of the techniques. The instruction would also include teaching a mathematical mindset to the students that will allow them to extend their knowledge and understanding to further areas as needed in their future endeavors. (3 credits)

### **MI 6432—Big Data Analysis in Health Care**

This course provides a comprehensive and rigorous introduction to big data analytics in health care. It will describe the hardware/software infrastructures that are used today for big data (e.g., Hadoop, Hive) and the implications of these infrastructures for the accurate and efficient analysis of big data for health care applications. Students will learn the mathematical, statistical, artificial intelligence, and modeling techniques that have been developed for analysis of big data, especially for health care applications. Also, it will describe the visualization techniques that are useful for displaying big data analysis results for meaningful interpretation of the results by humans. It will use current, real-world problems involving big data analytics in health care, including the Big Data to Knowledge (BD2K) initiative of the National Institutes of Health. Students will gain experience in applying the techniques of big data analytics to health care problems. **(3 credits)**

### **MI 6700—Computational Informatics**

This course will provide an introductory, hands-on experience for life science researchers in bioinformatics using R and Bioconductor. Emphasis will be placed on accessing, formatting, and visualizing genomics data. Most analyses will deal with “little” data (no mapping or assembly of short reads), but some techniques to work with “big” data (e.g., BAM files) will be covered. Lecture and lab will both be held in a computer lab, so lecture will be hands-on. Working in small groups is encouraged. **(3 credits)**

### **MI 7000—Biomedical Informatics Project/Practicum**

This is a required course for all M.S. students. The practicum allows the student to select an area of interest in which to apply the theories, concepts, knowledge, and skills gained during the didactic courses in a real-world setting. The student will work under the supervision of a site-based preceptor and an NSU-based faculty adviser.

The student is expected to acquire skills and experiences in the application of basic biomedical informatics concepts and specialty knowledge to the solution of health information technology (HIT) problems. Students will be actively involved in the development, implementation, or evaluation of an informatics-based application or project.

A specific set of measurable learning objectives and deliverables will be determined by the student, the site preceptor, and the NSU-based faculty adviser. These learning objectives must be approved by the course director. The student’s area of interest would be determined at an earlier point in the program or by the needs of the precepting organization.

The practicum is evaluated by completion of an ePortfolio. The ePortfolio is an evidence-based digital format method used by the program to assess the quality and quantity of learning gained from a student practicum experience. The ePortfolio is standardized in its structure and format, yet individualized in its content for each student. Overall, the ePortfolio is goal-driven documentation of professional growth and achieved competencies during the practicum. The ePortfolio combines self-reflection, instructor assessments, and documentation supplied by students (evidence/samples) to document what they learned/produced. It is used to help students prepare for career transition/development. **(4 credits)**

Students are responsible for finding their own practicum site. Once a site is located, the program office will facilitate a legal affiliation agreement between the site and the program. Some practicum sites may require background checks, drug screening, and immunization records. Students are responsible for any associated costs.

## Disaster and Emergency Management Program

### Program Overview

The Master of Science degree in Disaster and Emergency Management (M.S.) in the Dr. Kiran C. Patel College of Osteopathic Medicine will provide students with the knowledge, skills, and basic research capabilities to enter one of the fastest-growing academic disciplines with both a national and an international perspective. This interprofessional degree is designed to provide students with the theoretical knowledge and applied skills to be part of the rapidly growing, interdisciplinary field of disaster and emergency management. It will allow students from a variety of disciplines to specialize in one of several concentrations (all of which have a community research practicum at the local, regional, state, federal, or international level as a key component). The program is available online and will incorporate interactive and individual, synchronous activities, including live, online class sessions. In addition, all students in the program will be required to participate in a final presentation at the conclusion of their studies. The concentrations for the Master of Science degree include **maritime safety and security, cybersecurity, criminal justice, public health, environmental hazards, and fire administration**. Distinct concentrations will allow the students to apply the principles of emergency management to these areas of particular interest and need.

The M.S. in Disaster and Emergency Management is designed to provide students with knowledge and skills, along with basic research application in the field that will help them acquire the competencies as outlined by the FEMA Emergency Management Higher Education Program and will prepare them to work in an all-hazards preparedness environment. Disaster management is a critical challenge and responsibility of government, businesses, educational institutions, nonprofit organizations, and health care agencies and institutions. Response to disasters begins long before the disaster occurs, involving pre-disaster planning, mid-disaster operations, and post-disaster recovery and reconstruction. A successful response can only be carried out through the coordinated efforts of all levels of government, the public and private sector stakeholders, and nongovernmental organizations, as well as the involvement of faith-based organizations.

The program will help meet the need for trained emergency management professionals at local, state, national, and international levels. The Master of Science in Disaster and Emergency Management not only develops the skills in leadership, but facilitates students in gaining specialized training in emergency management and disaster response related to: 1) maritime safety and security, 2) cybersecurity, 3) criminal justice, 4) public health, 5) environmental hazards, and/or 6) fire administration.

With the increased threat of terrorism, law enforcement and public health personnel need additional training in the areas of response and recovery and fire fighters need additional skills to oversee their departments in this new landscape. As the threats of cyber-theft, cyber-crime, cyber-fraud, and cyber-warfare continue to increase, computer and IT professionals need additional training in protecting our nation's assets and infrastructure. In addition, as the incidents of piracy on the high seas continue to grow and the potential for terrorists to attack our ports becomes more imminent, maritime security has become a high priority. As natural hazards continue to increase, environmental and meteorological experts are being called upon more and more for their input related to these disasters.

This degree program fits the mission of NSU in that it provides an “accessible distance learning” program while “fostering intellectual inquiry, leadership, and commitment to community through engagement of students” by providing an online curriculum that is convenient, but also offers ample student and faculty member engagement. The program fosters community involvement by requiring a community research capstone project. The curriculum also supports the mission of the Dr. Kiran C. Patel College of Osteopathic Medicine for “producing compassionate and ethical lifelong learners and advocating for the health and welfare of diverse patient populations” through its specialty concentration in public health, while the overarching goal of the degree to prepare communities to be more prepared and resilient to disasters serves the overall general health and welfare of all.

### Program Objectives

By creating a cadre of individuals who interact with the public and private sectors, the program in disaster and emergency management can help to create an environment in which all-hazards initiatives include preparedness, mitigation, response, and recovery as the standard. Students who graduate from this program will achieve the following program objectives:

- provide leadership skills to individuals entering the field of emergency management and disaster response
- demonstrate leadership skills in planning for and responding to disaster and emergency situations (both natural and man made)
- identify, describe, and respond to the types of threats and risks associated with natural and man-made disasters
- demonstrate the skills to conduct a comprehensive vulnerability risk assessment at the community, county, state, and national levels

- demonstrate knowledge and skills of available tools and resources for disaster and emergency planning and response
- analyze the disaster process and differentiate disaster response actions, including recovery operations, from routine emergency operations
- exhibit competencies for disaster mitigation, response, and recovery at the individual, community, and state levels
- demonstrate the knowledge and skills necessary to build resilience post-disaster in a variety of disaster settings
- enter the field of emergency management and be leaders within this discipline

### Course of Study

The M.S. program consists of six core courses (18 credits hours) which include: 1) an introductory course in all-hazards preparedness; 2) applied research methods; 3) disaster planning and evaluation; 4) a course in management and leadership; 5) a course covering different types of potential hazards, threats, and impacts to a community; and 6) a community research practicum. Along with these core requirements, the student can choose one of several concentrations, or choose to pursue a more generalized educational program in disaster and emergency management. If one of the six concentrations is chosen, it requires four courses (12 credit hours) from a list of courses related to that chosen concentration. To complete the degree, an additional two courses (6 credit hours) will be taken from any electives throughout the curriculum. This includes additional management and leadership courses, threats/hazards/impacts courses, general electives, or electives from any one of the six areas of concentration. If a more generalized program of study is desired, the student must take six courses (18 credit hours), in addition to the required courses, from any part of the curriculum. These may include additional management and leadership courses, threats/hazards/impacts courses, general electives, or any of the concentration electives. All students also have the option of choosing up to two courses (6 credit hours) from a preapproved selection of courses from the Master of Science in National Security Affairs and International Relations, a partner degree program offered by the College of Arts, Humanities, and Social Sciences. These credits would substitute for general electives in the M.S. DEM program of study.

In order to analyze the broad spectrum of hazardous events and to appropriately assess and employ the large volume and rapidly evolving literature in this field, all students are required to take biostatistics and an introductory course in all-hazards preparedness, as well as the practicum in their chosen specialization concentration. In addition to the three courses required for all students, each student must

take a core of 3 credit hours from the Management and Leadership cluster and 3 credit hours from the Threats, Hazards, and Impacts cluster.

Realizing that disaster and emergency management often crosses the boundaries of interests, as well as the professional lines of homeland security and other disciplines, students in the program will be able to take courses from related programs at NSU, such as conflict resolution, sociology, or psychology, as a substitute for up to 6 general elective credit hours (with permission of the adviser).

### Accreditation

The program has been approved by the Southern Association of Colleges and Schools.

### Admissions Requirements

The Master of Science in Disaster and Emergency Management program evaluates the overall quality of its applicants, including academic achievement, life experience, recommendations, knowledge of the field of emergency management, and personal motivation.

Though other criteria will be used to assess the overall quality of the applicant, the applicant must have

- a bachelor's, master's, doctoral, or terminal professional degree from a regionally accredited college or university or from a college or university accredited Distance Education and Training Council (DETC) Accrediting Commission
- a cumulative, overall grade point average (GPA) of 3.0 or above on a 4.0 scale from all institutions attended
- the ability to express himself or herself in writing through a written statement submitted with the application
- two letters of recommendation from college or university instructors, employers, work colleagues, etc.

Any applicant who has graduated from a college or university in another country where English is not the primary language, regardless of United States residency status, must obtain a minimum score of 550 on the written, 213 on the computerized, or 79–80 on the Internet-based TOEFL, a score of 54 on the Pearson Test of English—Academic, or a score of 6.0 on the IELTS. An official set of scores must be sent directly from the testing service to NSU's EPS.

GRE, MAT, or other professional program entrance exams (e.g., MCAT, LSAT, etc.) scores are preferred from all applicants except those who currently have a terminal degree (e.g., Ph.D., D.M.D., D.V.M., J.D., or D.O.) or those who already have a master's degree from a regionally accredited U.S. university or college or from a college or university accredited by the Distance Education and

Training Council (DETC) Accrediting Commission. An applicant who does not provide a graduate or professional program entrance exam score will be required to attain a grade of B or higher in his or her first 9 credit hours in order to continue in the program.

### **Application Procedures**

The M.S. in Disaster and Emergency Management program accepts applications year-round. Applicants may apply for matriculation into any one of three semesters (fall, winter, or summer).

For an application to be considered by the admissions committee, applicants must submit

- the online application found at [https://webSTAR.nova.edu/pls/PROD/bwskalog.P\\_DisplinNon](https://webSTAR.nova.edu/pls/PROD/bwskalog.P_DisplinNon) (Payment of a nonrefundable application fee of \$50 is required to complete your application.)
- official transcripts of all coursework attempted by the applicant from all colleges and universities attended, including undergraduate, graduate, and professional education
- evidence of graduate or professional entrance exam scores no more than seven years old, if applicable
- two letters of recommendation from college or university instructors, employers, work colleagues, etc.
- a written statement

Please call 800-356-0026, ext. 24319, or visit our website ([osteopathic.nova.edu/msdem](http://osteopathic.nova.edu/msdem)) for further information.

### **Nondegree-Seeking Students**

A nondegree-seeking student is one who wishes to take courses in the M.S. in Disaster and Emergency Management (DEM) program, but does not wish to pursue the master's degree at the time of application. A limit of 15 credit hours will be allowed. The nondegree-seeking student must provide the following admissions requirements in order to take courses in the program:

- a completed online application form
- a nonrefundable application fee of \$50
- official transcripts of all undergraduate, graduate, and professional education

If, after taking courses in the M.S. DEM program, a nondegree-seeking student chooses to pursue the degree, the student must submit a new and complete application to the program to become a degree-seeking student and must meet all requirements for admission into the degree program. Previous coursework as a nondegree-seeking student does not guarantee acceptance into the degree program. If accepted into the program as a degree-seeking student, previous coursework may be eligible for transfer toward the degree.

Graduate students from other NSU programs who elect to take courses in the degree program may do so with written approval of the degree program director.

### **Tuition and Fees**

Tuition for 2018–2019 will be posted on our website ([osteopathic.nova.edu/msdem](http://osteopathic.nova.edu/msdem)). Courses with the MMIS, ISEC, or NSAM designation are offered at tuition rates determined by the college or program through which the courses are offered. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. All tuition and fees are subject to change by the board of trustees without notice. There is a registration fee of \$30 each semester.

**Program discounts are available to full-time law enforcement officers, fire fighters, and emergency service personnel. Please contact the program adviser for more information.**

### **Graduation Requirements**

In order for students to graduate and receive the M.S. in Disaster and Emergency Management degree, they must complete 36 credit hours from the list of courses outlined in this document. In addition, a cumulative grade point average of 3.0 must be attained. In lieu of a comprehensive exam or thesis, students must successfully complete a practicum in which they must receive a grade of C or better. Students will be required to present the findings and/or results of their practicums at the end of their program to faculty members.

## Curriculum Outline

### Core Courses (18 credit hours)

Required Courses (12 credit hours)			Credit Hours
DEM	5011	Applied Research Methods in Emergency Management	3
DEM	5050	Bioterrorism and All-Hazards Preparedness	3
DEM	5055	Disaster Planning and Evaluation	3
DEM	6010	Practicum in Selected Track	3

### Management and Leadership Cluster (3 credit hours)

DEM	5010	Leadership and Organizational Behavior for Emergency Preparedness	3
DEM	5020	Preparedness, Planning, Mitigation, and Continuity Management	3
DEM	5030	Executive Leadership and Administration	3
DEM	5040	Security Management in a Global Society	3

### Threats, Hazards, and Impacts Cluster (3 credit hours)

DEM	5060	Environmental Hazards in Emergency Preparedness	3
DEM	5070	Risk Assessment and Mitigation	3
DEM	5080	Agroterrorism and Food System Disasters	3
DEM	5090	Weapons of Mass Threat and Communicable Diseases	3

### Elective Courses (18 credit hours)

(Students must take four courses from the chosen concentration, if one was selected, plus two additional courses selected from the entire curriculum.)

General Electives (12 credit hours)			Credit Hours
DEM	6120	Psychosocial Dimensions of Disaster	3
DEM	6130	Risk and Crisis Communications	3
DEM	6150	Grant Writing for Emergency Preparedness	3
DEM	6160	Leadership Topics in Disaster and Emergency Preparedness	3
DEM	6170	Elective Practicum	3
DEM	6180	Exercise Design	3

### Maritime Safety and Security Concentration Electives (12 credit hours)

DEM	6210	Introduction to Maritime Safety	3
DEM	6220	Maritime Safety and Security Leadership	3



DEM	6230	Maritime Safety for the Cruise and Yachting Industries	3
DEM	6240	Concepts in Shipboard Safety Management	3
DEM	6250	History of Maritime Disasters	3
DEM	6260	Maritime Environmental Responsibilities	3

#### **Cybersecurity Concentration Electives (12 credit hours)**

DEM	6310	Introduction to Cybersecurity	3
DEM	6320	Information Security and Protection	3
DEM	6330	Cybersecurity and Constitutional Issues	3
DEM	6340	Cyber Vulnerability	3
DEM	6350	Data Mining	3

#### **Criminal Justice Concentration Electives (12 credit hours)**

DEM	6423	Interagency Disaster Communication	3
DEM	6424	Community Disaster Preparedness	3
DEM	6404	Community Planning, Response, and Recovery for Families and Children	3
DEM	6410	Emergency Preparedness Public Policy and Law	3
DEM	6440	Conflict Management in Times of Crisis	3

#### **Public Health Concentration Electives (12 credit hours)**

DEM	6500	Epidemiology of Disasters	3
DEM	6510	Public Health Issues in Emergency Preparedness	3
DEM	6520	Veterinary Challenges in Disasters	3
DEM	6141	Social Vulnerability: Implications in the Disaster Cycle	3
PUH	5201	Foundations of Public Health	3
PUH	5301	Biostatistics	3
PUH	5314	Global Health	3

#### **Environmental Hazards Concentration Electives (12 credit hours)**

DEM	5060	Environmental Hazards in Emergency Preparedness	3
DEM	5080	Agroterrorism and Food System Disasters	3
PUH	5201	Foundations of Public Health	3
DEM	6260	Maritime Environmental Responsibilities	3
DEM	6710	Weather and Disaster and Emergency Preparedness	3
PUH	5220	Environmental and Occupational Health	3

### Fire Administration Concentration Electives (12 credit hours)

DEM	5030	Executive Leadership and Administration	3
DEM	6610	Fire Service Operations	3
DEM	6423	Interagency Disaster Communication	3
DEM	6424	Community Disaster Preparedness	3
DEM	6410	Emergency Preparedness Public Policy and Law	3
DEM	6440	Conflict Management in Times of Crisis	3

## Course Descriptions

### DEM 5011—Applied Research Methods in Emergency Management

The main purpose of this course is to introduce students to quantitative and qualitative methods for conducting meaningful inquiry and research. They will gain an overview of research intent and design, methodology and technique, format and presentation, and data management and analysis informed by commonly used statistical methods. The course will develop each student's ability to use this knowledge to become more effective as disaster and emergency management leaders. (3 credit hours)

### DEM 5050/PUH 5112/CJI 6121/HCP 6101/GERO 5050—Bioterrorism and All-Hazards Preparedness

This course will define the interdisciplinary roles and responsibilities of professionals, paraprofessionals, and volunteers in all-hazards emergency planning, response, mitigation, and recovery. (3 credit hours)

### DEM 5055—Disaster Planning and Evaluation

This course will address a critical component required of all emergency managers—that of developing and evaluating plans for disasters and community events on both large and small scales. The fundamental components of different types of plans, as well as required FEMA forms for planning and reporting, will be covered. Students will learn to prioritize planning efforts by assessing current strengths, needs, gaps, assets, and infrastructure capabilities, allowing them to integrate and coordinate efforts among government agencies and multi-jurisdictional efforts. Students will develop part of a plan as their final project. **Prerequisite:** DEM 5050 (3 credit hours)

### DEM 6010—Practicum

This is a culminating capstone experience for all M.S. students. With faculty member approval, students will select a community-based project for a practicum in an

emergency preparedness site or facility. The student is expected to acquire skills and experience in the application of emergency preparedness. (3 credit hours)

### Management and Leadership Cluster Core Courses

#### DEM 5010—Leadership and Organizational Behavior for Emergency Preparedness

The application of effective leadership techniques and behaviors that influence them are a valued skillset that emergency preparedness professionals use to mobilize human resources. Understanding and responding to organizational behavior is a challenge that emergency managers routinely face. This course provides students with an understanding of various leadership and organizational theories in the context of emergency preparedness. Students will examine and develop a range of skills in a number of areas including the use of 21st-century management theories and practice, group dynamics, leadership and influence, conflict management, and the dynamics of positional power and authority. Students will acquire these skills through experiential learning, observation, and practice while learning practical strategies for their application for personal and professional growth in the emergency preparedness discipline. (3 credit hours)

#### DEM 5020—Preparedness, Planning, Mitigation, and Continuity Management

This course provides the student with an understanding of the techniques for in-house or on-site planning as well as community planning. Planning will be addressed from its position in the overall philosophy of comprehensive emergency management. Regulatory requirements for planning will be covered. Sample plans will be developed. (3 credit hours)

### **DEM 5030—Executive Leadership and Administration**

Topics covered in this course include program planning and management, financial planning and management, managing information, managing people and time, personality types, leadership styles, decision-making skills, team-building skills and group dynamics, community-building skills, intergovernmental relationships, negotiating skills, communications skills, emergency preparedness ethics, and professionalism. (3 credit hours)

### **DEM 5040—Security Management in a Global Society**

This course will examine security challenges and responses that face a global society including airport, maritime, rail, and auto safety. This course will provide students with the opportunity to investigate security management in other countries in order to make a comparison to U.S. security management systems. (3 credit hours)

### **Threats, Hazards and Impacts Cluster Core Courses**

#### **DEM 5060—Environmental Hazards in Emergency Preparedness**

This course will provide a basic understanding of the variety of environmental hazards that can be associated with a variety of disasters and emergencies. Topics to be addressed include types of hazardous materials, their storage and transportation, hazardous waste, and a variety of physical and mechanical environmental hazards. Basic standards and regulations will be examined. Students will learn how to develop in-house and on-site emergency response contingency plans. (3 credit hours)

#### **DEM 5070—Risk Assessment and Mitigation**

The student will review the key concepts, methods, and practices of modern risk management through a detailed exploration and evaluation of hazard identification, vulnerability assessment, and risk analysis. Legal and political risk factors will be addressed. (3 credit hours)

#### **DEM 5080—Agroterrorism and Food System Disasters**

This course will introduce the student to the dangers and impacts of terrorist attacks against agricultural or food industry targets. The student will learn about potential targets, detection systems, vulnerability assessment, planning, and recovery. (3 credit hours)

#### **DEM 5090/CJI 6122/HCP 6102—Weapons of Mass Threat and Communicable Diseases**

This course will provide students with an understanding of pandemic influenza and other communicable diseases. Students will also be introduced to potential chemical, biological, radiological, nuclear, and explosive weapons and will learn the expectations of preparations and responses

to a pandemic or CBRNE event. **Prerequisite:** DEM 5050/PUH 5112/CJI 6121 (3 credit hours)

### **General Electives**

#### **DEM 6120—Psychosocial Dimensions of Disaster**

This course will focus on the psychological and behavioral health and psychological impacts of emergencies, disasters, and terrorism on survivors, responders, and communities. Topics will include identification and management of impacts and reactions, mental health systems and resources, Psychological First Aid (PFA), and considerations for vulnerable populations. (3 credit hours)

#### **DEM 6130—Risk and Crisis Communication**

Students will be exposed to the strategies and methodologies in the exchange of information among stakeholders about the nature, magnitude, significance, or control of a risk. The course will focus on helping students to build trust and explain complexities to individuals and groups when emergencies arise. (3 credit hours)

#### **DEM 6150—Grant Writing for Emergency Preparedness**

This course is an introduction to the skills needed to write a grant in the field of emergency preparedness. Each student will submit a grant as a culminating experience. (3 credit hours)

#### **DEM 6160—Leadership Topics in Disaster and Emergency Preparedness**

This is a didactic course in a specific area of interest in emergency preparedness and disaster management. Each leadership topic course will have a different DEM course number. (3 credit hours)

#### **DEM 6170—Elective Practicum**

With faculty member approval, students will be allowed to select an additional community-based project for a practicum in an emergency preparedness facility. The facility and the area of focus for the project will be different from those selected for the required practicum. The student is expected to become familiar with a different area of emergency preparedness and develop additional skills from those developed in the required practicum in their chosen track. (1–3 credit hours)

#### **DEM 6180—Exercise Design**

Exercise design is much like scripting a play to make sure all of the players perform the correct actions and make the right decisions at the appropriate time. In this course, students will learn what comprises the various types of exercises (tabletop, functional, and full-scale) and explore the design process following a step-by-step process (needs assessment, scope, statement of purpose, objectives, narrative scenario, major and detailed event schedule, and expected actions) utilizing a building block approach that will ensure successful progression in exercise

complexity and execution, allowing for appropriate training and preparation to occur in the community conducting the exercise. At the completion of the course, students will have developed an individual, tabletop exercise with all the requisite components. Additionally, students will incorporate various evaluation methods to facilitate the development of viable after action reports and improvement plans.

### **Maritime Safety and Security Concentration Electives**

#### **DEM 6210—Introduction to Maritime Safety and Security**

This course offers basic shipboard safety awareness, covering topics such as personal safety techniques and use of firefighting and other onboard equipment to protect one's self, the crew, and a vessel at sea. (3 credit hours)

#### **DEM 6220—Maritime Safety and Security Leadership**

A ship's officers are responsible for the safety of their crew. This course will introduce the student to concepts such as crew leadership, target identification, the decision-making risk matrix, and safety drilling. Students will learn to develop a vessel safety plan. **Prerequisite:** DEM 6210 (3 credit hours)

#### **DEM 6230—Maritime Security for the Cruise Line and Yachting Industries**

This course will address the safety issues specific to the cruise and yachting industries. Topics will include keeping threats away from the vessel and protecting passengers' lives and well-being. **Prerequisite:** DEM 6210 (3 credit hours)

#### **DEM 6240—Concepts in Shipboard Safety Management**

In this course, students will learn how to address safety issues such as medical emergencies, oil spills, fires, and collisions while underway or at dockside. Students will also learn to develop a contingency plan for a vessel, taking into consideration such things as geographical area of operation, environmental conditions, and the proximity or suitability of both onshore and offshore facilities. (3 credit hours)

#### **DEM 6250—History of Maritime Disasters**

This course will provide a historical understanding of the development of the maritime industry and will include topics such as piracy, commerce, naval warfare, and improvement in naval architecture. (3 credit hours)

#### **DEM 6260—Maritime Environmental Responsibilities**

This course introduces environmental politics and policy and examines the process through which environmental policy is generated. This course will also examine the

stress placed on the marine environment by global growth, economic development, and modernization. (3 credit hours)

### **Cybersecurity Concentration Electives**

(Note: This concentration will be facilitated in partnership with NSU's College of Engineering and Computing.)

#### **DEM 6310—Introduction to Cybersecurity**

This course introduces students to the wide range of modern communications technologies. Use of these technologies by government and business entities for intelligence gathering, their limitations, and their vulnerabilities are presented to students. An overview of the history of computer hacking is covered. Additionally, a brief overview of law and policy concerning cyber communications are discussed, beginning with the National Security Act of 1947. (3 credit hours)

#### **DEM 6320—Information Security and Protection**

This course prepares students to assess the security needs of computer and network systems, recommend safeguard solutions, and manage the implementation and maintenance of security devices, systems, and procedures. Reviews of past hacking, criminal, and terrorist (state and nonstate) attacks on information networks are a component of this course. (3 credit hours)

#### **DEM 6330—Cybersecurity and Constitutional Issues**

This course discusses telecommunications law and policy as it applies to the rapidly evolving technologies and capabilities of the Internet, telecommunications, satellites, and imagery systems available for commercial and government exploitation. The legal implications of a global Internet, recourses available to law enforcement, treaties, etc. are reviewed from an international perspective—including processes by which international cooperation is gained to deal with cyber threats. (3 credit hours)

#### **DEM 6340—Cyber Vulnerability**

Students discuss at length the reliability and vulnerability of computer-based technologies, biometrics, and security technologies. Included are case analyses of external (hacking) and internal (man-in-the-middle) attacks on government and private communications systems. (3 credit hours)

#### **DEM 6350—Data Mining**

This is a course in statistics particularly geared to pattern analysis, information continuity, and data recovery. Inferential and descriptive techniques for decision analysis are included. This course uses a variety of data bases associated with business, census, terrorism, and crime statistics from which students conduct research projects. Personal computers with fundamental software programs such as Excel, SPSS, or SAS are necessary for students to complete this course. (3 credit hours)

### **Criminal Justice Concentration Electives**

(Note: This concentration will be facilitated in partnership with NSU's College of Arts, Humanities, and Social Sciences.)

#### **DEM 6423/CJI 6123—Interagency Disaster Communication**

This course will examine concepts and principles of communication among the many agencies involved in disaster response and recovery. Topics such as the principles and organizational structure of the Incident Command System (ICS) and the National Incident Management System (NIMS) will be explored. Additional topics will include the principles of successful communication, the application of communication principles to all phases of the disaster cycle, mutual aid agreements, memoranda of understanding/agreement, the use of social media in disaster communications, and the role of the public information officer (PIO). Students will develop a communications annex plan as part of the course. (3 credit hours)

#### **DEM 6424/CJI 6124—Community Disaster Preparedness**

This course will emphasize “disaster-resistant communities” and will provide information on preparing and developing partnerships within the community. Regardless of the nature of the incident, intentional or unintentional, emergency services personnel may be charged with enforcing public health orders, securing contaminated areas or health facilities, providing protection and support for the transportation and dispensing of assets from the national stockpiles, and controlling civil unrest. Resources may be overwhelmed and the ability to respond will depend on preparation and partnerships within the community. (3 credit hours)

#### **DEM 6404/HCP 6104—Community Planning, Response, and Recovery for Families and Children**

This course is designed to address interdisciplinary roles in preparation and post-disaster community health among families and children. The course will focus on the impact of a disaster on health and family, dissemination of health information, and guides to family emergency planning. Topics will include best practice methods and evaluations of the impact of disaster on health and family, dissemination of health information, guides to family emergency planning, and avenues for public health and safety disciplines to interface with health management organizations. (3 credit hours)

#### **DEM 6410/HCP 6103—Emergency Preparedness Public Policy and Law**

This course will address relevant state and federal statutes that affect emergency preparedness. Students will explore the legal implications of mitigation and preparedness efforts and will also become familiar with legal resources available for future reference and research. (3 credit hours)

#### **DEM 6440—Conflict Management in Times of Crisis**

This course addresses one of the core competencies required of leaders in times of disasters and emergencies—namely, conflict management. Conflict is inevitable in times of crisis, and this course addresses conflict styles, conflict management techniques, communication skills that contribute to effective conflict resolution, and how to bring a strategic approach to managing conflict to support disaster response and recovery. (3 credit hours)

### **Public Health Concentration Electives**

(Note: This concentration will be facilitated in partnership with the Public Health Program at NSU's Dr. Kiran C. Patel College of Osteopathic Medicine)

#### **DEM 6500—Epidemiology of Disasters**

This course will examine the fundamentals of epidemiology, including basic concepts in epidemiology concerning the distribution and determinants of disease frequency in human populations and their investigation. Using a case-based approach, students will use the basic principles and methods of epidemiological investigation to assess the short-term and long-term effects of disasters and to predict consequences of future disasters. This course will address topic areas including basic demography, measures of disease frequency, disease screening and surveillance, descriptive and analytical study design, and sources of error in investigations. (3 credit hours)

#### **DEM 6510—Public Health Issues in Disaster and Emergency Preparedness**

This course will explore the pervasive views about public health in the emergency and disaster prevention, response, and recovery environment. The course will emphasize the importance of the integration of public health in the development of effective emergency response contingencies for disasters. (3 credit hours)

#### **DEM 6141 Social Vulnerability: Implications in the Disaster Cycle**

This course will identify the at-risk and vulnerable populations and discuss how each of these groups is affected in times of disaster. In addition, the course will address the special needs and emergency response efforts that must be considered for each of these groups. (3 credit hours)

#### **PUH 5201—Foundations of Public Health**

This course provides an introduction to the history, concepts, values, principles, and practice of public health. The course suggests the sense of purpose that unites the myriad occupations and tasks in public health practice and provides an orientation to each of the five traditional core disciplines of public health practice. (3 credit hours)

#### **PUH 5301—Biostatistics**

This course focuses on the principles and reasoning underlying modern biostatistics and on specific inferential

techniques commonly used in public health research. At course completion, students will be able to apply basic inferential methods in research endeavors and improve their abilities to understand the data analysis of health-related research articles. (3 credit hours)

#### **PUH 5314—Global Health**

This course addresses global health problems and trends translated to the needs and demands of populations, as well as the socioeconomic and political impact on health delivery. The role of international health agencies will also be addressed. (3 credit hours)

### **Environmental Hazards Concentration Electives**

#### **DEM 5060—Environmental Hazards in Emergency Preparedness**

This course will provide a basic understanding of the variety of environmental hazards that can be associated with a variety of disasters and emergencies. Topics to be addressed include types of hazardous materials, their storage and transportation, hazardous waste, and a variety of physical and mechanical environmental hazards. Basic standards and regulations will be examined. Students will learn how to develop in-house and on-site emergency response contingency plans. (3 credit hours)

#### **DEM 5080—Agroterrorism and Food System Disasters**

This course will introduce the student to the dangers and impacts of terrorist attacks against agricultural or food industry targets. The student will learn about potential targets, detection systems, vulnerability assessment, planning, and recovery. (3 credit hours)

#### **PUH 5201—Foundations of Public Health**

This course provides an introduction to the history, concepts, values, principles, and practice of public health. The course suggests the sense of purpose that unites the myriad occupations and tasks in public health practice and provides an orientation to each of the five traditional core disciplines of public health practice. (3 credit hours)

#### **DEM 6260—Maritime Environmental Responsibilities**

This course introduces environmental politics and policy and examines the process through which environmental policy is generated. This course will also examine the stress placed on the marine environment by global growth, economic development, and modernization. (3 credit hours)

#### **DEM 6710—Weather and Disaster and Emergency Preparedness**

This course will include basic meteorological principles, methodologies, and terms as well as introduce the student to a variety of weather-related resources and

surveillance systems used in planning for disasters. The basic meteorological processes causing disasters such as hurricanes, tornadoes, floods, droughts, blizzards, and heat waves will be discussed. Students will learn how meteorology and understanding the science of weather can be used in disaster risk reduction. (3 credit hours)

#### **PUH 5220—Environmental and Occupational Health**

This course investigates environmental and occupational factors that contribute to the development of health problems in industrialized and developing countries. It includes such topics as toxic substances, pests and pesticides, food quality, air and water pollution, solid and hazardous waste disposal, occupational hazards, and injury prevention. (3 credit hours)

### **Fire Administration Concentration Electives**

#### **DEM 5030—Executive Leadership and Administration**

Topics covered in the course include program planning and management, financial planning and management, managing information, managing people and time, personality types, leadership styles, decision-making skills, team-building skills, intergovernmental relationships, negotiating skills, communication skills, emergency preparedness ethics, and professionalism. (3 credit hours)

#### **DEM 6610—Fire Service Operations**

This course will explore the role of the fire department as a part of the emergency services and response community, as well as the greater community, during a disaster. The concept of risk-based decision-making for a more effective response during disasters or multiple casualty incidents will be addressed. Incident priorities, strategies, and tactics as they relate to preparedness, planning, and incident management, as well as de-escalation of the response, will also be discussed. (3 credit hours)

#### **DEM 6423/CJI 6123—Interagency Disaster Communication**

This course will examine concepts and principles of communication among the many agencies involved in disaster response and recovery. Topics such as the principles and organizational structure of the Incident Command System (ICS) and the National Incident Management System (NIMS) will be explored. Additional topics will include the principles of successful communication, the application of communication principles to all phases of the disaster cycle, mutual aid agreements, memoranda of understanding/agreement, the use of social media in disaster communications, and the role of the public information officer (PIO). Students will develop a communications annex plan as part of the course. (3 credit hours)

### **DEM 6424/CJI 6124—Community**

#### **Disaster Preparedness**

This course will emphasize “disaster-resistant communities” and will provide information on preparing and developing partnerships within the community. Regardless of the nature of the incident, intentional or unintentional, emergency services personnel may be charged with enforcing public health orders, securing contaminated areas or health facilities, providing protection and support for the transportation and dispensing of assets from the national stockpiles, and controlling civil unrest. Resources may be overwhelmed and the ability to respond will depend on preparation and partnerships within the community. (3 credit hours)

### **DEM 6410—Emergency Preparedness**

#### **Public Policy and Law**

This course will address relevant state and federal statutes that affect emergency preparedness. Students will explore the legal implications of mitigation and preparedness efforts and will also become familiar with legal resources available for future reference and research. (3 credit hours)

### **DEM 6440—Conflict Management in Times of Crisis**

This course addresses one of the core competencies required of leaders in times of disasters and emergencies—namely, conflict management. Conflict is inevitable in times of crisis, and this course addresses conflict styles, conflict-management techniques, communication skills that contribute to effective conflict resolution, and how to bring a strategic approach to managing conflict to support disaster response and recovery. (3 credit hours)

### **Interprofessional Electives**

- MI 6421—Geographic Information Systems
- MI 6405—Public Health Informatics
- NSAM 5001—Current Historical Issues in National Security Affairs\*
- NSAM 5002—Terrorists and Terrorism: Theory and Practice\*
- NSAM 5003—National Intelligence Collection and Analysis: Theory and Practice\*
- NSAM 5004—Border Protection and Military Issues\*
- NSAM 6640—Critical Incident Response\*
- NSAM 6643—Social Aspects of Terrorism\*
- NSAM 6654—Islam, Conflict, and Peacemaking\*

\*NSAM courses are offered at tuition rates designated by the NSAM Program.

## Graduate Certificate in Social Medicine Program

The Graduate Certificate in Social Medicine will target medical residents, directors of medical education, residency program directors or **anyone with an interest in learning more about global/social medicine**. Over the past 15 years, there has been a growing national and international trend toward developing frameworks for defining, applying, teaching, and measuring the competency of a physician. Many organizations have developed criteria to define and measure competency. The Certificate in Social Medicine is designed to address these needs and enhance the experiences for residents to achieve program competencies. Residents will obtain additional information from this graduate-level program, which helps to achieve competency in several elements. Program directors and directors of medical education completing this certificate can impart their expertise to the residents.

### Admissions Requirements

The Graduate Certificate in Social Medicine evaluates the overall quality of applicants, including academic achievement, personal motivation, knowledge about health care, and life experiences. Criteria for admission to the Graduate Certificate in Social Medicine are as follows:

- The applicant must hold a bachelor's, master's, or doctoral degree from a regionally accredited college or university.
- A cumulative grade point average (GPA) of 3.0 or above, on a 4.0 scale, is preferred.

- Applicants enrolled in another area of study within Nova Southeastern University must be in good academic standing, must provide a letter of recommendation from the dean or program director of the other college or program, and must meet the Graduate Certificate in Social Medicine admission requirements.
- All application materials must be received in a timely manner to enable the Office of Admissions and the admissions committee to process the application promptly.

Health care-related experience is desirable, but not required. If the applicant does not hold a health-related graduate or professional degree, he or she must supply evidence of having taken the GRE, PCAT, OAT, AHPAT, MCAT, DAT, GMAT, or LSAT. Applicants' scores from these standardized tests must be no more than five years old. Applicants with health-related graduate or professional degrees may be required to submit official test scores upon evaluation of their applications.

### Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([osteopathic.nova.edu/masters](http://osteopathic.nova.edu/masters)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$450 per semester for two or more courses and \$225 per semester for one course, not to exceed \$1,350 annually, is also required. All tuition and fees are subject to change by the board of trustees without notice.

### Curriculum Outline

Students will complete a total of five courses of 3 credits each for a total of 15 credits.

#### Public Health Concentration (choose one for 3 credits)

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PUH	5512	Health Policy Planning and Management
PUH	5430	Epidemiology
PUH	5301	Biostatistics
PUH	6120	Public Health Program Planning and Evaluation

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#### Biomedical Informatics Concentration (choose one for 3 credits)

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MI	5200	Survey of Medical Informatics
MI	5120	Management Information Systems in Health Care

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MI	6405	Public Health Informatics
MI	6415	Information Technologies in Medicine and Telehealth
MI	6416	Lean Six Sigma for Health Care

**Disaster and Emergency Management Concentration (choose one for 3 credits)**

DEM	6424	Community Disaster Preparedness
DEM	6404	Community Planning, Response, and Recovery for Families and Children
PUH	5201	Foundations of Public Health
DEM	6510	Public Health Issues in Disaster and Emergency Preparedness
DEM	6500	Epidemiology of Disasters

Elective (choose a second course from any of the previous concentrations for 3 credits)

**Global Health Experience (complete all requirements listed below for 3 credits)**

PUH	5314	Global Health
complete 30 hours of approved community service		
participate in one NSU-COM medical outreach program		

At the completion of the Graduate Certificate in Social Medicine program, students will have completed course offerings that may be applied to a master's degree in one of the following three programs. (Students will be advised as to which courses are accepted in the respective programs.)

- Master of Public Health
- Master of Science in Biomedical Informatics
- Master of Science in Disaster and Emergency Management

Students must follow the application process for the respective chosen program, but the credits earned for the courses taken in earning the certificate will be transferred to the degree program.

## Medical Education Program

Education is at a crossroads. Physicians and other health professionals are sought after to serve as educators in their respective professions. While they have strong recognition as experts in their clinical discipline, typically, they have little or no formal training in the educational process. Today's students no longer merely watch, listen, and memorize information. Those medical professionals who choose to teach in the health professions must be guided by new innovations and contemporary technology in order to better understand how people learn.

It is important for educators in the health care professions to facilitate the learning process. Graduates of health programs should learn to connect and integrate multiple forms of reasoning (critical and creative thinking) and types of knowledge (formal and case-based) in order to provide the best patient care. Faculty members should be prepared to integrate formal knowledge and concepts fundamental to professional practice in a manner that is relevant to students and residents in a clinical context.

To this end, the Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine has developed a Master of Science in Medical Education program. This 36-credit-hour, online degree program is designed to help health professionals enhance their professional education and teaching skills, as well as expand their ability to facilitate the learning process of students and residents in a variety of clinical teaching environments. The program is composed of 3-credit-hour courses and includes

- assessment and evaluation
- educational methodologies
- research
- technology in education
- learning styles

The rich, interprofessional platform of NSU's Dr. Kiran C. Patel College of Osteopathic Medicine and Health Professions Division provides an excellent environment for this degree program, as it parallels the interprofessional delivery model of patient-care settings. The program incorporates the most recent educational technologies into a robust, 12-course program designed to be completed in two years; however, students have a maximum of seven years to complete it.

Faculty members for the Master of Science in Medical Education program are recognized scholars and educators from NSU, as well as other major universities. They are carefully selected on the basis of their subject expertise, teaching abilities, and professional involvement. Most

importantly, they are united in their desire to educate and to motivate students to use what they learn in the program to inspire others.

Master of Science in Medical Education program graduates may serve in a variety of educational roles in both university and hospital settings. These include residency program directors, department chairs, assistant deans, associate deans, designated institutional officers, and directors of medical education. The program provides graduates with an educational framework to pursue academic leadership positions. It also strengthens credentials for academic promotion.

### Course of Study

The course of study was designed to develop professional educators with the knowledge and skills to lead in a dynamic and changing health care system. The program includes completion of the 12 required courses identified in the curriculum. Students are expected to demonstrate the application of content knowledge to their specific clinical profession and engage in robust dialogues with other health care professionals. To be eligible for the M.S. in Medical Education degree, students must satisfactorily complete the minimum 36 credit hours of coursework required, with a grade point average of 3.0 (B) or higher, within seven years of matriculation.

### Program Learning Objectives

The participant in the Master of Science in Medical Education Program will be able to

- demonstrate the ability to employ multiple methods to facilitate learning in a variety of health profession education settings
- design learning opportunities that incorporate the use of multiple forms of current and evolving technologies
- employ assessment strategies to determine the degree to which learners have achieved specified education and training outcomes
- identify and employ multiple learning principles in the provision of a broad range of instructional activities
- demonstrate the ability to design and conduct research and engage in scholarly activities in health professions education
- provide leadership in a health education setting using the knowledge of organizational structure and effective communication

## Admissions Requirements

- The applicant must hold a bachelor's, master's, or doctoral degree from a regionally accredited college or university.
- A cumulative grade point average (GPA) of 3.0 or above, on a 4.0 scale, is preferred.
- Health care- and/or education-related experience is desirable, but not required.
- The applicant must provide evidence of having taken the GRE, PCAT, OAT, AHPAT, MCAT, DAT, GMAT, LSAT, or Miller Analogies Test, if he or she does not hold a health-related graduate or professional degree. The applicant's score for the standardized test must be no more than five years old. Applicants with a health care- and/or education-related graduate or professional degree may be required to submit official test scores upon evaluation of their application.
- Applicants enrolled in another area of study within Nova Southeastern University must provide a letter of recommendation from the dean or program director of the other college or program, and must meet the M.S. in Medical Education admissions requirements.
- All application materials must be received in a timely manner to enable the Office of Admissions and the admissions committee to process the application promptly.

## Application Procedures

The Office of Admissions processes applications on a year-round basis. Students are admitted to begin studies during the fall, winter, or summer semesters. To be considered for admission, all applicants must

- submit a completed online application with a nonrefundable application fee of \$50
- submit official transcripts of undergraduate, graduate, and professional education
- provide one letter of recommendation from a professional reference

All application materials should be sent to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
Dr. Kiran C. Patel College of Osteopathic Medicine  
Medical Ed. Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Upon receipt of the completed application and required materials, the Admissions Committee will review the applicant's file and make recommendations to the program director. The director submits recommendations for

admission to the dean. The final decision on admission is made by the dean of the Dr. Kiran C. Patel College of Osteopathic Medicine.

Should you have any questions, please email [shazell@nova.edu](mailto:shazell@nova.edu) or call (954) 262-1786.

## Nondegree-Seeking Students

A nondegree-seeking student is one who wishes to take courses in the Master of Science in Medical Education program, but does not intend to pursue the master's degree at the time of application. The nondegree-seeking student must provide the following admissions requirements in order to take classes in the Master of Science in Medical Education program:

- a completed online application form
- official transcripts of all undergraduate, graduate, and professional education
- a nonrefundable application fee of \$50

Nondegree-seeking students are not guaranteed future acceptance into the Master of Science in Medical Education program. If after taking classes in the program as a nondegree-seeking student, the student wishes to become degree seeking, he or she must apply to the M.S. program as a new student and meet all the requirements for admission. If accepted into the degree program, courses or credits that were taken as a nondegree-seeking student will be automatically applied toward the degree. Nondegree-seeking students can enroll in a maximum of six courses or 18 credit hours.

## Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([osteopathic.nova.edu/msme](http://osteopathic.nova.edu/msme)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. All tuition and fees are subject to change by the board of trustees without notice. There is a registration fee of \$30 each semester.

## Transfer of Credits

Applicants or enrollees of the NSU-KPCOM Master of Science in Medical Education program may petition for a transfer of a maximum of 6 credit hours toward their degree from a regionally accredited institution for degree-seeking students. Any exceptions require the written approval of the program director. To be considered for transfer of credit, courses must have been completed less than three years prior to the beginning of the student's first semester in the program. All courses to be transferred must be substantially equivalent to courses offered in the program, as determined by the program director and appropriate

faculty members. All courses considered for transfer into the program must have been successfully completed with a grade of B (80 percent) or better. An accepted applicant to the program who wishes to receive transfer credit must submit a written request and the appropriate verification documents (e.g., official transcripts, syllabi, and catalogs) to the program director.

### Graduation Requirements

To be eligible for the Master of Science in Medical Education degree, students must fulfill the following requirements:

- satisfactorily complete, with a grade point average of B (3.0) or higher, within seven years of matriculation, the course of study required for the M.S. (minimum of 36 credit hours of coursework) or graduate certificates (minimum of 18 semester hours of coursework)
- satisfactorily meet all university financial and library obligations.

### Curriculum Requirements

To develop a comprehensive Master of Science in Medical Education Program at NSU-KPCOM, a curriculum has been developed that includes teaching and learning, technology, curriculum development, assessment and measurement, research, and leadership. The didactic courses will be offered online using NSU's state-of-the-art, web-based distance learning technology, as well as on-site resources.

### Curriculum Outline

Required Courses			Credit Hours
MED	0600	Teaching Medical and Other Health Professions Students in a Diverse Learning Environment	3
MED	0610	Implications of the Domains of Human Development on Health Professions Students	3
MED	0620	Technology Resources for Health Professions Education	3
MED	0630	Effective Instruction Strategies in Health Professions Education	3
MED	0640	Assessment and Measurement in Health Professions Education	3
MED	0650	Research in Health Professions Education	3
MED	0660	Transformative Leadership and Organizational Change in Health Professions Education	3
MED	0670	Instructional Design and Presentation for Health Educators	3
MED	0680	Funding Professional Education Programs	3
MED	0690	Professional Ethics and Health Law	3
MED	0700	Foundations of Mentoring for Health Educators	3
MED	0710	Effective Interpersonal Communication and Collaboration in a Health Professions Environment	3
<b>Total Credits</b>			<b>36</b>

## Course Descriptions

### **MED 0600—Teaching Medical and Other Health Professions Students in a Diverse Learning Environment**

This course will assist the participants in adapting instruction in their medical area of expertise to the ways in which their individual students learn best. Research in the field of education suggests that students' academic performance improves when instructors match their instructional strategies to students' learning styles. The practicum will include guidelines for identifying students' learning preferences and identifying instructional strategies and environments to address these preferences. (3 credit hours)

### **MED 0610—Implications of the Domains of Human Development on Health Professions Students**

This course will address the nuances of adult learning, with specific emphasis on the relationship between knowledge of diversity and human development as significant variables in devising effective learning environments. The course will address the theoretical and applied aspects of human development and learning theory as a means to incorporate such knowledge into academic planning and programming. (3 credit hours)

### **MED 0620—Technology Resources for Health Professions Education**

This course will help the student become familiar with current and emerging technologies used to deliver or facilitate instruction. Participants will learn about the various computer technologies used in the classroom as well as other environments where health professions students learn. They will also become familiar with various online resources appropriate to the health professions education process. Experiences in emerging technologies—such as robotic simulation, gaming, and virtual world tools—will be used to create instructional modules within respective health career fields. (3 credit hours)

### **MED 0630—Effective Instruction Strategies in Health Professions Education**

This course is designed to assist faculty members in the improvement of their teaching skills in formal, informal, and nontraditional settings. Topics addressed include theories, principles, and practices associated with effective education and learning in higher education. Course activities and assignments are designed to encourage participants to develop skills and abilities that enhance the teaching and learning processes. The course will also explore the diversity of student populations within health care education and find practical solutions to current problems. (3 credit hours)

### **MED 0640—Assessment and Measurement in Health Professions Education**

This course is designed to address the need for health services professionals to understand the principles, use, and applications of assessment and evaluation of learning. The course examines traditional and alternative views of assessment and evaluation, with attention given to the creation of assessment plans, documents, and systems, as well as to the development of assessment instruments to be used to ascertain levels of student understanding. (3 credit hours)

### **MED 0650—Research in Health Professions Education**

This course will provide an introduction and experience in research methodologies employed in social science research. This project-based course focuses on social science and health professions education research design, scientific method, developing a hypothesis, and conceptualizing and operationalizing variables. The course will also provide an introduction to the four main social scientific research methods: available data, survey research, experiments, and field research. The course will culminate with a final research project that will allow the student to demonstrate mastery of a scientific research protocol and the ability to obtain grant support for a research project. (3 credit hours)

### **MED 0660—Transformative Leadership and Organizational Change in Health Professions Education**

This course will teach learners effective strategies how to appropriately motivate and influence to create change in their organization. Instruction includes an introduction to the organizational structure of academic health professions programs, institutional effectiveness, educational policy development, and leadership assessment. (3 credit hours)

### **MED 0670—Instructional Design and Presentation for Health Educators**

This course is designed to give students the knowledge and skills to create dynamic learning environments. Topics include effective speaking, multidimensional approaches to instruction, purposeful use of technology, and creative presentation design. (3 credit hours)

### **MED 0680—Funding Professional Education Programs**

Students will examine the role of financial management as part of the administration of health professions programs. Course content includes budget management, grant funding, government funding, financial aid, and endowments. (3 credit hours)

**MED 0690—Professional Ethics and Health Law**

This course will examine the importance of professional ethics in health professions education. Students will be introduced to common ethical dilemmas faced by health care practitioners. Topics, such as patient privacy, advance directives, and informed consent, will be addressed in the context of health care laws. (3 credit hours)

**MED 0700—Foundations of Mentoring for Health Educators**

This course will allow students to develop the skills necessary to serve as a mentor and/or adviser to health professions students. It will examine the role of health professionals as educators, while exploring topics such as clinical preceptorship, remediation, facilitating and supporting effective learning, and creating sound mentor-mentee relationships. (3 credit hours)

**MED 0710—Effective Interpersonal Communication and Collaboration in a Health Professions Environment**

In this course, students will explore the importance of effective communication, specific to learning and clinical environments, including the roles of gender and culture, concepts of verbal and nonverbal expression, conflict resolution, and active listening. (3 credit hours)

## Nutrition Program

The Dr. Kiran C. Patel College of Osteopathic Medicine (KPCOM) offers an innovative Master of Science (M.S.) degree in Nutrition in response to the growing demand for nutrition professionals at a mastery level. Ongoing changes in the American health care system have increased demand for wellness and preventative services, which include nutrition in almost all areas of practice. Nutrition assessment and nutrition intervention for chronic diseases are important components of health care reform mandates.

This 42-credit-hour, online degree program incorporates the latest technology and tools in distance learning through synchronous meetings and self-directed activities to maximize the student's experience in the courses. In addition, all students are required to spend time on campus at the beginning of the program of study for orientation and at the end of the program to present their final projects and to participate in graduation ceremonies. The rich, interprofessional platform of NSU's Dr. Kiran C. Patel College of Osteopathic Medicine and Health Professions Division provides an excellent environment for this degree program. Nutrition is an essential part of medicine and health care delivery.

This degree is intended to provide a strong educational foundation in human nutrition, applied sciences, and health promotion for health care practitioners, and better prepare nutritionists and dietitians to work in a variety of settings at the mastery level of practice. Some of the settings where our students work include hospitals, long-term care facilities, physician offices/private clinics, outpatient care centers, schools and universities, home health, corporations, athletic training centers or gyms, health departments, food production centers and plants, health care insurance companies, and private consulting businesses. The job outlook for appropriately trained dietitians and nutritionists is better than the average for other health-related disciplines.

According to the U.S. Bureau of Labor Statistics (2017), employment in the nutrition field is expected to increase 16 percent during the next seven years. Job growth is primarily expected in the areas of wellness, prevention of disease with diet and foods, and greater integration of nutrition practice into primary care. Career outlooks incorporate a variety of specialties and settings.

Possible career options include

- research, health center, public health, or school nutritionist
- nutrition entrepreneur
- nutrition consultant over the life cycle

- specialized clinical dietitian/nutritionist
- health/lifestyle coach or consultant
- culinary entrepreneur
- college instructor
- corporate wellness educator
- employee health and wellness coordinator
- media and communications professional
- personal trainer/health and fitness instructor

The program will be a source of continuing graduate education for students from the athletic training, exercise science, and physical education programs. Students in osteopathic medicine, public health, and other health disciplines may also select a minor in this program or may obtain a concurrent degree. The M.S. in Nutrition provides an excellent interprofessional graduate degree for students in other health professions, such as medicine, dentistry, optometry, or pharmacy.

The degree does not provide the required elements to become eligible to sit for the board certification as a registered dietitian nutritionist. The M.S. in Nutrition program has been accepted by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) as an early adopter Future Model of Education demonstration program eligible for candidacy. Future updates will be forthcoming on a proposed professional practice concentration for 2019 as the program completes the final steps in this professional accreditation process for preparing Registered Dietitian Nutritionists. The M.S. in Nutrition degree will satisfy the course of study requirements to meet Florida licensure criteria. Applicants should consult their own state professional licensing requirements to assess other practice requirements.

### Course of Study

The curriculum is designed so that all students receive a 15-credit-hour core in the fundamental knowledge of nutrition. All students are also required to complete a 6-credit-hour special project focused on an original individual or community-based research project that adds experiential learning and competency to their preparation. Students proceed through a generalist program of study or can declare concentrations in sports nutrition, community nutrition, or functional nutrition and herbal therapy. Students are required to come to the NSU main campus both to begin their studies—meeting with program advisers—and at the completion of the program of study—to present their final projects and meet

with faculty members prior to graduation. The program is designed to further the education of those who want to integrate nutrition into other health professions and to complement the academic preparation for those who wish to enter the field of nutrition and dietetics.

Applicants who are concurrently enrolled in a Health Professions Division program can enter the Master of Science in Nutrition program as concurrent degree students following application and acceptance. There is no tuition waiver for these students, but those who are enrolled in other HPD programs are eligible for discounted tuition rates. Please contact the program office regarding any questions.

### **Program Mission**

To develop a cadre of interprofessional nutrition and dietetics leaders for a global society that will have the knowledge and skills to respond to a dynamic and changing system of care, the program emphasizes the

1. interprofessional role of nutrition in health care and sports
2. future of primary health care and the role of nutrition throughout the life span
3. health promotion, disease prevention, and achievement of optimal wellness through proper nutrition
4. use of technology in education and nutrition care
5. current and emerging issues in nutrition in a global society to better serve the population's health care needs through proper nutrition
6. cultural competencies and health disparities critical to the delivery of nutrition services for all ages
7. incorporation of functional nutrition to optimize prevention and wellness

### **Program Objectives**

- demonstrate the knowledge and skills to conduct comprehensive nutrition assessment, planning, and ongoing follow-up care
- demonstrate leadership skills in comprehensive community nutrition planning and program development
- demonstrate the knowledge and skills to work with diverse populations throughout the life span
- demonstrate the skills to educate individuals and population groups on the role of nutrition and health
- demonstrate the skills necessary to evaluate nutrition research and participate in community-based nutrition research projects

- demonstrate the knowledge and skills needed to integrate nutrition care into primary care, public health, and related community health environments such as centers, continuum of care retirement communities, fitness centers, etc.

### **Learning Objectives**

- participate in a variety of community-based settings to document nutrition assessments and ongoing follow-up care using the current standards of practice for assessment, diagnosis, intervention, monitoring, and evaluation systems
- participate in community-based environments using nutrition diagnosis codes to provide medical nutrition therapy based on federal diagnosis-related guidelines
- develop and deliver presentations for community groups on a variety of topic areas related to interprofessional community nutrition
- develop the skills to conduct a comprehensive community nutrition education initiative
- exhibit the knowledge and skills to become a culturally competent nutrition professional able to work with individuals throughout the life span, who have varied educational, socioeconomic, cultural, and religious backgrounds
- conduct basic community-based nutrition research
- identify nutrition misinformation and demonstrate the ability to differentiate fact from fallacy
- exhibit the knowledge and skills to effectively integrate nutrition education and care into a variety of environments, with a focus on primary care throughout the life cycle

### **Admissions Requirements**

The Master of Science in Nutrition program evaluates the overall quality of its applicants, looking at academic achievement, personal motivation, knowledge of health care, profession-related experience, and recommendation.

Specific criteria for admission are as follows:

- The applicant must hold a bachelor's, master's, doctoral, or terminal professional degree from a regionally accredited college or university (international applicants must provide evidence of institutional approval or acceptance).
- A cumulative overall grade point average (GPA) of 3.0 or above, from all institutions attended and /or graduated from, on a 4.0 scale (or equivalent) is preferred.



- One letter of recommendation is required. Applicants will be assessed on key areas such as leadership skills, interpersonal skills, stress management, etc. The letter may be submitted by an instructor from the applicant's institution of higher learning or from an employer or work colleague who is not a relative or spouse.
- The applicant must show the ability to clearly express himself or herself in writing, as demonstrated by a written statement submitted in the application to the program.

### Prerequisites

Prerequisite courses below must be taken at a regionally accredited college or university. Applicant must have received a grade of C or higher in the courses.

- Anatomy and Physiology (lecture and lab, 4 credit hours)
- Biochemistry (3 credit hours)
- General Chemistry/Inorganic Chemistry (lecture and lab, 4 credit hours)
- Organic Chemistry (lecture and lab)
- General Biology (lab preferred, 4 credit hours)
- General Statistics (3 credit hours)

University policy will be followed in terms of acceptance of transfer credits.

### Application Procedures

The Office of Admissions processes applications on a year-round basis. Students are admitted on a rolling basis each term. To be considered by the admissions committee, all applicants must

- complete the online application
- send the nonrefundable application fee of \$50
- provide one letter of recommendation (Additional letters of recommendation may be considered, especially if they represent a candidate's abilities to succeed in a graduate academic program.)
- submit official transcripts of all undergraduate, graduate, and professional education

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization. Agencies that can complete this evaluation can be found by going to the website at [nova.edu/internationalstudents/prospective/credentialservices.html](http://nova.edu/internationalstudents/prospective/credentialservices.html).

Please mail all supplemental admissions material to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
Dr. Kiran C. Patel College of Osteopathic Medicine  
Nutrition Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Upon receipt of the completed application and required materials, the Committee on Admissions will review the application and the applicant's file and make recommendations to the program director. The director will submit his or her recommendation on admission to the dean. The final decision on admission is made by the dean of NSU-KPCOM. Should you have any questions, please call (954) 262-1850.

### Nondegree-Seeking Students

A nondegree-seeking student is one who wishes to take courses in the Master of Science in Nutrition program, but does not intend to pursue the master's degree at the time of application. This short-term status is a beneficial option to attend classes within the program as an exploratory step or engage with the program faculty members and students while the nondegree-seeking student prepares final prerequisites to move forward with the full degree plan. The nondegree-seeking student must provide the following admissions requirements in order to take classes in the Master of Science in Nutrition program:

- a completed online application form
- a nonrefundable application fee of \$50
- official transcripts of all undergraduate, graduate, and professional education

Nondegree-seeking students are not guaranteed future acceptance into the Master of Science in Nutrition program. If, after taking classes in the program as a nondegree-seeking student, the student wishes to become degree seeking, he or she must apply to the Master of Science in Nutrition program as a new student and meet all the requirements for admission. If accepted into the degree program, credits with the prefix NUT that were taken as a nondegree-seeking student will be automatically applied toward the degree. Nondegree seeking students can enroll only in a maximum of four courses or 12 credit hours.

### International Applicants

International students who wish to be considered for admissions must submit official course-by-course evaluations of all foreign transcripts. (Agencies that can complete this evaluation can be found at [nova.edu/internationalaffairs/students/prospective/credentialservices](http://nova.edu/internationalaffairs/students/prospective/credentialservices).) Applicants whose native language is not English are required to demonstrate English proficiency.

The standardized tests listed below currently satisfy the university's English requirement for nonnative English speakers.

- Test of English as a Foreign Language (TOEFL): score of 213 on the computer-based test or 79–80 on the Internet-based test
- International English Language Testing System (IELTS): score of 6.0 on the test module
- Pearson Test of English—Academic: score of 54
- GMAT: score of 450
- GRE: score of 1000 (old format) or score of 306 (new format)
- Scholastic Assessment Test (SAT): score of at least 500 in the reading section
- American College Test (ACT): score of at least 20 on the verbal section

Test results must be sent directly from the testing agency to the center you applied to. Proof of English language competency can also be in the form of successful completion of a degree at an approved U.S. institution of higher education.

### **Tuition and Fees**

Tuition for 2018–2019 will be posted on our website ([osteopathic.nova.edu/ms-nutrition](http://osteopathic.nova.edu/ms-nutrition)). A Health Professions Division general access fee of \$145 is required each year. There is a registration fee of \$30 applied each term a student enrolls in courses. HPD students are required to maintain health insurance. Fees applied for the insurance are \$922 in fall and \$1,277 in winter terms, unless waived by the student, who has obtained coverage elsewhere. An NSU student services fee will be applied as \$225 (less than 4 credits) and \$450 (4 credits or more) per semester. A commencement fee of \$100 is charged at the time of graduation. All tuition and fees are subject to change by the board of trustees without notice.

### **Transfer of Credits**

Applicants or enrollees of the NSU-KPCOM Master of Science in Nutrition program may petition for a transfer of a maximum of 6 credit hours toward their degree from a regionally accredited institution for degree-seeking students. Any exceptions require the written approval of the program director. To be considered for transfer of credit, courses must have been completed less than three years prior to the beginning of the student's first semester in the program. All courses to be transferred must be substantially equivalent to courses offered in the program, as determined by the program director and appropriate faculty members. All courses considered for transfer into the program must

have been successfully completed with a grade of B (80 percent) or better. Transfer course grades are not calculated toward the student's grade point average. An accepted applicant to the program who wishes to receive transfer credit must submit a written request and the appropriate verification documents (e.g., official transcripts, syllabi, and catalogs) to the program director.

### **Graduation Requirements**

To be eligible for the Master of Science in Nutrition degree, students must fulfill the following requirements:

- satisfactorily complete, with a grade point average of B (3.0) or higher, within seven years of matriculation, the course of study required for the Master of Science in Nutrition degree (minimum of 42 credit hours of courses and any required additional courses, if applicable) or graduate certificates (minimum of 15 credit hours of courses and any required additional courses, if applicable, dependent on the specific certificate granted)
- satisfactorily meet all university financial and library obligations

Upon satisfactory completion of degree requirements, the student is encouraged to attend the rehearsal and commencement program, at which time the degree is conferred. Students in the program are required to visit the NSU campus twice during their course of study, once at the beginning of the program and once at the end to present their research/special project and to participate in graduation.

### **Curriculum Requirements**

To develop a comprehensive Master of Science in Nutrition program at NSU-KPCOM, a curriculum has been developed that includes education and communication, interprofessional care, research, and nutrition leadership. The didactic courses will be offered online using synchronous meetings hosted by faculty members (using NSU's web-based learning management system), as well as on-site. Courses will incorporate the most recent technologies, such as webinars, class polling, video capture, and other interactive modalities.

## Graduate Certificate in Functional Nutrition and Herbal Therapy

The Nutrition Program offers a Graduate Certificate in Functional Nutrition and Herbal Therapy, designed for practicing health professionals to understand the tenets of herbal and functional nutrition in a systems-based approach. The program's courses will highlight functionality of body systems, etiology of diseases, toxic reactions of herbs, interactions with medications, herbal therapy for special populations, dietary approaches to imbalances in the body, and the roles of health care professionals in educating patients on using herbal supplements safely. Students will gain additional practice competencies and skills to integrate valuable information into the care of patients. This certificate program is not available for federal student financial aid.

Criteria for admission are as follows:

- The applicant must hold a bachelor's degree or higher from a regionally accredited college or university.
- A cumulative grade point average (GPA) of 3.0 or above on a scale of 4.0 is preferred.
- The applicant must be a practicing health-related professional or enrolled with qualifying credentials within a professional program.

Applicants must provide the following:

- a completed application form
- official transcripts
- a nonrefundable application fee of \$50
- one letter of recommendation (professional)

## Curriculum

This certificate option consists of 15 credit hours of graduate-level courses.

Students must successfully complete the following five courses:

NUT 5070 Introduction to Functional Nutrition and Herbal Therapy  
3.0 Credit Hours

NUT 5300 FNHT Principles 1: Gastrointestinal, Pancreatic, Liver, and Gallbladder Systems  
3.0 Credit Hours

NUT 5310 FNHT Principles 2: Endocrine, Immune, and Nervous Systems  
3.0 Credit Hours

NUT 5320 FNHT Principles 3: Nervous, Cardiovascular, and Musculoskeletal Systems and Special Populations  
3.0 Credit Hours

NUT 5330 Clinical Applications in Functional Nutrition and Herbal Therapy  
3.0 Credit Hours

If, after taking courses in the certificate program, a certificate-seeking student decides to pursue the Master of Science in Nutrition degree, the student must submit a new and complete application to become a degree-seeking student and meet all of the degree program requirements.

For more information on the graduate certificate in functional nutrition and herbal therapy, please visit our website ([osteopathic.nova.edu/ms-nutrition/functional-nutrition-herbal-therapy.html](http://osteopathic.nova.edu/ms-nutrition/functional-nutrition-herbal-therapy.html))

## Curriculum Outline

Required Courses (21 credit hours)			Credit Hours
NUT	5120	Nutrition Advocacy and Interprofessional Leadership	3
NUT	5130	Nutrition Counseling	3
NUT	5200	Nutritional Biochemistry	3
NUT	6200	Evidence-Based Outcomes Research in Nutrition	3
NUT	6400	Nutritional Assessment and Medical Nutrition Therapy	3
NUT	6800	Special Project I	3
NUT	6801	Special Project II	3

Three concentrations are outlined below.

### Community Nutrition Concentration Requirements

(four required courses and three elective courses)

Required Courses			Credit Hours
NUT	5110	Foundations of Community Nutrition	3
NUT	5400	Psychology of Eating	3
NUT	5500	Health Disparities/Health Literacy	3
NUT	5600	Models of Health Behavior	3

### Sport Nutrition Concentration Requirements

(four required courses and three elective courses)

Required Courses			Credit Hours
NUT	5050	Nutrition and Exercise Performance	3
NUT	5060	Strength and Conditioning for Nutrition Professionals	3
NUT	6100	Wellness and Weight Management	3
NUT	6700	Advanced Sports Nutrition	3

## Functional Nutrition and Herbal Therapy Concentration Requirements

(five required courses and two additional elective courses)

Required Courses			Credit Hours
NUT	5070	Introduction to Functional Nutrition and Herbal Therapy	3
NUT	5300	FNHT Principles 1: Gastrointestinal, Pancreatic, Liver, and Gallbladder Systems	3
NUT	5310	FNHT Principles 2: Endocrine, Immune, and Nervous Systems	3
NUT	5320	FNHT Principles 3: Nervous, Cardiovascular, and Musculoskeletal Systems	3
NUT	5330	Clinical Applications in Functional Nutrition and Herbal Therapy	3

### Elective Courses

MI	5100	Survey of Biomedical Informatics	3
NUT	5030	Food Policy	3
NUT	5040	Functional Foods in Society Today	3
NUT	5050	Nutrition and Exercise Performance	3
NUT	5060	Strength and Conditioning for Nutrition Professionals	3
NUT	5070	Introduction to Functional Nutrition and Herbal Therapy	3
NUT	5100	World Culture, Food, and Nutrition	3
NUT	5110	Foundations of Community Nutrition	3
NUT	5140	Nutrition and Aging	3
NUT	5300	Functional Nutrition and Herbal Therapy Principles 1: Gastrointestinal, Pancreatic, Gallbladder, and Liver Systems	3
NUT	5310	Functional Nutrition and Herbal Therapy Principles 2: Endocrine, Immune, and Nervous Systems	3
NUT	5320	Functional Nutrition and Herbal Therapy Principles 3: Nervous, Cardiovascular, and Musculoskeletal Systems and Special Populations	3
NUT	5330	Clinical Applications in Functional Nutrition and Herbal Therapy	3
NUT	5700	Plant-Based Eating Patterns	3
NUT	6100	Wellness and Weight Management	3
NUT	6110	Pediatric Nutrition	3
NUT	6900	Special Topics Course—Current Topics (offered as necessary or on demand as new topics arise)	3
PUH	5430	Epidemiology	3
PUH	5513	Public Health Nutrition	3

## Course Descriptions

### NUT 5030—Food Policy

This course will enable students to explore the billion-dollar food industry and the policies and politics behind it. The course will review the impact of politics on what foods are made available to us, where we shop for food, how much we pay, how safe it is, what standards of quality are met, and what messages we are taught about nutrition, health, the American way of life, and the role of nutrition in the overall health of the American throughout the life span will be discussed. (3 credit hours)

### NUT 5040—Functional Foods in Society Today

This course will examine food components and substances with physiological activity of interest in society today other than macronutrients and micronutrients. Students will be able to define and describe metabolic and health promotion roles and apply accurate information. (3 credit hours)

### NUT 5050—Nutrition and Exercise Performance

This course will provide the graduate student with the knowledge and skills to perform nutrition assessments and education targeted towards the athlete and the active individual. Students will develop nutritional plans taking into account the effects of acute and chronic exercise on nutrients and exercise performance. Students will develop skills to conduct clinical, biochemical, and physical measures beneficial to individualized sports nutrition assessment. (3 credit hours)

### NUT 5060—Strength and Conditioning for Nutrition Professionals

This course is designed to provide students with the scientific knowledge and practical skills to train various active populations for the primary goal of improving performance. Specifically, students will learn to conduct sport-specific testing sessions, design and implement safe and effective strength training and conditioning programs, and provide guidance regarding nutrition and injury prevention relative to strength and conditioning. The course is designed to enhance the student's current level of knowledge of the material required to prepare for either the Certified Strength and Conditioning Specialist or Certified Personal Trainer exams sponsored by the National Strength and Conditioning Association. (3 credit hours)

### NUT 5070—Introduction to Functional Nutrition and Herbal Therapy

This course will provide students with a historical perspective of herbal therapies. It will teach the pharmacology and phytotherapy in herbal therapy, which includes plants (herbs and whole foods), animal tissues, sea, bee, and orthomolecular supplements in clinical practice.

It will describe “functional nutrition,” which relates the biochemistry and physiology to the functionality of body systems and the etiology of diseases. Students will discuss the patient-centered care model and demonstrate how to develop interprofessional relationships in the context of team-based care to address the needs of integrative medicine patients. (3 credit hours)

### NUT 5100—World Culture, Food, and Nutrition

Experience foods from various cultures and explore the many issues surrounding food and culture—including faith and religion, history, economic status, the economy, and geography—and how they impact the food patterns from various countries around the world, as well as within the United States with a focus on population health. Students will examine how the major factors that affect food customs around the world can also influence what you choose to eat from day to day and, ultimately, impact health. (3 credit hours)

### NUT 5110—Foundations of Community Nutrition

This course will provide students with the principles and practices needed to identify community nutrition issues and problems, as well as how to develop interprofessional nutrition strategies and programs to alleviate and/or reduce the problems and challenges and achieve positive health outcomes. The course explores the role of public health nutrition in the 21st century from a local, national, and global perspective. (3 credit hours)

### NUT 5120—Nutrition Advocacy and Interprofessional Leadership

Effective nutrition leaders are committed to improving the nation's health and advancing the practice through research, education, and advocacy. This course will explore broad concepts of nutrition policy and related issues in the United States, highlighting capacity-building strategies, problem-solving techniques, nutrition interventions, and competencies of interprofessional leadership. (3 credit hours)

### NUT 5130—Nutrition Counseling

Communication, counseling education, knowledge, and skills have been recognized as being essential for successful clinical and professional practice and are required to succeed today. The ability to communicate with others is essential to all practitioners, regardless of their position or practice setting. This course is designed to study the evidence-based theoretical framework based in the behavioral sciences and education as used in planning and delivering food and nutrition information and counseling for all groups throughout the life span. (3 credit hours)

**NUT 5140—Nutrition and Aging**

Nutrition professionals are committed to improving the nutritional health status of all populations. This course will address the changing nutrition needs of the adult population in the United States with an emphasis on older adults. The students will use tools for nutritional evaluation, dietary and physical assessment, and data analysis related to client care, plans, and support. (3 credit hours)

**NUT 5200—Nutritional Biochemistry**

This course will provide students with an in-depth understanding of the metabolic pathways and control processes relevant to the digestion and assimilation of foods. The major biological roles of micronutrients—vitamins and minerals—will be explored. The importance of genetics in nutrition and dietary selection will be covered in the course. The biochemical bases for dietary selection and nutritional advice will be outlined. (3 credit hours)

**NUT 5300—Functional Nutrition and Herbal Therapy Principles 1: Gastrointestinal, Pancreatic, Gallbladder, and Liver Systems**

This course will review the physiological functions and biochemical pathways of the gastrointestinal system, liver, gallbladder, and pancreas and relate it to principles of functional nutrition, herbal therapy, diet-based therapies, and probiotics. (3 credit hours)

**NUT 5310—Functional Nutrition and Herbal Therapy Principles 2: Endocrine, Immune, and Nervous Systems**

This course will review the physiological and biochemical functions of the endocrine, nervous, and immune systems with the purpose of understanding pathways and incorporating herbal therapy to enhance homeostatic functions. (3 credit hours)

**NUT 5320—Functional Nutrition and Herbal Therapy Principles 3: Nervous, Cardiovascular, and Musculoskeletal Systems and Special Populations**

This course will review the physiological and biochemical functions of the nervous, cardiovascular, and musculoskeletal systems and the kidneys and special populations. The course will focus on the functional nutrition and herbal therapy principles of these systems and special populations including children, older adults, and psychiatric patients. (3 credit hours)

**NUT 5330—Clinical Applications in Functional Nutrition and Herbal Therapy**

This course will bring all components of the previous coursework to integrate it into an interprofessional clinical practice. The course will review environmental medicine principles. It will examine various functional tests that can be performed to help detect nutritional deficiencies,

toxicities, and biological systems dysfunctions. The course brings science and evidenced-based information together with case reports that can be applied within an interprofessional team and functional nutrition and herbal therapy practice. (3 credit hours)

**NUT 5400—Psychology of Eating**

This online course will explore the psychology of eating—what's behind what we eat, why we eat, and what motivates us to choose the foods we do. Students will identify major triggers in the cycle of emotional eating and overeating and discover how several different biochemicals and neurotransmitters play a role in influencing food intake. They will learn to complete and analyze a self-assessment that will help clients examine how mood and various triggers impact what we choose to eat. The course will examine the epidemic of obesity and its psychological impact on our nation. (3 credit hours)

**NUT 5500—Health Disparity/Health Literacy**

This course is designed to provide graduate students with an understanding of the sociocultural and socioeconomic factors that contribute to health disparities among racial, ethnic, gender, cultural, and disadvantaged groups, with an emphasis on diverse practices related to nutrition and health status. Additionally, the course will examine and analyze issues of low health literacy, discussing populations at risk, research and measurement tools, writing in plain language, and health communication techniques. (3 credit hours)

**NUT 5600—Models of Health Behavior**

Health behavior comprises actions taken by a person to maintain, attain, or regain good health and to prevent illness. Traditional models—including the Health Belief Model, the Theory of Reasoned Action/Planned Behavior, the Social Cognitive Theory, and the Trans-Theoretical Model—will be discussed. Additionally, alternative models relevant to nutritional and consumptive behaviors will be discussed as a reflection of a person's health beliefs and motivators. Students will apply models of health behavior in real-life practice as it pertains to nutritional and health counseling. (3 credit hours)

**NUT 5700 Plant-Based Eating Patterns**

This course will focus on the global approach to nutrition through the use of plant-based eating patterns. Concepts surrounding health benefits, agriculture, and the environment will be explored. Students will investigate and apply topics related to the dietary practices and the promotion of a healthy nutritional lifestyle. (3 credit hours)

**NUT 6100—Wellness and Weight Management**

This course will delve into an integrated and interprofessional collaborative approach to wellness, healthy weight assessment, attainment, and long-term

management. Students will examine the seven dimensions of wellness and study popular weight loss methods identifying strengths, weaknesses, safety, and effectiveness long term. (3 credit hours)

#### **NUT 6110—Pediatric Nutrition**

This course will provide the graduate student with an in-depth understanding of general and high-risk pediatric nutrition. Students will apply normal and therapeutic dietary knowledge to infants and children with diseases or disorders. Current community resources available for nutrition and assistance will be identified in the course. (3 credit hours)

#### **NUT 6400—Nutritional Assessment and Medical Nutrition Therapy**

This course will provide graduate students with clinical and community levels of nutritional assessment using five parameters in the actual assessment (with knowledge of medical nutrition therapy in selected individuals). Students will have an in-depth exploration of the role of nutrition in health care with an emphasis on primary care, interprofessional care, and the medical home concept.

Upon completion of this course, students will possess mastery knowledge of diverse methodologies required for robust human nutritional research and will be able to understand the key concepts of this rapidly advancing field. Students will use methods of analysis in nutrition research that will include biobanks, genetics, and food-related behaviors. This course will also review animal and cellular models in translational research. (3 credit hours)

#### **NUT 6700—Advanced Sports Nutrition**

This course is an advanced study of nutrition as a tool to enhance athletic performance using food as the optimal fuel. The course will investigate the macronutrients, micronutrients, body composition, and medical nutrition therapy for active individuals, athletes, and special groups. Body composition and the appropriate use of equations

to determine energy needs will be studied in depth. (3 credit hours)

#### **NUT 6800—Special Project I**

This is the first course in a series of two required courses for all students in the M.S. in Nutrition Program. This is a practice-based research and culminating experience that provides a bridge between academic preparation and professional practice. The project allows the student to apply the knowledge, attitudes, and skills learned in the core and elective program courses under the supervision and guidance of a faculty mentor. (3 credit hours)

#### **NUT 6801—Special Project II**

This is the second course in a series of two required courses for all students in the M.S. in Nutrition Program. This is a practice-based research and culminating experience that provides a bridge between academic preparation and professional practice. The project allows the student to apply the knowledge, attitudes, and skills learned in the core and elective program courses under the supervision and guidance of a faculty mentor. (3 credit hours)

#### **NUT 6900—Special Topics Course: Current Topics**

A special topics course will be available as determined by the faculty to address current and emerging issues in nutrition science and practice. All faculty members will have an opportunity to teach in this course and each faculty member can bring forth a new course that will need to be approved by the program's curriculum committee. (3 credit hours)

For cross-listed electives course prescriptions, in Biomedical Informatics and Public Health programs, please see corresponding sections.



## Graduate Certificate in Emergency Medicine Program

The Graduate Certificate in Emergency Medicine Program in the Dr. Kiran C. Patel College of Osteopathic Medicine will provide students with the knowledge and critical thinking skills necessary in emergency medicine. The Graduate Certificate in Emergency Medicine is for physician assistants who are interested in obtaining specialized education in emergency medicine to prepare them for a position in a high-activity emergency department.

The Graduate Certificate in Emergency Medicine Program at Nova Southeastern University will provide physician assistants with a chance to gain additional knowledge of emergency medicine in an online curriculum. This program, however, is unique in that it will provide didactic coursework remotely, but will also require onsite training to teach clinical skills and to assess the student using simulation. This certificate program is targeting advanced practitioners who are currently employed, but seeking additional coursework in emergency medicine to make them more marketable for a position in an emergency department.

### Course of Study

The Graduate Certificate in Emergency Medicine Program consists of six core courses (18 credit hours).

### Admissions Requirements

The Graduate Certificate in Emergency Medicine evaluates the overall quality of applicants, including academic achievement, personal motivation, knowledge about health care, life experiences, and recommendations. Criteria for admissions to the program are as follows:

- The applicant must be a graduate of an accredited university with a minimum of a Bachelor of Science in Physician Assistant Studies.
- The applicant must have a minimum grade point average of 2.5.
- The applicant must have an active PA-C license in good standing.
- The applicant must submit two letters of recommendation from a health care professional.

### International Applicants

Any applicant who has graduated from a college or university in another country where English is not the primary language, regardless of United States residency status, is required to demonstrate English proficiency. The applicants must obtain a minimum score from one of the testing services listed following.

- Test of English as a Foreign Language (TOEFL): 550 on the written, 213 on the computer-based, or 79–80 on the Internet-based test
- Pearson Test of English—Academic: 54
- International English Language Testing System (IELTS): 6.0 on the test module

An official set of test scores must be sent directly from the testing agency to NSU's Enrollment Processing Services.

Nova Southeastern University  
Enrollment Processing Services (EPS)  
Dr. Kiran C. Patel College of Osteopathic Medicine  
Graduate Certificate in Emergency Medicine Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([nova.edu/emcertificate](http://nova.edu/emcertificate)). A Health Professions Division general access fee of \$145 is required each year. There is a registration fee of \$30 each semester. An NSU student services fee of \$1,350 is also required annually. All tuition and fees are subject to change by the board of trustees without notice.

### Graduation Requirements

In order for students to complete the certificate program they must complete all six courses. An average of 3.0 must be attained.

## Curriculum Outline

Required Courses (18 credit hours)			Credit Hours
EMED	3001	Cardiovascular and Hematologic Emergencies	3
EMED	3002	Neurologic, Infectious Disease, and Pediatric Emergencies	3
EMED	3003	OB/GYN, Ophthalmological, ENT, and Psychiatric Emergencies	3
EMED	3004	Trauma, Nontraumatic Musculoskeletal Disorders, Abdominal, and Chest Emergencies	3
EMED	3005	Environmental, Toxicological, and Dermatological Emergencies	3
EMED	3006	Renal/Urogenital, Metabolic, and Immunologic Emergencies	3

## Course Descriptions

### EMED 3001—Cardiovascular and Hematologic Emergencies

This course will review cardiovascular and hematologic emergencies. It will give the student the understanding on how to diagnose and treat cardiovascular and hematologic emergencies. (3 credit hours)

### EMED 3002—Neurologic, Infectious Disease, and Pediatric Emergencies

This course will review neurologic, infectious disease, and pediatric emergencies. The student will be able to recognize these disorders, order the proper tests, and treat these disease processes. (3 credit hours)

### EMED 3003—OB/GYN, Ophthalmological, ENT, and Psychiatric Emergencies

This course will review the OB/GYN, ophthalmological, ENT, and psychiatric emergencies. The student will be able to recognize, order the appropriate tests, and treat these emergencies. (3 credit hours)

### EMED 3004—Trauma, Nontraumatic Musculoskeletal Disorders, Abdominal, and Chest Emergencies

This course will review trauma, nontraumatic musculoskeletal disorders, abdominal, and chest emergencies. The student will be able to recognize and treat the relevant disorders. (3 credit hours)

### EMED 3005—Environmental, Toxicological, and Dermatological Emergencies

This course will review environmental, toxicological, and dermatological emergencies. The student will be able to recognize and treat these emergencies. (3 credit hours)

### EMED 3006 Renal/Urogenital, Metabolic, and Immunologic Emergencies

This course will review renal/urogenital, metabolic, and immunologic emergencies. The student will learn how to identify and treat these emergencies. (3 credit hours)

## Dr. Kiran C. Patel College of Osteopathic Medicine Departments

### ANATOMY

Chair and Professor: **N. Lufti** | Professors: **L. Dribin, A. Mariassy, C. Purvis, R. K. Yip** | Associate Professors: **P. Greenman** | Assistant Professor: **A. Ahmadi** | Instructor: **D. McNally**

### BIOCHEMISTRY

Chair and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam** | Associate Professor: **W. G. Campbell**

### CLINICAL IMMUNOLOGY

Chair: **N. Klimas** | Professors: **J. Burks, M. Fletcher, M. Morris** | Assistant Professors: **L. Nathanson, V. Renesca, I. Rozenfeld, L. Salgueiro, M. Vera-Nunez, P. Waziry, X. Zeng**

### MICROBIOLOGY

Chair and Professor: **K. Davis** | Professor: **H. E. Laubach** | Associate Professor: **B. Mayi** | Assistant Professor: **W. French**

### PATHOLOGY

Chair and Assistant Professor: **E. Murdock** | Professors: **B. C. Jones, A. B. Trif** | Assistant Professor: **A. Vila**

### PHARMACOLOGY

Chair and Professor: **M. Parker** | Professors: **T. Panavelil, C. Powell** | Associate Professors: **P. Rose, M. Zhao**

### PHYSIOLOGY

Chair and Professor: **W. Schreier** | Professors: **H. Mayrovitz, S. Taraskevich, Y. Zagvazdin** | Associate Professor: **L. Lyons** | Assistant Professor: **A. Mashukova**

### PSYCHIATRY AND BEHAVIORAL MEDICINE

Chair and Professor: **R. Ownby** | Associate Professor: **D. Shaw**

### DIVISION OF MEDICAL HUMANITIES

Chair and Professor: **S. Cohen**

### FAMILY MEDICINE

Chair and Associate Professor: **B. Arcos** | Professors: **J. De Gaetano, G. Nehrenz, R. Oller, A. Silvagni** | Associate Professors: **P. Anderson-Worts, R. Cherner** | Assistant Professors: **C. Atherly-Todd, T. Barber, T. Brown, D. Cohen, P. Cohen, M. Florent-Carre, G. Foster-Moumoutijis, L. Lafferty, P. Moran-Walcutt, L. Phillpotts, J. Schaffer, S. Scott-Holman, J. Wallace-Ross, M. Wilkinson**

### DIVISION OF COMMUNITY MEDICINE

Chair and Professor: **S. Zucker** | Professor: **F. Lippman** | Assistant Professor: **D. Steinkohl, M. Wilkinson**

### GERIATRICS

Chair and Professor: **N. Pandya** | Assistant Professors: **E. Hames, H. Masri, K. Rivas-Velasquez**

### RURAL AND URBAN UNDERSERVED MEDICINE

Chair and Assistant Professor: **Marie Florent-Carre**

### OSTEOPATHIC PRINCIPLES AND PRACTICE

Chair and Associate Professor: **D. Boesler** | Professors: **M. Sandhouse, E. Wallace** | Associate Professors: **H. McCarthy, Y. Qureshi** | Assistant Professors: **J. Wallace-Ross, N. Widboom**

### EMERGENCY MEDICINE

Chair and Assistant Professor: **D. Cohen**

### DIVISION OF PHYSICAL MEDICINE AND REHABILITATION

Chair and Clinical Assistant Professor: **J. Diaz**

### DEPARTMENT OF SPORTS MEDICINE

Chair: **A. Posey** | Professor: **E. Wallace** | Assistant Professor: **R. Joseph**

## INTERNAL MEDICINE

Chair and Professor: **S. Snyder** | Professor: **N. Klimas** | Associate Professors: **J. Hamstra, D. Penzell** | Assistant Professors: **A. Bhasin, K. Fenton, G. Merlino, I. Rey, C. Savu, A. Thomson**

## DIVISION OF CARDIOVASCULAR MEDICINE

Chair and Professor: **TBA** | Clinical Professor: **M. Chizner**

## DEPARTMENT OF DERMATOLOGY

Chair: **TBA**

## DIVISION OF ENDOCRINOLOGY

Chair and Professor: **N. Pandya** | Clinical Assistant Professor: **F. Diaz**

## DIVISION OF GASTROENTEROLOGY

Chair: **TBA**

## DIVISION OF HEMATOLOGY/ONCOLOGY

Chair: **TBA** | Clinical Associate Professor: **B. Lenes**

## DIVISION OF INFECTIOUS DISEASES

Chair: **TBA**

## DIVISION OF NEPHROLOGY

Chair and Professor: **S. Snyder** | Clinical Assistant Professor: **J. Waterman**

## DIVISION OF NEUROLOGY

Chair and Clinical Assistant Professor: **H. M. Todd** | Clinical Assistant Professors: **T. Hammond, J. Harris, M. Swerdloff**

## DIVISION OF PULMONARY MEDICINE

Chair and Clinical Professor: **E. Bolton, Jr.** | Clinical Assistant Professor: **J. Giaimo**

## MEDICAL EDUCATION

Chair: **J. Jordan** | Associate Professor: **H. McCarthy** | Assistant Professors: **D. Celestine, D. Cohen, A. Homs, S. Tewry**

## OBSTETRICS AND GYNECOLOGY

Chair and Associate Professor: **K. Johnson** | Assistant Professors: **R. Alexis, W. Alexis**

## PEDIATRICS

Chair and Professor: **E. Packer** | Professors: **C. Blavo, H. De Gaetano, B. Peters** | Clinical Professor: **D. Mulligan-Smith** | Assistant Professors: **N. Alonso, R. Faillace, M. Gabay**

## SURGERY

Chair: **TBA** | Professor: **D. Thomas** | Professor Emeritus: **S. Kaye**

## DIVISION OF ANESTHESIOLOGY

Chair and Clinical Associate Professor: **R. H. Sculthorpe**

## DIVISION OF CARDIOTHORACIC SURGERY

Chair and Clinical Assistant Professor: **R. Segurola**

## DIVISION OF CORRECTIONAL MEDICINE

Chair: **TBA** | Clinical Assistant Professors: **D. Rectine, P. Roberts**

## DIVISION OF GENERAL SURGERY

Chair and Clinical Associate Professor: **TBA**

## DIVISION OF OPHTHALMOLOGY

Chair and Clinical Professor: **W. Bizer**

## DIVISION OF ORTHOPEDIC SURGERY

Chair and Clinical Professor: **J. Rush** | Clinical Associate Professor: **M. Rech**

## DIVISION OF OTORHINOLARYNGOLOGY

Chair and Clinical Associate Professor: **R. Contrucci**

## DIVISION OF RADIOLOGY

Chair: **TBA** | Clinical Associate Professor: **J. Ditchek**

## DIVISION OF UROLOGY

Chair: **TBA**

## PUBLIC HEALTH PROGRAM

Chair, Director, and Professor: **C. Blavo** | Professors: **K. Davis, M. Fernandez, P. Hardigan, J. Howell, K. Johnson, H. Laubach, F. Lippmann, A. Mascarenas, B. Oller, R. Ownby, I. Rosenbaum, A. Silvagni, D. Thomas, S. Zucker** | Associate Professors: **P. Anderson-Worts, N. Cook, K. Davis, P. Filker, J. Fleisher, S. Grant, T. Hollar, R. Jacobs, A. Perez** | Assistant Professors: **M. Florent-Carre, D. Harper-Celestine, M. Johnson, K. Messer, M. Montoya, C. Navarro, A. Ospina, L. Phillipotts, C. Serna, D. Steinkohl, K. Thomas-Purcell, M. Wilkinson** | Instructor: **D. Cohen**

## BIOMEDICAL INFORMATICS PROGRAM

Director and Associate Professor: **A. M. Rana** | Professors: **P. Hardigan, R. Ownby** | Associate Professor: **D. Shaw** | Assistant Professors: **S. Bronsburg, D. Buchanan, G. Cravens** | Adjunct Associate Professors: **K. Clauson, D. Hatton, D. Hays, J. Singer, C. Sullivan** | Adjunct Assistant Professors: **R. Al Hazme, P. Casimir, D. Dittman, J. Krive, C. Masters, E. Popovich, M. Ramim, M. Shen, J. Templeton, M. Vora, H. Wiggin** | Adjunct Instructors: **J. Garcia, C. Stathas**

## DISASTER AND EMERGENCY MANAGEMENT PROGRAM

Director and Professor: **K. Davis** | Professor: **J. Howell** | Assistant Professors: **N. Cook, K. Messer, E. Sklar** | Adjunct Assistant Professors: **J. Grenstone, S. Lam, T. MacFarland, E. Spiceland, L. Taylor, G. Zimmerman-McAllister** | Adjunct Instructors: **J. Cohen, J. Holgerson, J. Kuhlman, M. Reynolds, N. Robinson, J. Sabet**

## MEDICAL EDUCATION PROGRAM

Director: **K. Valenti** | Professor: **P. Hardigan** | Associate Professors: **A. Rana, H. McCarthy** | Assistant Professors: **J. Jordan, S. Pinnock** | Adjunct Instructors: **M. Butler-Pearson, E. Oviawe** | Adjunct Assistant Instructor: **H. Wiggin**

## NUTRITION PROGRAM

Director and Assistant Professor: **S. Petrosky** | Professor: **E. Groseclose** | Assistant Professors: **N. Cook, M. Gordon, L. Lafferty, L. Nathanson, S. Pinnock, T. Silver, K. Thomas-Purcell, P. Waziry** | Adjunct Assistant Professors: **G. Alvarez, V. Beljanski, A. Cheema, L. Craggs-Dino, E. Wong-Swartz** | Adjunct Instructors: **M. Luis, A. Navarre**

### **Dr. Kiran C. Patel College of Osteopathic Medicine Notice of Nondiscrimination**

Consistent with all federal and state laws, rules, regulations, and/or local ordinances (e.g., Title VII, Title VI, Title III, Title II, Rehab Act, ADA, Title IX, and the Florida Civil Rights Act), it is the policy of Nova Southeastern University's Dr. Kiran C. Patel College of Osteopathic Medicine (KPCOM) not to engage in any form of discrimination or harassment against any persons because of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations, and to comply with all federal and state nondiscrimination; equal opportunity; and affirmative action laws, orders, and regulations. Any such acts are unacceptable and strictly prohibited by the university.

In addition, the law prohibits retaliation against an individual for opposing any practices forbidden under this policy, for bringing a complaint of discrimination or harassment, for assisting someone with such a complaint, for attempting to stop such discrimination or harassment, or for participating in any manner in any investigation or resolution of a complaint of discrimination or harassment. This nondiscrimination policy applies to admissions; enrollment; scholarships; loan programs; athletics; employment; and access to, participation in, and treatment in all university centers, programs, and activities. NSU-KPCOM admits students of any race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations, to all the rights, privileges, obligations, programs, and activities generally accorded or made available to students at NSU and does not discriminate in the administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other school-administered programs.

# College of Pharmacy







# College of Pharmacy



Michelle A. Clark,  
Ph.D., Interim Dean

## Mission

To educate and develop practitioners and researchers who, through their leadership and entrepreneurship, will transform the profession of pharmacy to improve global health

## Vision

To be recognized as an innovative and entrepreneurial college of pharmacy providing opportunities that encourage innovation in education, practice, and research

## Values

- entrepreneurship
- excellence
- innovation
- integrity
- professionalism
- respect for diversity
- service
- teamwork

## Administration

**Michelle A. Clark, Ph.D.**  
Interim Dean  
Executive Associate Dean

**Robert McGory, M.S., Pharm.D.**  
Associate Dean, Professional Program

**Appu Rathinavelu, B.S., M.S., Ph.D.**  
Associate Dean, Institutional Planning  
and Development

**Peter M. Gannett, Ph.D.**  
Associate Dean, Research and Graduate Education

**Carsten Evans, B.S., M.S., Ph.D.**  
Executive Director, HPD Continuing Education  
and Professional Affairs

**Elizabeth Frenzel Shepherd, B.S., M.B.A., Pharm.D.**  
Assistant Dean, Strategic Partnerships and  
Program Development

**Goar Alvarez, B.S., Pharm.D.**  
Assistant Dean, Pharmacy Services

**Blanca I. Ortiz, Pharm.D.**  
Assistant Dean, Puerto Rico

**Rochelle S. Nappi, Ed.D.**  
Assistant Dean, Palm Beach

**Karen Sando, Pharm.D.**  
Assistant Dean, Assessment and Accreditation

**Manuel J. Carvajal, B.A., M.S.A, Ph.D.**  
Chair, Sociobehavioral and Administrative Pharmacy

**Matthew J. Seamon, Pharm.D., J.D.**  
Chair, Pharmacy Practice

**Ana M. Castejon, Ph.D.**  
Interim Chair, Pharmaceutical Sciences

**William D. Hardigan, B.S., M.S., Ph.D.**  
Dean Emeritus

## Overview

With the nation struggling to deliver high quality, affordable health care, there has come a greater appreciation of the importance of pharmacists as members of today's health care team. The pharmacist's role has expanded rapidly from drug compounding and distribution to a patient-centered role. The College of Pharmacy is educating its students in practices vital to meeting the challenges facing the profession and leading to improved health and wellness while reducing health care costs.

The College of Pharmacy admitted its first class in 1987 to become the first College of Pharmacy in South Florida. Since then, it has graduated more than 4,500 pharmacy professionals. The college offers the Doctor of Pharmacy (Pharm.D.) degree program, a Ph.D. or M.S. in Pharmaceutical Sciences, and an M.S. in Pharmaceutical Affairs.

Pharmacists are experts on drugs and therapeutic goals, their biological action and uses, formulation, adverse effects, and potential for drug interactions. Pharmacists must be able to think quickly and accurately in an organized manner, despite environmental distractions; be able to communicate effectively; and have interprofessional abilities sufficient to interact with others. They consider both the medication and the patient to ensure the patient

has the right drug, in the right amount, for the right length of time, and with minimal adverse effects. The result is improved health care.

Most pharmacists practice in patient-oriented settings: in community pharmacies, hospitals, extended care facilities, or public health clinics. In addition, pharmacists are employed by the pharmaceutical industry in research and development, in manufacturing, or as medical service representatives. They work in academic institutions, government, health maintenance organizations, and home health care programs.

The college embraces these opportunities for pharmacists to assume a wider role in the health care needs of society, and qualified students have the opportunity to earn concurrent master's degrees in either business administration (M.B.A.), public health (M.P.H.), or biomedical informatics (M.S.).

Ph.D. graduates focus on expanding the science of drug knowledge by creating and testing new drug molecules or using technology to develop new dosage forms. This field responds to needs identified by practicing pharmacists in caring for patients. The pharmaceutical scientist is very knowledgeable in pharmacology, pharmaceutics, pharmacokinetics, and administration.

The M.S. in Pharmaceutical Affairs and M.S. in Pharmaceutical Sciences prepare graduates to work with professionals in diverse environments, such as the pharmaceutical industry, academia, governmental and nongovernmental agencies, and health care systems.

### **Accreditation**

The Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603, (312) 664-3575, 800-533-3606; Fax (312) 664-4652, website: [www.acpe-accredit.org](http://www.acpe-accredit.org), has accredited the Doctor of Pharmacy Program of the College of Pharmacy, Nova Southeastern University.

### **Memberships**

The College of Pharmacy is a member of the American Association of Colleges of Pharmacy. The College of Pharmacy is also a member of the International Pharmaceutical Federation (FIP).

### **Facilities**

The College of Pharmacy administrative offices are located on the third floor of the Health Professions Division Administration Building. Pharmacy practice and research laboratories are located on the third floor of the Library/Laboratories Building. The NSU Palm Beach Campus and NSU Puerto Rico Regional Campus have administrative offices, classrooms, and labs on site. Experiential sites are primarily located throughout Florida and Puerto Rico, and pharmacy practice faculty members are assigned to

innovative, patient-centered facilities in South Florida and Puerto Rico. The M.S. in Pharmaceutical Affairs Program is based at NSU's Miami Campus.

In the fall of 2000, the NSU College of Pharmacy opened a program in Palm Beach County. After spending many years at a shared site, NSU was happy to move to its own four-story, 75,000-square-foot facility. Classes began at the new location in the fall of 2011. The NSU Palm Beach Campus features 26 classrooms, including four labs. It also includes a student lounge, a fitness area, a pharmacy library, and offices. In the fall of 2001, a full-time program on the campus of Pontificia Universidad Catolica de Puerto Rico in Ponce, Puerto Rico, was opened. The Puerto Rico program moved to its new location in San Juan in 2014. The San Juan location has state-of-the-art facilities for pharmacy students and is equipped with lecture halls; study rooms; computer, pharmaceutics, and patient care management laboratories; a Drug Information Center; and additional meeting and classroom space fully equipped for compressed interactive video.

Each campus has administrators and faculty and staff members. Interactive video technology is used to provide lectures among the three campuses simultaneously. This provides for live interaction between lecturer and students regardless of location. Identical handouts, tests, and texts are used. Communication through telephone, fax, online technologies, and email are available to students at all campuses. All students have access to the Health Professions Division Library, computer labs, online learning resources, and the vast technological innovations provided by NSU, which has been a leader in distance education programs for many years.

The pharmaceutical care center and pharmacy are adjacent to the health clinic in Fort Lauderdale. This is a community pharmacy with disease management services for diabetes, hypertension, hyperlipidemia, osteoporosis, and anticoagulation. It also manages pharmacy services, including drug regimen review, consultation, and teaching.

### **Core Performance Standards for Admission and Progress**

The Nova Southeastern University Health Professions Division is pledged to the admission and matriculation of qualified students and wishes to acknowledge awareness of laws that prohibit discrimination against anyone on the basis of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations.

Regarding those students with verifiable disabilities, the university will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards

(core performance standards) as set forth herein, with or without reasonable accommodation. In adopting these standards, the university believes it must keep in mind the ultimate safety of the patients whom its graduates will eventually serve, as well as the efficacy and safety in the learning environment. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions. Any exceptions to such standards must be approved by the dean of the student's particular college, based upon appropriate circumstances.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data.

Honor and integrity of the health professions student and health care professional is essential and depends on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty members, and patients who come under the student's care or contribute to his or her training and growth, as well as members of the general public. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU, each student subscribes to, and pledges complete observance to, NSU's Student Code of Conduct Policies. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

Candidates for degrees offered by the Health Professions Division must have, with or without reasonable accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Candidates for admission and progression must be able to perform these abilities and skills in a reasonably independent manner.

#### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause/effect relationships in clinical situations

and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. Examples include, but are not limited to, identification of cause/effect relationships in clinical situations, development of treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration. College of Pharmacy students must be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging environment. They must be able to think quickly and accurately in an organized manner, despite environmental distractions.

#### **Interpersonal Communication**

Candidates and students must be able to interact and communicate effectively, with respect to policies, protocols, and process—with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program. They must be able to communicate effectively and sensitively with patients, faculty members, and an interprofessional health care team. Communication includes verbal and nonverbal communication, including, but not limited to, speaking, reading, writing, gestures, and body language. They must have interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds. A student must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written and oral exams and patient charts; elicit patient backgrounds; describe patient changes in moods, activity, and posture; and coordinate patient care with all members of the health care team. A student must be able to communicate or provide communication in lay language so that patients and their families can understand the patient's conditions, treatment options, and instructions. The student must be able to accurately enter information in the patient's electronic health record, according to his or her program's requirements.

#### **Motor Skills**

Candidates and students must have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of some health care professionals are cardiopulmonary resuscitation (CPR); administration of intravenous medication; the application of pressure to stop bleeding; the opening of obstructed airways; and the ability to calibrate

and use laboratory equipment, grasp and manipulate small objects/instruments, use a computer keyboard, and other related laboratory and medical equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. College of Pharmacy candidates and students must have sufficient visual and motor skills to weigh chemical and pharmaceutical (including intravenous) solutions, prepare prescriptions, and perform sterile procedures.

### **Strength and Mobility**

Candidates and students must have sufficient mobility to attend emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and to maneuver in small places. Pharmacy students must be able to move about within a laboratory, a pharmacy setting, and a patient's room.

### **Hearing**

Candidates and students must have sufficient auditory ability to monitor and assess health needs. They must be able to hear information given by the patient in answer to inquires; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to monitor equipment.

### **Visual**

Candidates and students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration. Candidates and students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment. Pharmacy students must be able to read and interpret prescriptions, medical orders, and patient profiles, as well as to identify correct medication dosage and inspect medicine for deterioration or expiration.

### **Tactile**

Candidates and students must have sufficient tactile ability for physical assessment. They must be able to perform palpation and functions of physical examination and/or those related to therapeutic intervention. Pharmacy students must be able to measure and compound, sometimes transferring from container to container, and to perform sterile procedures. The student must be able to use tactile senses to diagnose directly by palpation and indirectly by sensations transmitted through instruments, as well as have tactile ability sufficient for physical assessment.

### **Sensory**

A student must be able to acquire information from written documents and to evaluate information presented as images from digital platforms, paper, films, slides, or video. A student must be able to benefit from electronic and other instrumentation that enhances visual, auditory, and somatic sensations needed for examination or treatment.

### **Behavioral and Social Attributes**

Candidates and students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; the ability to take responsibility for their own actions with respect to policies, protocols, and processes—with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program; the prompt completion of all responsibilities attendant to the diagnosis, care, and treatment of patients; and the development of mature, sensitive, and effective relationships with the patients. Candidates and students must be able to physically tolerate taxing workloads, to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, diversity inclusiveness, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and education process.

### **Financial Aid**

The purpose of the Student Financial Assistance Program at Nova Southeastern University is to help as many qualified students as possible to complete their pharmacy education. Various loans, scholarships, and grants are available to qualified students to help ease the high cost of a health professions education. Approximately 90 percent of College of Pharmacy students receive some form of financial assistance. These financial assistance programs are described in a variety of separate university publications. Although most first-year pharmacy students will be classified as graduate students for financial aid purposes, students who matriculate with fewer than 90 semester hours and students in the dual-admission program will be classified as undergraduates for the first year in the College of Pharmacy.

### **Transfer Credits**

Requests for transfer credit must be submitted in writing to the associate dean or director of the relevant program. The request must include an official copy of the transcript containing the course title, final course grade, and a course syllabus.

In the Pharm.D. program, transfer credit will only be considered for courses taken at pharmacy schools accredited by ACPE or for those courses given prior approval by the associate dean, Professional Program. Up to, but no more than, four elective credit hours may be transferred from a regionally accredited graduate institution.

A minimum of 30 credit hours of didactic coursework and all Advanced Pharmacy Practice Experiences (APPE) must be completed at NSU. Transfer credits may not exceed 2/3 of the required credits to complete the degree program.

In the M.S. and Ph.D. programs, a maximum of 6 credits may be transferred from a regionally accredited graduate institution. Requests must be submitted in writing to the associate dean or director of the relevant program.

For all programs, transfer credit will only be considered for courses designated with a graduate level course number that were passed with a grade of B or better. Credit will

not be transferred if previous credit was used to earn a degree from the granting institution. An official transcript from the institution attended must be provided before transfer credit will be awarded. All transfer credit requests must be received prior to August 1 of the first year of pharmacy school.

Official transcripts must be sent to Nova Southeastern University, Enrollment Processing Services, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905. Electronic transcripts should be sent to [electronictranscript@nova.edu](mailto:electronictranscript@nova.edu).

### Class Cancellation Policy

The university reserves the right to cancel any class. Students may be eligible for a refund for summer semester only (P1–P3); cancelled elective classes during the fall and winter semesters are not eligible for refund.

## Doctor of Pharmacy (Pharm.D.) Entry-Level Program

### Admissions Requirements

The College of Pharmacy selects students based on pre-pharmacy academic performance, Pharmacy College Admission Test (PCAT) scores, personal interviews, written applications, and letters of reference.

1. Prior to matriculation, all NSU College of Pharmacy applicants must complete a minimum of 64 semester hours of coursework at a regionally accredited college or university, including the following required courses, with a grade of 2.0 or higher on a 4.0 scale:

Course	Semester Hours
General Biology I and II (including laboratory) .....	6
Anatomy and Physiology (with or without laboratory) .....	6
General Chemistry (including laboratory).....	8
Organic Chemistry (including laboratory).....	8
General Physics (with or without laboratory).....	3
English.....	6
Calculus.....	3
Speech/Public Speaking/Oral Communication (in English) .....	3
Advanced Sciences (Choose <b>two</b> courses of the following: genetics, cellular or molecular biology, microbiology, or biochemistry) .....	6*
Humanities/Social and Behavioral Sciences/ Other Electives	
Social and Behavioral Sciences .....	3
Humanities .....	3
Electives in either discipline .....	9**
<b>TOTAL</b>	<b>64</b>

\* No two classes taken should be from the same discipline.

\*\* Ethics, micro or macroeconomics, and general/life science statistics are highly recommended and may substitute for up to 9 humanities and social and behavioral sciences elective credits.

2. Applicants must have a cumulative GPA of 2.75 or higher and a minimum science and math GPA of 2.0 on a 4.0 scale.

3. Applicants are required to submit official scores from the Pharmacy College Admission Test (PCAT).

- PCAT scores must be no more than three years old at the time of the applicant's interview. Applicants should take the PCAT no later than February prior to the expected date of matriculation.

Applicants may register online at [pcatweb.info](http://pcatweb.info) or call 800-622-3231 with any questions.

4. Applicants are required to provide three letters of reference from the members of the pre-professional committee, or if such a committee does not exist, letters of reference from two science professors and one liberal arts professor are necessary. A letter of reference from a pharmacist may substitute for one letter from a professor in either subject.

## Application Procedures

### Primary Application Process

Applicants apply for matriculation into the fall semester. The Office of Admissions processes applications on a rolling basis; therefore, it is in the best interest of the applicant to apply early. Listed below are the steps necessary to complete the primary application process.

1. Applicants must submit an electronic PharmCAS application. The interactive, web-based application is available at *PharmCAS.org*. The PharmCAS application process takes four to six weeks.

- **September 3:** PharmCAS submission application deadline for early decision
- **February 1:** PharmCAS submission application deadline for regular admission

2. Applicants must submit the following materials to PharmCAS.

- official transcripts from all college and universities attended (must be submitted directly to PharmCAS by the college or university)
- three letters of reference
- PCAT scores

### Early Decision

The Early Decision program is a binding option for applicants who have decided that a particular pharmacy degree program is their first choice, and they will enroll if accepted. As an Early Decision applicant, you can apply to only one pharmacy degree program. If you are offered admission as an Early Decision applicant, you are obligated to accept the offer. You will not be permitted to apply to other PharmCAS degree programs during the current cycle. However, if you are denied admission as an Early Decision applicant, you may apply to other PharmCAS degree programs for an additional fee. Visit the PharmCAS website at *PharmCAS.org* for more information about applying as an Early Decision applicant.

### Secondary Application Process

In addition to completing the PharmCAS application, NSU requires the completion of an NSU application. Upon receipt of the PharmCAS application, NSU will email a link to access our NSU application.

1. Applicants must submit the following materials electronically to NSU:

- a completed NSU application
  - due **October 10** for applicants requesting Early Decision
  - due **March 15** for applicants applying for regular admission
- a nonrefundable application fee of \$50 (U.S.)

### Transfer Students

Candidates in good academic standing from their college/university of record may apply for consideration as a transfer student by

1. submitting a completed electronic application with a nonrefundable application fee of \$50 (U.S.) by June 15
2. meeting all entry-level or advanced-standing admissions requirements for the NSU College of Pharmacy, as applicable
3. submitting the following documentation
  - official transcripts for all college coursework
  - a written statement outlining the reasons for requesting the transfer
  - three letters of recommendation (two from pharmacy faculty members and one from the dean, associate dean, or assistant dean of the transferring college of pharmacy that indicate the student is in good standing within the current or most recent academic program)
4. completing an interview
5. submitting any official standardized test scores such as PCAT, GRE, TOEFL, or IELTS to help further the evaluation of applications (recommended)

Transfer credit will only be considered for courses designated with a graduate-level course number, passed with a grade of *B* or better, and transferred from a regionally accredited graduate institution. Credit used toward an earned degree will not be transferred. Requests for transfer credit must be submitted in writing to the associate dean or director of the relevant program prior to August 1 of the year of matriculation. Transfer credits will not exceed  $2/3$  of the required credits to complete the degree program. A minimum of 30 credit hours of didactic coursework and all Advanced Pharmacy Practice Experiences (APPE) must be completed at NSU.

Note: Due to the design of the Pharm.D. curriculum, a transfer student may be required to enter as a first-year student.

### Nondegree-Seeking Students

The college accepts nondegree-seeking students for travel study, study abroad, and some specific coursework. Contact [phss@nova.edu](mailto:phss@nova.edu) for more information on these programs.

### Interview Process

A personal interview is part of the admissions process; however, being interviewed is not a guarantee of admission. Upon receipt of the completed application, a review will be made to determine if the applicant will be granted an interview. Not all applicants will be granted an interview. The Office of Admissions will notify selected applicants to schedule interviews.

### Notice of Acceptance

Notice of acceptance or other action by the committee on admissions will be on a “rolling” or periodic schedule. Early completion of the application process is in the best interest of the applicant.

Admittance to the college is contingent upon successful completion of all prerequisite coursework prior to the first day of the semester. Proof of completion is required.

### Transcripts

After acceptance, final and official transcripts from all colleges and universities attended, and/or final and official documents must be received within 90 calendar days from the start of the term. If these final and official transcripts and/or documents are not received by that time, the student will not be allowed to continue class attendance. In addition, financial aid will not be disbursed to a student until he or she provides all the necessary documents required to be fully admitted as a regular student.

### Foreign Coursework

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant’s responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University.

All admissions materials and foreign evaluations must be mailed to

Nova Southeastern University  
Enrollment Processing Services  
College of Pharmacy  
Office of Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

### Program Requirements

All students must purchase an iPad for assignments and assessments, and have an active account with an Internet service provider. In addition, students must have ongoing access to a computer capable of connecting to the Internet and playing streaming video files. Online course notes and discussions will be provided to the student through an online course management system. Nova Southeastern University will provide access to email, online databases, and library resources.

Students must also provide their own transportation to experiential sites. It is recommended that all students have their own personal transportation, due to the inconsistency of reliable public transportation. During the final year, all students return to their respective campuses for live instruction and board exam preparation at designated times.

### Tuition: Entry-Level Program

**All tuition and fees are subject to change by the board of trustees without notice.**

Annual tuition for 2018–2019 will be posted on our website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

### Florida Residency

Florida residents in the entry-level Pharm.D. degree program must request in-state tuition by application. For tuition purposes, students’ Florida residency status (in state or out-of-state) will be determined based on initial matriculation and will remain the same throughout the entire enrollment of the student at NSU. The determination as to eligibility for in-state tuition at NSU shall be made exclusively by NSU. Students may direct questions to the Florida residency specialist via phone at (954) 262-1126 or via email at [HPDfloridaresidency@nova.edu](mailto:HPDfloridaresidency@nova.edu).

### Fees and Deposit—All Programs

- Acceptance and Preregistration Deposit—\$1,000. This deposit is required to reserve the accepted applicant’s place in the entering, first-year class. This deposit will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is due within three weeks of an applicant’s acceptance.
- Health Professions Division General Access Fee—\$145. This fee is required annually.
- NSU Student Services Fee—\$1,350. This fee is required annually.
- Registration Fee—\$30 per semester.
- Late Payment Fee—All tuition and fees not paid within 30 days after the start of the semester will incur a \$100 late payment fee.

- College of Pharmacy Fees—Additional fees will be incurred for immunization training, pharmacy testing, and other college-approved activities. These fees are estimated at \$1,000 over the course of the program.

The first semester's tuition and fees, less the \$1,000 deposit, are due on or before the first day of classes. Tuition and fees for each subsequent semester are due on or before the first day of classes. Students will not be permitted to register or attend classes until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important. Applicants should have specific plans for financing their professional education. This should include tuition, fees, iPads, computer-related expenses, health insurance, books, printing, required equipment, and living and other miscellaneous expenses.

Each student is required to carry adequate personal medical and hospital insurance. For more information about NSU's required health insurance, visit the website at [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance).

### **Undergraduate/Pharm.D. Dual Admission Program**

Nova Southeastern University Health Professions Division has established a dual admission program with the Nova Southeastern University Halmos College of Natural Sciences and Oceanography, Pontificia Universidad Católica de Puerto Rico, and Universidad Central De Bayamon for a select number of highly motivated, qualified students interested in pursuing both an undergraduate education and professional studies in pharmacy. This allows students to receive their undergraduate bachelor of science degree and a doctor of pharmacy degree in a six- to eight-year period.

Candidates must maintain a specified GPA and achieve acceptable scores on the Pharmacy College Admissions Test (PCAT). Students will spend two to three years in the undergraduate school and then will be awarded a B.S. degree upon successful completion of the second/third year at Nova Southeastern University College of Pharmacy. Students will receive the Doctor of Pharmacy degree after successfully completing the four-year Pharm.D. program at Nova Southeastern University College of Pharmacy.

For information and requirements for dual admission, contact one of the following:

- Office of Admissions  
Halmos College of Natural Sciences and Oceanography  
Nova Southeastern University  
3301 College Avenue  
Fort Lauderdale, Florida 33314-7796
- Office of Admissions  
Pontificia Universidad Católica de Puerto Rico  
2250 Avenida Las Americas  
Suite 584  
Ponce, Puerto Rico 00717-0777

- Office of Admissions  
Universidad Central De Bayamon  
P.O. Box 1725  
Bayamon, Puerto Rico 00960-1725

### **Pharmacy Intern License**

A Florida or Puerto Rico pharmacy intern license is a requirement for placement on pharmacy practice experiences. Without a pharmacy intern license, a student cannot complete the curriculum or the requirements of the Pharm.D. degree. A U.S. Social Security number is required in order to obtain a pharmacy intern license in the state of Florida. It is the responsibility of international students to ensure that their visa status allows for the issuance of a Social Security number.

Internship hours must be completed within the guidelines of the Florida Board of Pharmacy, as set forth in the Rule, Chapter 64B16-26 and by the Board of Pharmacy in any state in which the student plans to be licensed. The directors of experiential education will provide assistance and guidance to students regarding pharmacy practice experiences and earning required hours.

International students with questions regarding the validity of their visa for issuance of a Social Security number should contact the Office of International Students and Scholars by phone at (954) 262-7240 or 800-541-6682, extension 27240, or by email at [intl@nova.edu](mailto:intl@nova.edu).

### **Course of Study**

The Doctor of Pharmacy degree is awarded after successful completion of four years of professional study in the College of Pharmacy. The curriculum stresses innovative teaching delivery and assessment methods. Students are provided an initial orientation during which they are exposed to library and online resources, professionalism, and academic expectations.

The curriculum is designed so courses integrate information and build on one another in order to provide students with the knowledge and skills necessary to be successful in the profession. The evolution of the practice of pharmacy has increased the types and depth of care pharmacists provide to patients. The generalist practitioner must collect, analyze, synthesize, and communicate information relating to the selection and use of medication. Pharmacists who practice "at the top of their license" are required to be certified in immunization to perform vaccinations and may need to complete postgraduate residencies and specialty Board Certification for employment in hospitals. The curriculum uses active-learning components to improve critical thought process, reflective activity to stimulate professional growth, and experiential learning to optimize provision of patient-centered care.



Course content, teaching modalities, enhanced assessments, and incorporation of a block structure promote student learning and professional growth. The curricular design is based upon the 3 Ps.

- Prepare knowledge in the classroom.
- Practice skills in the laboratory.
- Provide direct care in experiential activities.

Students will learn, understand, retain, and apply pharmaceutical principles to patient-centered care.

At the end of the first and second years, students will complete required Introductory Pharmacy Practice Experiences (IPPEs). IPPE: Community Pharmacy is a four-week, full-time (160-hour) outpatient experience highlighting the operations and practice management aspects of community pharmacy practice. IPPE: Health Systems is a four-week, full-time (160-hour) inpatient experience highlighting the operations and practice management aspects of health systems pharmacy practice.

During the final year, students will complete eight 160-hour Advanced Pharmacy Practice Experiences (APPEs) in direct patient care areas and elective experiences in specialty health care areas. APPEs continue the student's education by providing opportunities for the clinical application of patient care in a broad variety of health care environments and systems. At this point in the curriculum, it is expected that student pharmacists practice drug therapy monitoring with more independence. Each semester of the fourth-year curriculum includes a Curricular Review course that provides resources for student-initiated review to assess and strengthen students' knowledge and skills developed during the curriculum. Students are required to return to their respective campuses at designated times each semester for live instruction and assessment.

Note: APPEs are full-time commitments for the students (a minimum of 40 hours per week). Students are responsible for having reliable transportation (e.g., personal vehicle) to attend assigned IPPE and APPE sites. Students may be required to secure accommodation at APPE sites away from their home location. APPEs may be taken in any sequence, however students may not begin APPEs until all didactic courses, IPPEs, and assessments, are successfully completed. Failure to successfully complete required coursework may prevent the student from progressing in the curriculum. Students have 60 days after the end of the semester to resolve any grade disputes; after that, the instructor may discard all materials from the semester. This may lead to a delay in graduation. The program must be completed within six academic years from the date of matriculation.

## Travel Study

Opportunities for travel study programs may be provided during the summer. Students must be preapproved to participate in travel study programs.

## Graduation Requirements—Entry Level

To receive a Pharm.D. degree, a student must fulfill the following requirements:

- be of good moral character
- successfully complete all curricular requirements and assessments within six academic years
- have a minimum GPA of 2.0 on a 4.0 scale for alpha grading, or 70 percent for numerical grading
- satisfactorily meet all financial obligations
- complete a minimum of 30 credit hours of didactic coursework and all APPEs at NSU COP, if transferring from another college of pharmacy
- submit to the registrar's office an application for degree/diploma by the posted deadline. Applications received after the deadline will not be considered for that year's commencement ceremony
- must attend the commencement ceremony in person
- receive approval by a College of Pharmacy faculty vote

## Entry-Level Curriculum Outline

The curriculum is frequently being revised and modified to meet the demands of the profession. These courses are representative of the overall requirements of the program at the time of publication. Updates to the curriculum will be posted on the college website (*pharmacy.nova.edu*).

First Year—Fall Semester			Credit Hours
PHRC	4810	Patient Care Basics	2
PHRC	4820	Biochemical Basis of Drug Therapy	2
PHRC	4830	Fundamentals of Pharmacodynamics	3
PHRC	4840	Dosage Forms and Drug Delivery	4
PHRC	4850	Pharmaceutical Calculations	1
PHRC	4861	Essentials of Professional Practice I	2
PHRC	4871	Evidence-Based Practice I	1
PHRC	4881	Leadership and Professional Development I	1
PHRL	4811	Pharmacy Skills Development I	1
PHRC	4891	Integrated Pharmacy Applications I	2
			<b>Total 19</b>

First Year—Winter Semester			Credit Hours
PHRC	4910	Nonprescription Drugs and Self-Care	3
PHRC	4921	Individualized Drug Therapy I: Pharmacokinetics	3
PHRC	4922	Individualized Drug Therapy II: Special Populations	2
PHRC	4931	Integrated Disease Management I	3
PHRC	4962	Essentials of Professional Practice II	2
PHRC	4972	Evidence-Based Practice II	2
PHRC	4982	Leadership and Professional Development II	1
PHRL	4912	Pharmacy Skills Development II	1
PHRC	4992	Integrated Pharmacy Applications II	2
			<b>Total 19</b>

First Year—Summer Semester			Credit Hours
PHRC	4990	IPPE: Community Pharmacy	4
		Elective (Optional)	(1–4)
			<b>Total 4 (minimum)</b>

<b>Second Year—Fall Semester</b>			Credit Hours
PHRC	5800	Patient and Physical Assessment	2
PHRC	5832	Integrated Disease Management II	4
PHRC	5833	Integrated Disease Management III	4
PHRC	5863	Essentials of Professional Practice III	2
PHRC	5873	Evidence-Based Practice III	2
PHRC	5883	Leadership and Professional Development III	1
PHRL	5813	Pharmacy Skills Development III	1
PHRC	5893	Integrated Pharmacy Applications III	2
		Elective	2
			<b>Total 20</b>

<b>Second Year—Winter Semester</b>			Credit Hours
PHRC	5910	Immunology and Clinical Microbiology	2
PHRC	5934	Integrated Disease Management IV	5
PHRC	5935	Integrated Disease Management V	3
PHRC	5964	Essentials of Professional Practice IV	2
PHRC	5974	Evidence-Based Practice IV	2
PHRC	5984	Leadership and Professional Development IV	1
PHRL	5914	Pharmacy Skills Development IV	1
PHRC	5994	Integrated Pharmacy Applications IV	2
		Elective	2
			<b>Total 20</b>

<b>Second Year—Summer Semester</b>			Credit Hours
PHRC	5990	IPPE: Health Systems	4
		Elective (Optional)	(1–4)
			<b>Total 4 (minimum)</b>

<b>Third Year—Fall Semester</b>			Credit Hours
PHRL	6810	Sterile Products Laboratory	1
PHRC	6836	Integrated Disease Management VI	1
PHRC	6837	Integrated Disease Management VII	4
PHRC	6838	Integrated Disease Management VIII	1
PHRC	6865	Essentials of Professional Practice V	4
PHRC	6875	Evidence-Based Practice V	2
PHRC	6885	Leadership and Professional Development V	1
PHRL	6815	Pharmacy Skills Development V	1

PHRC	6895	Integrated Pharmacy Applications V	2
		Elective	2

**Total 19**

<b>Third Year—Winter Semester</b>			Credit Hours
PHRC	7700	Integrated Care	4
PHRC	77XX	APPE*	6
PHRC	77XX	APPE*	6

**Total 16**

<b>Fourth Year—Summer/Fall/Winter Semesters</b>			Credit Hours
PHRC	7710	APPE: Internal Medicine*	6
PHRC	7720	APPE: Ambulatory Care*	6
PHRC	7730	APPE: Advanced Hospital*	6
PHRC	7740	APPE: Community Pharmacy*	6
PHRC	7750	APPE: Elective I*	6
PHRC	7760	APPE: Elective II*	6
PHRC	7770	APPE: Elective III*	6
PHRC	7780	APPE: Elective IV*	6
PHRC	7790	APPE: Elective V (Optional)	(6)
PHRC	7801	Curricular Review I	1
PHRC	7802	Curricular Review II	1
PHRC	7803	Curricular Review III	1

**Total 39 (minimum)**

**Total Curriculum 160 (minimum)**

*\*Two APPEs are taken at the end of Third Year. These same APPEs may not be repeated in Fourth Year.*

## Doctor of Pharmacy (Pharm.D.) Advanced Standing (International Pharmacy Graduates)

In an effort to meet the growing demands of the pharmacy profession, the Nova Southeastern University College of Pharmacy provides an opportunity for international pharmacy graduates to enter the Pharm.D. program with advanced standing. Upon completion of the program, students are eligible to take the North American Pharmacy Licensing Examination (NAPLEX) and the Multistate Pharmacy Jurisprudence Examination (MPJE). This opportunity is designed exclusively for graduates of pharmacy degree programs outside of the United States jurisdiction, allowing them to build upon their pharmacy education and prepare them for clinical pharmacy practice.

The Advanced Standing Doctor of Pharmacy degree educates students to achieve the same outcomes as the Entry-level Pharm.D. degree program. Courses integrate information and build on one another to provide students with the knowledge and skills necessary to be successful in the profession. Clinical Pharmacology, Pharmacotherapeutics, and Nonprescription Therapies courses provide a strong understanding of the principles of drug therapy. The business, human relation, communication, and legal aspects of pharmacy and the health care system are also studied. Courses focus on application of material learned, the use of drugs in the disease process, and developing skills essential to monitoring drug therapy. Students hone their analytical skills with courses in pharmacoconomics and outcomes research and biomedical literature evaluation. All students must complete a minimum of 4 elective credit hours.

Pharmacy practice experiences in community, hospital, and other traditional pharmacy settings facilitate real-life application of the material and provide opportunities to integrate information learned. Full-time practice experiences facilitate application of drug therapy monitoring with more independence. International pharmacists may be awarded advanced standing based on their previous coursework. Advanced standing and the actual degree curriculum will vary based on the matriculant's previous pharmacy coursework. The curriculum provided is representative of a typical international pharmacist entering the advanced-standing program.

The curriculum stresses innovative delivery and assessment methods. Courses will be on campus and approved experiential sites. All lectures, handouts, reading materials, and assessments will be in English.

### Admissions Requirements

The College of Pharmacy selects international pharmacy graduates for the program based on previous academic performance, TOEFL/IELTS scores (if applicable), written applications, pharmacy experience, and letters of reference.

1. Prior to matriculation, applicants must have an earned Bachelor of Pharmacy degree or a Bachelor of Science degree in Pharmacy from an accredited institution. The college will evaluate all official transcripts to determine if the student has successfully completed the courses listed below with a grade of C or higher.

Course	Semester Hours
Anatomy and Physiology .....	6
Biochemistry .....	4
Microbiology .....	3
Pharmaceutics .....	6
Pharmacokinetics.....	4
Pharmacology.....	6

*The college may require an applicant to complete additional prerequisite courses in order to strengthen his or her academic background.*

2. It is required that applicants have a minimum 2.75 GPA on a 4.0 scale on all college-level coursework completed.

3. An official course-by-course evaluation of foreign coursework with the cumulative grade point average included (see under application procedures for further details) must be provided.

4. Proof of English proficiency is required of all applicants. The following standardized tests currently satisfy NSU College of Pharmacy English requirements for nonnative English speakers:

- Test of English as a Foreign Language (TOEFL)\*: score of 213 or above on a computer-based test or 80 or above on the Internet-based test ([toefl.org](http://toefl.org))
- International English Language Testing System (IELTS)\*: score of 6.0 or higher on the test module ([ielts.org](http://ielts.org))

*\* TOEFL and IELTS scores may be no more than two years old at the time of the interview.*

Candidates who have taken college courses in the United States may also prove English proficiency by completing two college-level English composition courses at a regionally accredited college or university in the United States with a grade of a 2.0 or higher on a 4.0 scale.

5. Three letters of reference are required from the dean/director of a pharmacy program, registered pharmacists, or professors.

It is strongly recommended that applicants also submit official scores from the Graduate Record Examination (GRE) and/or the Pharmacy College Admission Test (PCAT).

## Application Procedures

### Primary Application Process

Applicants apply for matriculation into the fall semester. The Office of Admissions processes applications on a “rolling” basis; therefore, it is in the best interest of the applicant to apply early. Listed below are the steps necessary to complete the primary application process.

1. Applicants must submit an electronic PharmCAS application. The interactive, web-based application can be accessed through *PharmCAS.org*. The PharmCAS application process takes four to six weeks.

- **September 3:** PharmCAS submission application deadline for Early Decision
- **February 1:** PharmCAS submission application deadline for regular admission

2. Applicants must submit the materials listed following to PharmCAS.

- official transcripts and foreign evaluations from all colleges and universities attended (must be submitted directly to PharmCAS by the college or university or by the NACES-approved foreign evaluator)
- TOEFL scores, if applicable
- PCAT scores, if applicable
- three letters of reference

### Early Decision

The Early Decision program is a binding option for applicants who decide that a particular Pharm.D. program is their first choice and that they will enroll if accepted. As an Early Decision applicant, you can apply to only one Pharm.D. program. If you are offered admission as an Early Decision applicant, you are obligated to accept the offer, and you will not be permitted to apply to other PharmCAS Pharm.D. programs during the current admissions cycle. If, however, you are denied admission as an Early Decision applicant, you may apply to other Pharm.D. programs. Visit *PharmCAS.org* for more information.

### Secondary Application Process

In addition to completing the PharmCAS application, NSU requires the completion of an NSU application. Upon receipt of the PharmCAS application, NSU will email a link to access our NSU application.

1. Applicants must submit the following materials electronically to NSU:

- a completed NSU application
  - **October 10:** NSU submission application deadline for Early Decision
  - **March 15:** NSU submission application deadline for regular admission

- a nonrefundable application fee of \$50 (U.S.)

2. Applicants must submit the following materials to NSU by **March 15:**

- GRE scores, if applicable (*PharmCAS will not collect GRE scores.*)
  - The NSU code is **5522**.
- IELTS scores, if applicable (*PharmCAS will not collect IELTS scores.*)

All admissions materials submitted to NSU must be mailed to

Nova Southeastern University  
Enrollment Processing Services  
College of Pharmacy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Interview Process

A personal interview is part of the admissions process; however, being interviewed is not a guarantee of admission. Upon receipt of the completed application, a review will be made to determine if the applicant will be granted an interview. Not all applicants will be granted an interview. The Office of Admissions will notify selected applicants to schedule interviews.

### Notice of Acceptance

Notice of acceptance or other action by the Committee on Admissions will be on a “rolling” or periodic schedule. Early completion of the application process is in the best interest of the applicant. Admittance to the college is contingent upon successful completion of all prerequisite coursework prior to the first day of the semester. Proof of completion is required.

### Transcripts

After acceptance, final and official transcripts from all colleges and universities attended, and/or final and official documents, must be received within 90 calendar days from the start of the term. If these final and official transcripts and/or documents are not received by that time, the student will not be allowed to continue class attendance. In addition, financial aid will not be disbursed to a student until he or she provides all the necessary documents required to be fully admitted as a regular student.

### Foreign Coursework

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • *wes.org*

- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly to NSU's Enrollment Processing Services.

3. In order to be considered for admissions, applicants must submit all required documents, including all official test scores from the testing center, directly to NSU's Enrollment Processing Service at the address below.

Nova Southeastern University  
Enrollment Processing Service  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Program Requirements

All students must purchase an iPad for assignments and assessments, and have an active account with an Internet service provider. In addition, students must have ongoing access to a computer capable of connecting to the Internet and playing streaming video files. Online course notes and discussions will be provided to the student through an online course management system. Nova Southeastern University will provide access to email, online databases, and library resources.

It is recommended that all students have their own personal transportation, due to the inconsistency of reliable public transportation. During the final year, all students return to their respective campuses for live instruction and board exam preparation at designated times.

### Tuition: Advanced Standing Program

All tuition and fees are subject to change by the board of trustees without notice.

Tuition for 2018–2019 will be posted on our website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

### Fees and Deposit—All Programs

- Acceptance and Preregistration Deposit—\$1,000. This deposit is required to reserve the accepted applicant's place in the entering, first-year class. This deposit will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is due within three weeks of an applicant's acceptance.
- Health Professions Division General Access Fee—\$145. This fee is required annually.
- NSU Student Services Fee—\$1,350. This fee is required annually.
- Registration Fee—\$30 per semester.
- Late Payment Fee—All tuition and fees not paid within 30 days after the start of the semester will incur a \$100 late fee.
- College of Pharmacy Fees—Additional fees will be incurred for immunization training, pharmacy testing, and other college-approved activities. These fees are estimated at \$1,000 over the course of the program.

The first semester's tuition and fees, less the \$1,000 deposit, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be permitted to register until their previous financial obligations have been met. The financial ability of applicants to complete their training at the college is important. Applicants should have specific plans for financing their professional education. This should include tuition, fees, iPads, computer-related expenses, health insurance, books, printing, required equipment, and living and other miscellaneous expenses.

Each student is required to carry adequate personal medical and hospital insurance. For more information about NSU's required health insurance, visit the website at [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance).

### Graduation Requirements—Advanced Standing

Graduation requirements for students in the Advanced Standing Doctor of Pharmacy degree program are the same as the Entry-level Pharm.D. program, except advanced standing students must successfully complete all curricular requirements and assessments within five academic years.

### **International/Student Visa Information**

It is the responsibility of the applicant to contact the Office of International Students and Scholars for information on immigration regulations and student visa requirements at

Nova Southeastern University  
Attention: Office of International Students and Scholars  
3301 College Avenue  
Fort Lauderdale, Florida 33314-7796

(954) 262-7240  
800-541-6682, ext. 27240  
Fax: (954) 262-3846  
Email: [intl@nsu.nova.edu](mailto:intl@nsu.nova.edu)  
[nova.edu/internationalaffairs/students](http://nova.edu/internationalaffairs/students)

### **Pharmacy Intern License**

A Florida or Puerto Rico pharmacy intern license is a requirement for placement on pharmacy practice experiences. Without a pharmacy intern license, a student cannot complete the curriculum or the requirements of the Pharm.D. degree. A U.S. Social Security number is required in order to obtain a pharmacy intern license in the state of Florida. It is the responsibility of international students to ensure that their visa status allows for the issuance of a Social Security number.

Internship hours must be completed within the guidelines of the Florida Board of Pharmacy, as set forth in the Rule, Chapter 64B16-26 and by the Board of Pharmacy in any state in which the student plans to be licensed. The directors of experiential education will provide assistance and guidance to students regarding pharmacy practice experiences and earning required hours.

International students with questions regarding the validity of their visa for issuance of a Social Security number should contact the Office of International Students and Scholars by phone at (954) 262-7240 or 800-541-6682, extension 27240, or by email at [intl@nova.edu](mailto:intl@nova.edu).



## Advanced Standing Curriculum Outline

The curriculum is frequently being revised and modified to meet the demands of the profession. These courses are representative of the overall requirements of the program at the time of publication. Updates to the curriculum will be posted on the college website (*pharmacy.nova.edu*).

First Year—Fall Semester			Credits
PHRC	4000	Medical Terminology	0
PHRC	4200	Pharmaceutical Calculations	1
PHRC	4300	Pharmacy and the U.S. Health Care System	2
PHRC	4580	Introduction to Professionalism and Leadership I	1
PHRC	5300	Social and Behavioral Pharmacy	2
PHRC	5350	Research Design and Statistics	3
PHRC	5380	Pharmacy Law	2
PHRC	5410	Pharmacotherapy I	3
PHRC	5580	IPPE: Community I	1.5
PHRC	6260	Clinical Pharmacology	4
			<b>Total 19.5</b>

First Year—Winter Semester			Credits
PHRC	4550	Introduction to Drug Information Resources and Health Informatics	2
PHRC	4680	Introduction to Professionalism and Leadership II	1
PHRC	5150	Nonprescription Therapies	3
PHRC	5330	Communication in Patient Care	2
PHRC	5420	Pharmacotherapy II	5
PHRC	5680	IPPE: Community II	1.5
PHRL	5710	Patient Care Management Lab I	1
PHRE		Elective	2
			<b>Total 17.5</b>

<b>Second Year—Fall Semester</b>			Credits
PHRC	5000	Physical Assessment	2
PHRC	6250	Pharmacodynamics V	3
PHRC	6350	Pharmacy Management	3
PHRC	6380	Public Health and Pharmacy Practice	2
PHRC	6430	Pharmacotherapy III	6
PHRC	6580	IPPE: Health System	2
PHRL	6720	Patient Care Management Lab II	1
<b>Total</b>			<b>19</b>

<b>Second Year—Winter Semester</b>			Credits
PHRC	5570	Biomedical Literature Evaluation	2
PHRC	6370	Pharmacoeconomics/Outcomes Research	2
PHRC	6440	Pharmacotherapy IV	6
PHRC	6540	Pharmacy Practice Seminar	1
PHRC	6680	IPPE: Pharmacy Service	2
PHRL	6730	Patient Care Management Lab III	1
PHRE		Elective	2
<b>Total</b>			<b>16</b>

<b>Third Year—Summer/Fall/Winter</b>			Credits
PHRC	7710	APPE: Internal Medicine	6
PHRC	7720	APPE: Ambulatory Care	6
PHRC	7730	APPE: Advanced Hospital	6
PHRC	7740	APPE: Community Pharmacy	6
PHRC	7750	APPE: Elective I	6
PHRC	7760	APPE: Elective II	6
PHRC	7770	APPE: Elective III	6
PHRC	7801	Curricular Review I	1
PHRC	7802	Curricular Review II	1
PHRC	7803	Curricular Review III	1
<b>Total</b>			<b>45</b>
<b>Total Curriculum</b>			<b>117 (minimum)</b>

## Entry-Level and Advanced Standing Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and credit hours.

### PHRC (Core) and PHRL (Lab) Courses

#### PHRC 4000—Medical Terminology

This online course will provide an overview of medical terminology. Upon completion, students will demonstrate proficiency in the medical terminology required to be successful in pharmacy education. (8-0-0)

#### PHRC 4110—Pharmaceutics I

Pharmaceutics I emphasizes the theories and applications of underlying physicochemical principles in preparation of pharmaceutical dosage form. It also emphasizes biopharmaceutics principles, as well as drug development and approval processes. (48-0-3)

#### PHRC 4120—Pharmaceutics II

This course deals with the study of traditional and basic pharmaceutical dosage forms, their fundamental characteristics, and their routes of administration. The dosage forms that are examined in the course include oral liquids, parenterals, solids, molded solids, semi-solids, nasal, pulmonary, buccal, sublingual, otic, ophthalmic, transdermal, and controlled release dosage forms and systems. **Prerequisites:** PHRC 4110 and 4200 **Corequisite:** PHRL 4130 (32-0-2)

#### PHRL 4130—Pharmaceutics Compounding Laboratory

This course is a compounding laboratory for the basic pharmaceutical formulations that can be prepared and dispensed in a pharmacy setting. Preparation and dispensing of pharmaceutical solutions, emulsions, suspensions, semi-solids, and solid dosage forms are studied in the laboratory. Basic parenteral procedures and calculations are included. **Prerequisites:** PHRC 4110 and 4200 **Corequisite:** PHRC 4120 (16-48-1)

#### PHRC 4200—Pharmaceutical Calculations

This course introduces the common systems of measurement and mathematical principles used in the traditional practice of pharmacy. Emphasis is also placed on calculations relevant to specific dose regimens based on patient-specific clinical parameters. Competencies developed throughout the course shall prepare students to accurately analyze and solve real-life pharmaceutical problems involving calculations used in the preparation and dispensing of pharmaceutical preparations. (16-0-1)

#### PHRC 4210—Pharmacodynamics I

This is the first course in the pharmacodynamics sequence. This course applies the principles of organic chemistry in

order to understand drug actions at the molecular level. It introduces students to the basic pharmacokinetic principles (absorption, distribution, metabolism, and elimination) as it pertains to pharmacology. The remainder of the course covers physiological receptors and key pharmacogenomic concepts. (48-0-3)

#### PHRC 4220—Pharmacodynamics II

This is the second course in the pharmacodynamics sequence. This course applies the principles of biochemistry, physiology, and pathophysiology to help students understand drug actions at the receptor, cellular, and system levels under normal physiological and pathological conditions. It focuses on the drugs that act on the autonomic nervous system, cardiovascular system, and blood components. **Prerequisites:** PHRC 4210 and 4410 (48-0-3)

#### PHRC 4250—Pharmacokinetics

The principles involved in drug absorption, distribution, metabolism, and elimination in the body are discussed. Mechanisms and rates of these processes are covered. Examines how the fate of drugs in the body is influenced by physiologic and biochemical processes. Examines the mathematical techniques involved in the graph analysis of drug-blood-level kinetic curves to determine pharmacokinetic parameters. This course describes the application of basic pharmacokinetic principles in therapeutic drug monitoring and in toxicology. (64-0-4)

#### PHRC 4300—Pharmacy and the U.S. Health Care System

This course covers concepts related to the structure and function of the United States health care system. Emphasis is placed on the analysis of issues associated with personnel; the finance, organization, and regulation of the health care system; and the provision of pharmacy services in the context of the health care enterprise. (32-0-2)

#### PHRC 4410—Physiology and Pathophysiology I

This two-semester course reviews the physical and chemical processes occurring in the human body that are responsible for the maintenance of health and the pathophysiology of disease. Topics covered during the first semester include membrane and cellular physiology, genetic diseases, and the physiology and pathophysiology of the integumentary, musculoskeletal, nervous, lymphatic, and cardiovascular systems. The second semester (PHRC 4420) addresses the physiology and pathophysiology of the digestive, urinary, respiratory, endocrine, and reproductive systems. (64-0-4)

#### PHRC 4420—Physiology and Pathophysiology II

This two-semester course reviews the physical and chemical processes occurring in the human body that are responsible

for the maintenance of health and the pathophysiology of disease. The second semester reviews the physiology and pathophysiology of the digestive, urinary, respiratory, endocrine, and reproductive systems. (64-0-4)

#### **PHRC 4550—Introduction to Drug Information Resources and Health Informatics**

This course provides a detailed review of the fundamental tools necessary to identify the quality of health care information available in primary, secondary, and tertiary resources. Students learn the strengths and weaknesses of the various references and how to apply their use in practice. Active learning experiences include retrieving scientific literature, utilizing electronic resources, performing literature searches, and formulating responses to drug information requests. Students also learn fundamental aspects of health informatics including basic terminology and tools (e.g., electronic health records, eprescribing, and clinical decision support systems), both the benefits and limitations associated with the use of health information technology, and the legal/ethical considerations in cyber environments. (32-0-2)

#### **PHRC 4580—Introduction to Professionalism and Leadership I**

Students will achieve a basic understanding of leadership, service, and professional activities as they relate to the practice of pharmacy. This course will provide an introduction to, and overview of, organized pharmacy on a local, state, and national level, with a focus on professionalism. Students will be exposed to opportunities for community engagement hours within the profession and the university and will be expected to become involved in areas that support their future professional goals. Students will learn from a combination of lectures, service activities, and reflective exercises. Students are expected to participate as team members, to improve listening and observation skills, and to improve professional demeanor. (16-0-1)

#### **PHRC 4680—Introduction to Professionalism and Leadership II**

Students will achieve a basic understanding of leadership, service, and professional activities as they relate to the practice of pharmacy. This course will provide an introduction to, and overview of, organized pharmacy on a local, state, and national level, with a focus on leadership. Students will be exposed to opportunities for community engagement hours within the profession and the university and will be expected to become involved in areas that support their future professional goals. Students will learn from a combination of lectures, service activities, and reflective exercises. Students are expected to participate as team members, to improve listening and observation skills, and to improve professional demeanor. (16-0-1)

#### **PHRC 4700—Biochemistry**

This course covers the structure, function, and metabolism of lipids, proteins, carbohydrates, and nucleic acids, and body systems. It includes pharmaceutical application of material. (64-0-4)

#### **PHRC 4810—Patient Care Basics**

This course provides students with an introductory toolkit to providing patient-centered care. It introduces students to the pharmacist's patient-care process and its role in delivering consistent patient-care services. The pharmacist's role in the medication-use process is explored and the use of information technology and quality measures in these processes are addressed. Basic patient care skills of vital sign assessment, point-of-care testing, interpretation of medical and pharmacy terminology, and laboratory values are introduced and social, behavioral and communication factors impacting patient care are discussed. (16-32-2)

#### **PHRL 4811—Pharmacy Skills Development I**

This is the first of a five-course, pharmacy-skills development series that integrates principles of pharmaceutical sciences, social and behavioral pharmacy, and pharmacy practice. In this course, students apply knowledge and practice skills complementary to content in the first semester of the curriculum. Skills practiced include written and verbal communication, pharmacy calculations, application of basic knowledge of commonly used medications, identification of errors, verification of orders, and drug information retrieval and provision. Team-building activities are incorporated throughout the course to enhance professionalism and communication skills. (0-48-1)

#### **PHRC 4820—Biochemical Basis of Drug Therapy**

This course focuses on the structure and function of vitamins, carbohydrates, proteins, hormones, nucleic acids, and lipids, as well as bioenergetics and major catabolic pathways at the cellular level. It establishes the biochemical basis for cell structure and emphasizes an integrated approach to the understanding of cellular metabolism; provides a biochemical, genetic, and molecular basis for understanding disease and drug functioning; and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. (32-0-2)

#### **PHRC 4830—Fundamentals of Pharmacodynamics**

This course applies the concepts of organic chemistry to help students understand drug action at the molecular level. It introduces students to basic pharmacological principles that explain drug effects as they pertain to mechanisms of action and drug disposition into different organs and tissues. In addition, this course describes drug actions at physiological receptors focusing on compounds that act on the autonomic nervous system. (48-0-3)

**PHRC 4840—Dosage Forms and Drug Delivery**

This course integrates basic anatomical and physiological features of various routes of administrations, drug and excipients physicochemical characteristics, and biopharmaceutical principles into the design and formulation of various conventional pharmaceutical dosage forms. It emphasizes the drug approval processes and regulatory standards. The course explores in detail most pharmaceutical dosage forms, their characteristics and uses, formulation composition and requirements, manufacturing methods and compendial testing, and packaging. (64-0-4)

**PHRC 4850—Pharmaceutical Calculations**

This course introduces the common systems of measurement and mathematical principles used in the traditional practice of pharmacy. Emphasis is also placed on calculations relevant to specific dose regimens based on patient specific clinical parameters. Competencies developed throughout the course shall prepare students to accurately analyze and solve real-life pharmaceutical problems involving calculations used in the preparation and dispensing of pharmaceutical preparations. (16-0-1)

**PHRC 4861—Essentials of Professional Practice I**

This is the first of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses the structure and function of health care systems, laws that govern the pharmacist's scope of practice and the foundation for effective patient communication. (32-0-2)

**PHRC 4871—Evidence-Based Practice I**

This is the first of a five-course sequence that prepares the student to retrieve, evaluate, and use the medical and scientific literature and other drug information resources. It is designed to prepare students to apply drug information skills for the delivery of patient-centered care using evidence-based principles to improve outcomes. Students learn the strengths and weaknesses of the various references and how to apply their use in practice. Active learning experiences include retrieving scientific literature, utilizing electronic resources, performing literature searches, and formulating responses to basic drug information requests. (16-0-1)

**PHRC 4881—Leadership and Professional Development I**

This is the first in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course presents the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional

growth. Students will develop professional goals, create a professional bio and curriculum vitae, and identify professional areas of interest to guide career planning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

**PHRC 4891—Integrated Pharmacy Applications I**

This is the first in a series five courses offered at the end of each semester designed to integrate and apply knowledge and skills from previous courses. Students in each course become certified in a specific area of pharmacy and receive software training. The Bring Back and Look Forward sections of the course reinforce concepts and introduce material to prepare students for future courses. This course offers certification in immunization. It brings back pharmaceutical calculations, frequently used drugs, and pharmacy law cases. It introduces basic patient assessment concepts in preparing students for the Nonprescription Drugs and Self-Care course. (32-0-2)

**PHRC 4910— Nonprescription Drugs and Self-Care**

This course is designed to familiarize the student with the principles and theories of self-care, nonprescription medications, medical devices, and home-testing kits commonly found in community pharmacy practice. The pharmacist's role in self-care is explored and students apply the pharmacist's patient-care process in solving patient-care cases. It approaches medical conditions by focusing on typical presenting signs and symptoms. For each condition, students explore the basic causes, signs, and symptoms; basic self-care guidelines; and when to refer patients. Emphasis is placed on problem-solving processes involved in the therapeutic evaluation, rational use, and recommendation of treatment to patients. Topics include dermatological, respiratory, ophthalmic, otic, oral, gastrointestinal, and genital-urinary disorders. Durable medical products are also addressed. A very strong emphasis is placed on patient care and patient counseling. (43-0-3)

**PHRL 4912—Pharmacy Skills Development II**

This is the second of a five-course, pharmacy-skills series that integrates principles of pharmaceutical sciences, social and behavioral pharmacy, and pharmacy practice. In this course, students apply knowledge and practice skills complementary to content in the second semester of the curriculum. Skills practiced include written and verbal communication, compounding of nonsterile formulations, pharmacy calculations, application of basic knowledge of commonly used medications, identification of errors, verification of orders, and drug information retrieval and provision. Team-building activities are incorporated throughout the course to enhance professionalism and communication skills. (0-48-1)

**PHRC 4921—Individualized Drug Therapy I: Pharmacokinetics**

This is the first of two courses that explores the individualization of drug therapy. This course provides students with the foundation in pharmacokinetic concepts and application. The principles involved in drug absorption, distribution, metabolism, and elimination in the human body are discussed, and mechanisms and rates of these processes are studied. The influence of physiologic and biochemical process on the fate of drugs in the body are explored and pharmacokinetic principles are applied in the therapeutic monitoring of drugs. (43-0-3)

**PHRC 4922—Individualized Drug Therapy II: Special Populations**

This is the second of two courses that explores the individualization of drug therapy. This course focuses on providing students with a foundation on pharmacogenomic concepts and treatment of patient populations with altered pharmacokinetic and/or pharmacodynamic parameters. Genetic, age-related, and condition-specific alterations in drug disposition are explored and pharmacotherapeutic concepts related to pediatric, geriatric, and pregnancy/lactation populations are addressed. (32-0-2)

**PHRC 4931—Integrated Disease Management I**

This is the first in a series that integrates the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select, and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient-care process in solving patient-care cases. Topics included are women's health, gastrointestinal/urologic disorders, anemia, and nutrition. (48-0-3)

**PHRC 4962—Essentials of Professional Practice II**

This is the second of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication use process and deliver patient-centered care. This course addresses professional communications, managing people, ethics in professional practice, and quality improvement in the medication-use process. (32-0-2)

**PHRC 4972—Evidence-Based Practice II**

This is the second of a five-course sequence that prepares the student to retrieve, evaluate, and use the medical and scientific literature and other drug information resources. This course is designed to expose students to the fundamentals of research design and methodology and applied biostatistical data analysis. It focuses on familiarizing students with general methodologic approaches used in experimental design, statistical analysis of data, investigator's responsibilities, ethical considerations in

research, protection of human subjects, and institutional review boards (IRBs). The course also introduces health informatics in practice. (32-0-2)

**PHRC 4982—Leadership and Professional Development II**

This is the second in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course continues to present the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional growth. Students will reflect on their strength, career goals, and ability to guide their learning to achieve and expand on these. Teamwork is reinforced through team-based learning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

**PHRC 4990—Introductory Pharmacy Practice Experience: Community Pharmacy**

The Introductory Pharmacy Practice Experience (IPPE): Community Pharmacy is a four-week, full-time (160-hour total), out-of-classroom, supervised, outpatient experience highlighting the operations and practice management aspects of community pharmacy practice. The experience is designed to introduce students to medication-use processes, patient and health care provider communication, and outpatient health care delivery. Emphasis is placed on medication dispensing; patient counseling; pharmacy policy/procedure; application of local, state, and federal regulations; and exploration of the community pharmacist's approach to patient care. Students will participate in all applicable pharmacy operations and patient-care activities, reply to drug information questions, complete projects, and participate in topic discussions. (0-160-4)

**PHRC 4992—Integrated Pharmacy Applications II**

This is the second in a series of five courses offered at the end of each semester designed to integrate and apply knowledge and skills from previous courses. Students in each course become certified in a specific area of pharmacy and receive software training. The Bring Back and Look Forward sections of the course series reinforces concepts and introduces material to prepare students for future courses. This course offers certification in tobacco cessation counseling. It brings back pharmacokinetics calculations, frequently used drugs, and integrated disease management cases. It reviews expectations for experiential courses in preparation for the Introductory Pharmacy Practice Experience (IPPE): Community Pharmacy course. (32-0-2)

### **PHRC 5000—Physical Assessment**

This course is intended to teach patient assessment in ambulatory and inpatient settings. Clinical interview and physical examination techniques will be explained and demonstrated, with a video lecture series assessed via an electronic course management system. During the active learning portion of the course, students will demonstrate these techniques. Charting, interpretation of findings, and evaluation of common clinical entities, especially as related to medications, will be integrated into these activities. This course is taught as an institute. (15-48-2)

### **PHRC 5150—Nonprescription Therapies**

This course discusses the symptoms experienced by patients and the recommended use of nonprescription therapies including drug and nondrug treatments. Patient education information, potential drug interactions, and monitoring of outcome will also be discussed. (48-0-3)

### **PHRC 5230—Pharmacodynamics III**

The third course in the pharmacodynamics sequence of classes, this course applies the principles of biochemistry, physiology, and pathophysiology to help students understand drug actions at the receptor, cellular, and system levels under normal physiological and pathological conditions. It covers agents used to treat metabolic disorders, such as diabetes, and drugs influencing the endocrine system. This course also introduces CNS pharmacology as it pertains to the pharmacological treatment of psychological disorders. **Prerequisites:** PHRC 4210, 4410, and 4420 (64-0-4)

### **PHRC 5240—Pharmacodynamics IV**

The fourth course in the pharmacodynamics sequence of classes, this course applies the principles of biochemistry, physiology, and pathophysiology to help students understand drug actions at the receptor, cellular, and system levels under normal and pathological conditions. This course initially focuses on drugs acting either peripherally or centrally to treat pain and inflammation. The remainder of the course covers anti-infective agents including antibacterials, antifungals, and antiviral drugs. **Prerequisites:** PHRC 4210, 4410, and 4420 (64-0-4)

### **PHRC 5300—Social and Behavioral Pharmacy**

Sociological, psychological, and behavioral aspects of pharmacy practice are introduced to help students understand patients' perspectives of health and illness and the implication for the pharmacist's roles. Variability in patients' individual needs, relationships with health care providers, and medication use behavior are explored. **Prerequisite:** PHRC 4300 (32-0-2)

### **PHRC 5330—Communication in Patient Care**

This course focuses on communication models, effective patient interaction, and the role of communication in modern pharmacy practice. Specific communication

strategies to help foster therapeutic relationships with patients in various settings are presented. Issues related to conflict resolution, active listening, distortion and bias, and cultural competency are explored. **Prerequisites:** PHRC 4300 and 5300 (32-0-2)

### **PHRC 5350—Research Design and Statistics**

Different aspects of research methodology and statistics are covered in this course. Basic statistical concepts are covered and students are expected to understand, evaluate, and generate clinical, biomedical, and health care services research. (48-0-3)

### **PHRC 5380—Pharmacy Law**

This course covers federal and state statutes, rules, and regulations that affect pharmacy practice and selected aspects of general law and ethics. It emphasizes the interpretation of those laws affecting the practice of community and institutional pharmacy. Ethical situations are also presented. The course is intended to provide a framework for the student to value the interplay between pharmacy and law and provide practical guidance to act lawfully, professionally, and ethically. (32-0-2)

### **PHRC 5410—Pharmacotherapy I**

The overarching goal of the pharmacotherapy curricular component is to integrate concepts from previous courses in the curriculum—including pathophysiology, pharmacokinetics, calculations, biopharmaceutics, and pharmacodynamics—into the selection of pharmacotherapy for specific disease states in specific patients and populations. The pharmacotherapy curricular components are divided into four courses. Pharmacotherapy I is the prerequisite for the remainder of the sequence, as it provides the foundation in clinical pharmacokinetic theory and application; introductory concepts required to develop, evaluate, monitor, and document a pharmacotherapeutic plan; and common health promotion areas pertinent to pharmacists. **Prerequisites:** PHRC 4200, 4210, 4220, 4250, 4410, and 4420 (48-0-3)

### **PHRC 5420—Pharmacotherapy II**

Pharmacotherapy II is the second of four courses in the pharmacotherapy curricular component. Material presented in this course continues to integrate concepts from previous courses in the curriculum (pathophysiology, pharmacokinetics, calculations, biopharmaceutics, and pharmacodynamics) and builds upon the preceding pharmacotherapy course. The course is divided into disease-state modules and focuses on the development, monitoring, and evaluation of pharmacotherapeutic plans through application of clinical pharmacokinetic principles, assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. **Prerequisites:** PHRC 4550 and 5410 **Corequisite:** PHRL 5710 (80-0-5)

**PHRC 5570—Biomedical Literature Evaluation**

This course provides a framework to guide the student through the thought processes necessary to evaluate and synthesize primary literature using an evidence-based approach. Through didactic and application-based learning, students become proficient in literature evaluation techniques to assess therapeutic value and applicability in patient care. **Prerequisites:** PHRC 4550 and 5350 (32-0-2)

**PHRC 5580—IPPE: Community I**

Students are exposed to the role and responsibilities of the professionally oriented community pharmacist and the importance of effective communication among pharmacist, patients, and other health care providers. On-site experience provides basic knowledge of the drug distribution process in a community pharmacy. Legal, ethical, and practice issues in pharmacy are discussed during classroom activities. (8-60-1.5)

**PHRC 5680—IPPE: Community II**

This course is a continuation of PHRC 5580. Students are exposed to the role and responsibilities of the professionally oriented community pharmacist and the importance of effective communication among pharmacist, patients, and other health care providers. On-site experience provides basic knowledge of the drug distribution process in a community pharmacy. Legal, ethical, and practice issues in pharmacy are discussed during classroom activities. (8-60-1.5)

**PHRC 5700—Medical Microbiology**

This course covers the underlying nature of infectious microorganisms and emphasizes cause, prevention, and control of infectious diseases; immunology; mycology; parasitology; bacteriology; virology. (48-0-3)

**PHRL 5710—Patient Care Management Laboratory I**

This is the first of three in the patient care management (PCM) sequence of laboratories. PCM I covers the following specific pharmacotherapeutic topics parallel to those in PHRC 5420: anticoagulation, cardiovascular disease, renal disease (including anemia), pediatrics, medication safety, and critical care (including adult cardiac life support). Students will have the opportunity to hone communication skills in both simulated inpatient and outpatient settings. Team building activities are incorporated throughout the course to enhance professionalism and communication skills among health care professionals. The laboratory uses realistic, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, legal, and social-behavioral issues. Patient care plans are systematically documented and communicated based on patient cases. This course emphasizes decision-making processes that allow pharmacy students to integrate their knowledge

and skills in an interactive learning environment. Physical assessment techniques and interpretation are interwoven into the laboratory sessions. The weekly classroom component of the course provides students with interprofessional interactions, patient encounters, and additional active learning exercises to complement laboratory activities. Students are assessed for their knowledge of commonly used medications throughout the course. **Prerequisite:** PHRC 5410 **Corequisite:** PHRC 5420 (0-28-1)

**PHRC 5800—Patient and Physical Assessment**

This course provides the students with the knowledge and skill necessary to perform comprehensive patient assessments utilizing the skills of history taking, inspection, palpation, percussion, and auscultation. Charting, interpretation of findings, and evaluation of common clinical conditions, especially as related to medications, are integrated into these activities. The course is taught using a combination of self-study and a laboratory section that allows students to practice and demonstrate acquisition of skills. (16-48-2)

**PHRL 5813—Pharmacy Skills Development III**

This is the third of a five-course, pharmacy-skills development series that integrates principles of pharmaceutical sciences, social and behavioral pharmacy, and pharmacy practice. In this course, students apply knowledge and practice skills complementary to content in the third semester of the curriculum. Skills practiced include written and verbal communication; compounding of nonsterile formulations; pharmacy calculations; application of commonly used medications knowledge; identification of errors; verification of orders; drug information retrieval, evaluation, and provision; patient assessment; and selection and monitoring of pharmacotherapy patient-care plans. Team-building activities are incorporated throughout the course to enhance professionalism and communication skills. (0-48-1)

**PHRC 5832—Integrated Disease Management II**

This is the second in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. The course focuses on the treatment of cardiovascular diseases. (64-0-4)

**PHRC 5833—Integrated Disease Management III**

This is the third in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics,



and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focuses on the treatment of respiratory, endocrine, and renal diseases. (64-0-4)

#### **PHRC 5863—Essentials of Professional Practice III**

This is the third of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses health care economics, finance, managing resources, population health, and patient health education. (32-0-2)

#### **PHRC 5873—Evidence-Based Practice III**

This is the third of a five-course sequence that prepares the student to retrieve, evaluate, and use the medical and scientific literature and other drug information resources. The course continues to expand on the use of health informatics in practice. It introduces pharmacoepidemiology and applies the fundamentals of biostatistical data analysis, research design, and methodology to evaluate scientific and medical literature. (32-0-2)

#### **PHRC 5883—Leadership and Professional Development III**

This is the third in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course continues to present the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional growth. Students will reflect on their strength, career goals, and ability to guide their learning to achieve and expand on these. Teamwork is reinforced through team-based learning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

#### **PHRC 5893—Integrated Pharmacy Applications III**

This is the third in a series of five courses offered at the end of each semester designed to integrate and apply knowledge and skills from previous courses. Students in each course become certified in a specific area of pharmacy and receive software training. The Bring Back and Look Forward sections of the course reinforce concepts and introduce material to prepare students for future courses. This course offers certification in cardiovascular disease risk management. It brings back pharmaceutical calculations, frequently used drugs, self-administered drugs, pharmacy law, and pharmacotherapy cases. It introduces basics of

immune response in preparation for the infectious disease and immunology courses that follow. (32-0-2)

#### **PHRC 5910—Immunology and Clinical Microbiology**

This course introduces the fundamentals of microbiology and immunology. It prepares students for the Integrated Disease Management courses in infectious and immunologic diseases that follow. Topics covered include an introduction to the classification, morphology, and physiology of microorganisms that primarily cause human pathology, such as bacteria, viruses, fungi, and protozoans. The body's immune response and mechanisms of defense at the cellular and humoral level will also be covered. (32-0-2)

#### **PHRL 5914—Pharmacy Skills Development IV**

This is the fourth of a five-course, pharmacy-skills development series that integrates principles of pharmaceutical sciences, social and behavioral pharmacy, and pharmacy practice. In this course, students apply knowledge and practice skills complementary to content in the fourth semester of the curriculum. Skills practiced include written and verbal communication; pharmacy calculations; application of commonly used medications knowledge; identification of errors; verification of orders; drug information retrieval, evaluation, and provision; patient assessment; and selection and monitoring of pharmacotherapy patient-care plans. Team-building activities are incorporated throughout the course to enhance professionalism and communication skills. (10-48-1)

#### **PHRC 5934—Integrated Disease Management IV**

This is the fourth in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focuses on the treatment of infectious diseases. (80-0-5)

#### **PHRC 5935—Integrated Disease Management V**

This is the fifth in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focuses on the treatment of diseases of the immune system. (48-0-3)

**PHRC 5964—Essentials of Professional Practice IV**

This is the fourth of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses the management of a community pharmacy, quality in the medication use process, and clinical prevention strategies. (32-0-2)

**PHRC 5974—Evidence-Based Practice IV**

This is the fourth of a five-course sequence that prepares the student to retrieve, evaluate, and use the medical and scientific literature and other drug information resources. This course introduces data analytics and the writing and presentation of a research plan. Consumer health informatics is also discussed. (32-0-2)

**PHRC 5984—Leadership and Professional Development IV**

This is the fourth in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course continues to present the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional growth. Students will reflect on their strength, career goals, and their ability to guide their learning to achieve and expand on these. Teamwork is reinforced through team-based learning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

**PHRC 5990—Introductory Pharmacy Practice Experience: Health Systems**

The Introductory Pharmacy Practice Experience (IPPE): Health Systems is a four-week, full-time (160-hour total), out-of-classroom, supervised, inpatient experience highlighting the operations and practice management aspects of health systems pharmacy practice. The experience is designed to introduce students to medication-use processes, patient and health care provider communication, inpatient health care delivery, and the role of the pharmacist in this setting. Emphasis is placed on medication dispensing; drug procurement/inventory control; application of institutional pharmacy policy/procedure; and local, state, and federal regulations. Students will participate in all applicable pharmacy operations and patient-care activities, reply to drug information questions, complete projects, and participate in topic discussions. (64-0-4)

**PHRC 5994—Integrated Pharmacy Applications IV**

This is the fourth in a series five courses offered at the end of each semester designed to integrate and apply knowledge

and skills from previous courses. Students in each course become certified in a specific area of pharmacy and receive software training. The Bring Back and Look Forward sections of the course reinforce concepts and introduce material to prepare students for future courses. This course offers certification in tobacco cessation counseling. It brings back pharmaceutical and pharmacokinetics calculations, frequently used drugs, pharmacy law, and pharmacotherapy cases. It introduces pain management basics in preparation for the courses that follow. It reviews expectations for experiential courses in preparation for the Introductory Pharmacy Practice Experience: Health Systems course. (32-0-2)

**PHRC 6250—Pharmacodynamics V**

The fifth course in the pharmacodynamics sequence of classes, this course applies the principles of biochemistry, physiology, and pathophysiology to understand drug actions at the receptor, cellular, and system levels under normal physiological and pathological conditions. It covers antineoplastic agents and immunomodulators. The remainder of the course introduces students to the principles of toxicology and poison management. **Prerequisites:** PHRC 4210, 4410, and 4420 (48-0-3)

**PHRC 6260—Clinical Pharmacology**

This course provides the student with the background necessary for the clinical sciences and helps students acquire a body of knowledge about the drugs that will provide the foundation by which pharmacists practice pharmaceutical care. (64-0-4)

**PHRC 6350—Pharmacy Management**

An overview of management theories, human resources, and financial management applied to pharmacy operations is provided in this course. Elements of supervision, management, and leadership are discussed in an effort to develop skills needed to operate a pharmacy effectively. **Prerequisite:** PHRC 4300 (48-0-3)

**PHRC 6370—Pharmacoeconomics and Outcomes Research**

This course focuses on theories and methodologies of pharmacoeconomics and outcomes research. Applications to clinical practice, the pharmaceutical industry, and formulary decision making are explored. **Prerequisite:** PHRC 5350 (32-0-2)

**PHRC 6380—Public Health and Pharmacy Practice**

This course covers public health foundations, concepts, and tools as they apply to pharmacy practice. Social determinants of health, health disparities, and cultural competencies, as well as their impact on population health, are emphasized. Skills related to epidemiology, pharmacoepidemiology, surveillance, and risk assessment are discussed. The course also explores models of pharmacy-run public health programs. **Prerequisites:** PHRC 4300 and 5300 (32-0-2)

### **PHRC 6430—Pharmacotherapy III**

This is the third of four courses in pharmacotherapy. Pharmacotherapy III combines rational pharmacotherapy with clinical pharmacokinetics. Courses are divided into disease-state modules and focus on the therapeutic decision-making process. Concepts include pharmacotherapy management based on the assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. The concepts and techniques of biopharmaceutics and pharmacokinetics are also applied to the practical design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions. Application of previous course materials, including pharmacodynamics and pharmacokinetics, is required. Disease categories presented in this course may build upon previous pharmacotherapy courses. **Prerequisite:** PHRC 5410 **Corequisite:** PHRL 6720 (96-0-6)

### **PHRC 6440—Pharmacotherapy IV**

Pharmacotherapy IV is the fourth and final course in the pharmacotherapy curricular component. Material presented in this course continues to integrate concepts from previous courses in the curriculum (pathophysiology, pharmacokinetics, calculations, biopharmaceutics, and pharmacodynamics) and builds upon the preceding pharmacotherapy courses. The course is divided into disease-state modules and focuses on the development, monitoring, and evaluation of pharmacotherapeutic plans through application of clinical pharmacokinetic principles, assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. The class concludes with a high-stakes practicum in which students must demonstrate competence in select course outcomes. **Prerequisite:** PHRC 5410 **Corequisite:** PHRL 6730 (96-0-6)

### **PHRC 6540—Pharmacy Practice Seminar**

The College of Pharmacy Seminar course is the culmination of the student's medical information evaluation skills pathway. This seminar includes research of a given topic, a scientific paper describing research outcomes, a professional poster, and platform presentations. Presentations will be made to peers and health care professionals, providing valuable experience in presentation ability and in medical information resource utilization. **Prerequisites:** PHRC 4550, 5350, and 5570 (16-0-1)

### **PHRC 6580—IPPE: Health System**

Students are exposed to various aspects of institutional pharmacy practice including drug storage, drug security, and policies and procedures. On-site experience provides basic knowledge of the drug distribution process in a hospital setting. Activities will include prescription preparation, using a unit dose system, use of references, and inventory management. **Prerequisite:** PHRC 5420 (0-120-2)

### **PHRC 6680—IPPE: Pharmacy Service**

This course provides an introduction to the application of skills, concepts, and knowledge acquired in the didactic component of the curriculum in institutional pharmacy settings. This course promotes the development of pharmacy practice skills and furthers the development of communication skills. On-site experience enables students to prepare for advanced pharmacy practice experiences. **Prerequisite:** PHRC 5420 (0-120-2)

### **PHRL 6720—Patient Care Management Laboratory II**

This is the second of three in the patient care management (PCM) sequence of laboratories. PCM II mirrors the disease states discussed in PHRC 6430. The weekly classroom component of the course exposes students to additional exercises to prepare for and complement laboratory activities. Students will have the opportunity to hone communication skills in both simulated inpatient and outpatient settings. Team building activities are incorporated throughout the course to enhance professionalism and communication skills among health care professionals. The laboratory uses realistic, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, legal, and social-behavioral issues. Patient care plans are systematically documented and communicated based on patient cases. This course emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and skills in an interactive learning environment. Physical assessment techniques and interpretation are interwoven into the laboratory sessions. Students are assessed for their knowledge of commonly used medications throughout the course. **Prerequisite:** PHRL 5710 **Corequisite:** PHRC 6430 (0-28-1)

### **PHRL 6730—Patient Care Management Laboratory III**

This is the third of three in the patient care management (PCM) sequence of laboratories. PCM III covers the following specific pharmacotherapeutic topics (as those in PHRC 6440). The weekly classroom component of the course provides guidance and exercises to prepare for and complement laboratory activities. Students will have the opportunity to hone communication skills in both simulated inpatient and outpatient settings. Team building activities are incorporated throughout the course to enhance professionalism and communication skills among health care professionals. The laboratory uses realistic, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, legal, and social behavioral issues. Patient care plans are systematically documented and communicated based on patient cases. This course emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and skills in an interactive learning environment. Physical

assessment techniques and interpretation are interwoven into the laboratory sessions. Students are assessed for their knowledge of commonly used medications throughout the course. **Prerequisites:** PHRL 5710 and 6720 **Corequisite:** PHRC 6440 (0-28-1)

#### **PHRL 6810—Sterile Products Laboratory**

This laboratory course is designed to develop the knowledge and skills necessary to prepare sterile products safely and effectively. Students will learn the history and evolution of aseptic processing and the current regulations and standards of practice that guide sterile preparation. The course is taught using a combination of self-study and a laboratory component that allows students to apply the fundamental concepts and skills required for the safe and compliant compounding of sterile products in a cleanroom. Students who successfully complete the course will earn a certificate in sterile-product preparation. (0-48-1)

#### **PHRL 6815—Pharmacy Skills Development V**

This is the fifth of a five-course, pharmacy-skills development series that integrates principles of pharmaceutical sciences, social and behavioral pharmacy, and pharmacy practice. In this course, students apply knowledge and practice skills complementary to content in the fifth semester of the curriculum. Skills practiced include written and verbal communication, pharmacy calculations, application of commonly used medications knowledge, identification of errors, verification of orders, drug information retrieval, evaluation and provision, patient assessment, and selection and monitoring of pharmacotherapy patient-care plans. Team-building activities are incorporated throughout the course to enhance professionalism and communication skills. (0-48-1)

#### **PHRC 6836—Integrated Disease Management VI**

This is the sixth in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focuses on clinical toxicology. (16-0-1)

#### **PHRC 6837—Integrated Disease Management VII**

This is the seventh in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focuses on pain management and the treatment of neurologic and psychiatric disorders. (64-0-4)

#### **PHRC 6838—Integrated Disease Management VIII**

This is the eighth in a series of eight courses that integrate the principles of pathophysiology, pharmaceuticals, pharmacodynamics, pharmacokinetics, and pharmacotherapy in the treatment of diseases. Students learn how to appropriately select and monitor pharmacotherapy regimens based on drug, disease, and patient characteristics and apply the pharmacist's patient care process in solving patient-care cases. This course focus on nutrition and the use of complementary and alternative therapies in the treatment of diseases. (16-0-1)

#### **PHRC 6865 Essentials of Professional Practice V**

This is the fifth of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses the management of institutional pharmacies and explores different pharmacy practice models, pharmaceutical marketing, elements and concepts of chronic disease management, and pharmacy law. (32-0-2)

#### **PHRC 6875 Evidence-Based Practice V**

This is the fifth of a five-course sequence that prepares the student to retrieve, evaluate, and use the medical and scientific literature and other drug information resources. The course focuses on theories and methodologies of pharmacoeconomics and outcomes research. Applications to clinical practice, the pharmaceutical industry, and formulary decision making are explored. (32-0-2)

#### **PHRC 6885—Leadership and Professional Development V**

This is the fifth in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course continues to present the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional growth. Students will reflect on their strength, career goals, and ability to guide their learning to achieve and expand on these. Teamwork is reinforced through team-based learning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

#### **PHRC 6895—Integrated Pharmacy Applications V**

This is the fifth in a series of five courses offered at the end of each semester designed to integrate and apply knowledge and skills from previous courses. Students in each course become certified in a specific area of pharmacy and receive software training. The Bring Back and Look Forward sections of the course reinforce concepts and introduce material to prepare students for future courses. This course offers certification in medication therapy management. It brings

back pharmaceutical and pharmacokinetics calculations, frequently used drugs, pharmacy law, and pharmacotherapy cases. (32-0-2)

#### **PHRC 7610/7620/7630/7640/7650/7660—Required Advanced Pharmacy Practice Experiences**

Each required advanced pharmacy practice experience consists of a four-week, full-time (40 hours per week), off-campus experience in a supervised pharmacy practice environment. In these settings, students apply didactic instruction, develop competencies, and enhance their knowledge of patient care management. The required experiences include internal medicine, ambulatory care, community patient care, and acute patient care. **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7610—APPE: Internal Medicine**

The Internal Medicine Advanced Pharmacy Practice Experience (APPE) is a four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, inpatient experience emphasizing nondistributive, direct patient care and clinical aspects of pharmacy practice. The Internal Medicine APPE is designed to further refine skills in therapeutics, pharmacokinetics, drug information retrieval and evaluation, verbal and written communication, patient assessment, and case presentations as they apply to adult patients. Students apply therapeutic knowledge; identify drug-related problems; develop competency in pharmacy practice; and enhance knowledge of disease management of common diseases such as hypertension, congestive heart failure, diabetes, renal failure, etc. As members of a health care team, students apply these principles while developing effective, least-toxic, most-economical pharmacological regimens and establishing caring patient relationships in an inpatient setting. **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7620—APPE: Ambulatory Care**

The Ambulatory Care Pharmacy Practice Experience (APPE) is a four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, experience emphasizing nondistributive, direct patient care and clinical aspects of caring for pharmacy patients in the ambulatory care setting. Students apply therapeutic knowledge, identify drug-related problems, develop competency in pharmacy practice, and enhance knowledge of disease management of common diseases such as hypertension, venous thromboembolism, diabetes, hyperlipidemia, etc. As members of a health care team, students will apply these principles while developing effective, least-toxic, most-economical pharmacological regimens and establishing caring patient relationships in an ambulatory care setting. **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7630—APPE: Community Patient Care I**

The Community Patient Care I Advanced Pharmacy Practice Experience is the first of two four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, experiences emphasizing the practice of pharmacy in a direct patient-care, community setting. In this APPE, students will apply didactic knowledge as they develop their professional maturity and judgment skills, performing as active members of a health care team. Students will select one specialty area in a community pharmacy practice from multiple offerings to complete this requirement. Students cannot repeat the same APPE type (e.g., two Advanced Communities). **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7640—APPE: Community Patient Care II**

The Community Patient Care II Advanced Pharmacy Practice Experience is the second of two four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, experiences emphasizing the practice of pharmacy in a direct patient-care, community setting. In this APPE, students will apply didactic knowledge as they develop their professional maturity and judgment skills, performing as active members of a health care team. Students will select one specialty area in acute pharmacy practice from multiple offerings to complete this requirement. Students cannot repeat the same APPE type (e.g., Nutrition). **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7650—APPE: Acute Patient Care I**

The Acute Patient Care I Advanced Pharmacy Practice Experience is the first of two four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, experiences emphasizing direct patient care in the inpatient, acute setting. In this APPE, students will apply and synthesize didactic information to the activities of a pharmacist as they develop their professional maturity and judgment skills. Students will select one specialty from multiple offerings to complete this requirement. Students will be exposed to the role and responsibilities of a professionally oriented pharmacist. Students participate as active members of a health care team. **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7660—APPE: Acute Patient Care II**

The Acute Patient Care II Advanced Pharmacy Practice Experience is the second of two four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, experiences emphasizing direct patient care in the inpatient, acute setting. In this APPE, students will apply didactic knowledge as they develop their professional maturity and judgment skills, performing as active members of a health care team. Students will select one specialty area in acute pharmacy practice from multiple offerings

to complete this requirement. Students cannot repeat the same APPE type (e.g., Nutrition). **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7670/7680/7690—Required Advanced Pharmacy Practice Experience: Selectives**

The Selective Advanced Pharmacy Practice Experience is a four-week, full-time (minimum 40 hours per week), out-of-classroom, supervised experience that may emphasize direct or nondirect patient care in an outpatient, inpatient, or office-based setting. The student completes a total of three selective (elective) experiences in a pharmacy practice specialty area that will allow him or her to obtain broader experiences. Elective experiences include, but are not limited to, administration, advanced hospital cardiology, critical care, drug information, geriatrics, home infusion, informatics, managed care, medication therapy management, nutritional support, pediatrics, pharmacokinetics, psychiatry, research, and veterinary pharmacy. **Prerequisite:** Successful completion of all didactic coursework and assessments (0-160-4)

#### **PHRC 7700—Integrated Care**

This course is designed to integrate the knowledge and skills students have attained throughout the curriculum in preparation for the Advanced Pharmacy Practice Experiences (APPE). The course centers on solving integrated patient-care cases using the pharmacist's patient care process. New drugs, changes in laws, and standards of practice and innovations are also addressed. (64-0-4)

#### **PHRC 7710—APPE: Internal Medicine**

The Internal Medicine Advanced Pharmacy Practice Experience (APPE) is a six-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, inpatient experience emphasizing individualized patient care. The experience is designed to optimize students' competency in pharmacist-provided patient care, interprofessional collaboration, utilization of evidence-based medicine, communication, and patient education. Students apply pharmacotherapeutic principles, disease-related knowledge, dosing guidelines, best practice standards, and site-specific procedures to identify therapeutic problems and to implement and monitor patient-care plans in collaboration with health care teams. Students will be expected to communicate effectively in writing through documentation in the patients' medical records and verbally with stakeholders. Students will present patient cases, provide formal education presentations, participate in informal topic discussions, complete assigned projects, and perform and document pharmacist activities (e.g., patient histories, transitions of care, therapeutic interventions, and creation of treatment plans). **Prerequisite:** Successful completion of P1, P2, and P3 coursework (0-240-6)

#### **PHRC 7720—APPE: Ambulatory Care**

The Ambulatory Care Advanced Pharmacy Practice Experience (APPE) is a six-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, outpatient experience emphasizing individualized patient care. The experience is designed to optimize students' competency in pharmacist-provided patient care, interprofessional collaboration, utilization of evidence-based medicine, communication, and patient education. Students apply pharmacotherapeutic principles, disease-related knowledge, dosing guidelines, best practice standards, and site-specific procedures to identify therapeutic problems, and to implement and monitor patient care plans in collaboration with health care teams. Students will be expected to communicate effectively in writing through documentation in the patients' medical records and verbally using communication techniques such as motivational interviewing, coaching, and patient education and counseling. Students will present patient cases, provide formal education presentations, participate in informal topic discussions, complete assigned projects, and perform and document pharmacist activities (e.g., patient histories, transitions of care, therapeutic interventions, and creation of treatment plans). **Prerequisite:** Successful completion of P1, P2 and P3 coursework (0-240-6)

#### **PHRC 7730—APPE: Advanced Hospital**

The Advanced Hospital Advanced Pharmacy Practice Experience (APPE) is a six-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, operational and management experience in an institutional setting. This experience is designed to optimize students' competency in all aspects of the medication-use process and health care delivery while emphasizing the interprofessional dynamics of the health system setting. Students will be exposed to the application of management principles for oversight of pharmacy personnel, institutional policy/procedure, drug procurement/inventory, formulary management, clinical programs, development of standards of care, medication safety programs, and dispensing of sterile products. Students will be expected to communicate effectively with stakeholders verbally and in writing. Students will present case studies, provide formal education presentations, participate in informal topic discussions, complete assigned projects, and perform and document pharmacist activities (e.g. adverse drug reaction reporting, documentation of medication errors, and participation in institutional committees). **Prerequisite:** Successful completion of P1, P2, and P3 coursework (0-240-6)

#### **PHRC 7740—APPE: Community Pharmacy**

The Community Pharmacy Advanced Pharmacy Practice Experience (APPE) is a six-week, full-time (minimum 40 hours per week), out-of-classroom, supervised, operational and management experience in the outpatient, community setting. This experience is designed to optimize students'

competency in patient screening, medication-use process, and outpatient health care delivery. Emphasis will be placed on the oversight of pharmacy personnel, drug distribution, pharmacy policy/procedure, drug procurement/inventory, medication safety, and insurance adjudication. Students will participate in continual quality improvement processes and create improvement opportunities based on data. Students will have the opportunity to guide patients with self-care and medication self-administration. They will counsel patients on prescription, nonprescription medications, and nondrug therapy alternatives. Students will present patient cases, provide formal presentations, participate in informal topic discussions, complete assigned projects, and perform and document pharmacist activities (e.g., immunization, patient counseling, disease state and medication therapy management, adverse drug reaction reporting, and documentation of medication errors). **Prerequisite:** Successful completion of P1, P2, and P3 coursework (0-240-6)

#### **PHRC 7750/ 7760/ 7770/7780—APPE: Elective I/ Elective II/Elective III/Elective IV (Optional)**

The Elective Advanced Pharmacy Practice Experience (APPE) is a six-week, full-time (minimum 40 hours per week), out-of-classroom, supervised experience that may emphasize direct or indirect patient care in an outpatient, inpatient, or office-based practice setting or nonpatient-care, pharmacy-related activity. Students complete a total of three elective experiences in practice specialty areas that will allow them to obtain focused experiences in a broad range of settings. Elective experiences include, but are not limited to, administration/leadership, critical care, infectious disease, managed care, centralized pharmacy practice, nutritional support, psychiatry, medication safety, informatics, cardiology, and specialty pharmacy. Students will be expected to communicate effectively with stakeholders verbally and in writing. Students may present patient cases, provide formal education presentations, participate in informal topic discussions, complete assigned projects, and perform and document pharmacist activities. **Prerequisite:** Successful completion of all P1, P2, and P3 coursework (0-240-6)

#### **PHRC 7801—Curricular Review I**

The primary goal for the professional development capstone course series is to assess and strengthen students' knowledge and skills developed during the pharmacy curriculum. In Curricular Review I, students review and assess their knowledge and skills in preparation for the NAPLEX. **Prerequisite:** P4/Adv P3 (Final Year) (16-0-1)

#### **PHRC 7802—Curricular Review II**

The primary goal for the professional development capstone course series is to assess and strengthen students' knowledge and skills developed during the pharmacy curriculum. In Curricular Review II, students review and

assess their knowledge and skills in preparation for the NAPLEX. **Prerequisite:** P4/Adv P3 (Final Year) (16-0-1)

#### **PHRC 7803—Curricular Review III**

Students will prepare for the NAPLEX by completing assigned practice problems, a required pre-NAPLEX examination, and an on-campus NAPLEX review course. **Prerequisite:** P4/Adv P3 (Final Year) (16-0-1)

### **PHRE (Elective) Courses**

#### **PHRE 5001—Curricular Practical Training (CPT)**

Pharmacy is a knowledge- and skill-based profession that optimizes professional interactions with health care team members and the patient. Students may desire to gain additional experience over what is offered through the IPPE and APPE experiential rotations before they enter professional employment. This course offers students additional opportunities to observe and emulate the roles and responsibilities of pharmacists in a pharmacy setting, as well as learn to effectively communicate with patients, pharmacists, and health care providers, gaining knowledge of the role of the pharmacist. Students will participate in a pharmacy environment to expand their knowledge of medication preparation; distribution; and interactions with insurers, prescribers, and patients, beyond the expectation of the IPPE rotation. (16-0-0)

#### **PHRE 5105—Overview of Consulting Pharmacy Practice**

This course provides an overview of geriatric consulting statutes that regulate the activity of the consultant pharmacist, the HCFA survey guidelines, the types of facilities required to have a consultant pharmacist, and monitoring of patient's medication. **Prerequisite:** PHRC 5420 (48-0-3)

#### **PHRE 5107—Current Topics in Pharmaceutical Sciences**

This course covers special topics selected by faculty members and visiting scientists. The goal of each topic is to provide the student with an understanding of, and an appreciation for, current problems and procedures underlying the pharmaceutical sciences discipline. **Prerequisite:** Topic dependent, please see course coordinator for details. ([16-32]-0-[1-2])

#### **PHRE 5113—Current Topics in Pharmaceutical Sciences**

This course covers special topics selected by faculty members and visiting scientists. The goal of each topic is to provide the student with an understanding of, and an appreciation for, current problems and procedures underlying the pharmaceutical sciences discipline. **Prerequisite:** Topic dependent, please see course coordinator for details. ([16-32]-0-[1-2])

### **PHRE 5117—Cardiovascular Risk Factors**

This course is designed to provide the student with the background knowledge necessary for the clinical sciences, information related to cardiovascular risk factors, and the foundation from which pharmacists practice pharmaceutical care. The course reviews all major classes of cardiovascular risk factors and discusses evidence-based therapy. The rationale of prevention, lifestyle modifications, and current therapies for the treatment of common and silent cardiovascular risk factors are also addressed. Attention is given to specific clinical studies regarding new strategies to prevent and treat risk factors associated with cardiovascular disease. (32-0-2)

### **PHRE 5123—Individualized Pharmacotherapy**

This course gives an overview of the field of “individualized (or personalized) pharmacotherapy,” which involves the systematic use of information about each individual patient to select or optimize the patient’s preventative and pharmacotherapeutic care. The course discusses individual differences in drug response to tailor drug therapy based on each patient’s needs. **Prerequisites:** PHRC 4210, 4220, 5230, 5240, and P3 Standing (16-0-1)

### **PHRE 5151—Introduction to Herbal Medicine**

Pharmacy has a rich history in the study and use of herbal medicines. This course will briefly explore the history of botanical medicine, the properties of the herbs, their various applications in the treatment of disease, and how to ensure the safe use of herbal products. **Prerequisite:** PHRC 5150 (32-0-2)

### **PHRE 5209—Advanced Pharmacokinetics**

This course explains the model development techniques that can be utilized for complex pharmacodynamics systems. Advanced data analysis techniques and modern pharmacokinetic theory will be discussed in conjunction with PK/PD literature. (48-0-3)

### **PHRE 5213—Epidemiology of Drug Use, Abuse, and Misuse**

This course is designed to introduce doctoral students to the epidemiology of drug use, misuse, and abuse. The course focuses on drug use, misuse, and abuse as social phenomena and deals with the history of drug use and regulatory attempts in America; pharmacology and use patterns related to specific drugs; use, abuse, and misuse as medical, psychological, and social concepts; drug importation, manufacture, and distribution (including both the legal and illegal drug industries); perspectives on the etiology of drug use/abuse; drug abuse prevention and educational programs; and approaches to drug abuse treatment. (48-0-3)

### **PHRE 5215—Advanced Pharmaceutical Compounding**

The course will provide advanced training in the art, science, and technology of pharmaceutical compounding. **Prerequisite:** PHRL 4130 (32-0-2)

### **PHRE 5221—Introduction to Molecular Medicine**

This course discusses gene defects and diseases that originate at the molecular level, basic principles of gene expression, recombinant DNA-derived pharmaceuticals, and modern diagnostic and therapeutic approaches currently used to fight genetically determined diseases. (32-0-2)

### **PHRE 5223—Drugs of Abuse**

This course covers types of substances abused, methods and routes of administration, the pertinent toxicokinetics, the pharmacological/toxicological mechanisms, and the clinical manifestations of drug abuse. Treatment of intoxication and withdrawal, societal impact of drug abuse, legal implications, and current trends of substance abuse are also discussed. **Prerequisite:** P3 standing. (32-0-2)

### **PHRE 5227—Pharmacoethics**

This course is designed to introduce students to bioethical issues encountered in health care, with emphasis on ethical problems related to pharmacy. Students will explore issues arising from advances in biotechnology, resource allocation, research using human subjects, informed consent, and the right to privacy as they impact on the legal rights and responsibilities of patients, health care providers, and government policy makers. (32-0-2)

### **PHRE 5241—Advances in Central Nervous System Pharmacology**

This course reviews recent developments in the understanding of selected CNS neurotransmitter/neuropeptide receptor systems with particular emphasis on their relevance to the actions of psychopharmacological agents. It focuses on the neuroanatomy, neurophysiology, and pathophysiology of specific neurotransmitter/neuropeptide systems and examines the interaction of these systems in the expression of CNS effects. **Prerequisites:** PHRC 4210, 4220, and 5230 (32-0-2)

### **PHRE 5243—Fundamentals of Pharmacognosy**

This course provides an overview of medicinal drugs derived from plants and other natural sources. The major classes of medicinally active natural products, their origin (nomenclature + taxonomy), structure, biosynthesis, and mode of action will be covered. The naturally derived constituents and their therapeutic efficacy will be discussed. (32-0-2)

### **PHRE 5245—Geriatric Patient Care Management**

This course addresses real-life pharmacotherapeutic cases related to geriatric patients. The course requires the



application of the knowledge acquired from all previous courses in the curriculum. The course is organized and sequenced based on disease states that include problems ranging from therapeutic to social-behavioral issues related to the disease state. The course will allow students to integrate the knowledge and apply the skills obtained from all previous courses to develop decision-making and disease management processes. This course is an online elective course that utilizes the case study teaching method. **Prerequisite:** P3 Standing (32-0-2)

#### **PHRE 5301—Measuring, Improving, and Reporting Quality of Care in Pharmacy Practice**

This course explores optimizing patient outcomes by improving the quality of medication-use processes. It focuses on the knowledge, skills, and methods which, if applied effectively, can assure a high-quality and safe patient and family health care experience in a variety of practice settings. The purpose of this course is to develop, integrate, and apply knowledge about quality improvement, performance measurement, and the transformation of the U.S. health care system to a value-based system. Students will gain familiarity with the concepts of quality improvement, patient safety, and medication error prevention and how these concepts can be used in collaboration with patients, physicians, other health care professionals, administrators, and regulators. (32-0-2)

#### **PHRE 5311—Pharmaceutical Marketing**

This course places emphasis on application of marketing theory and methods in the profession of pharmacy and the pharmaceutical industry. The aims of the course are to improve student knowledge of the practice of marketing, to develop market research skills, and to formulate marketing plans and strategies. **Prerequisite:** PHRC 4300 (32-0-2)

#### **PHRE 5345—Pharmacists, Pharmaceuticals, and the Media**

This course will explore how various forms of media have portrayed pharmacists over the years. It will also investigate how pharmaceuticals and other drugs are reported by the press and are presented by the entertainment industry. Students will discuss the content of articles. The phenomena and occurrence of drug effects (drug-taking experiences) are examined, integrating information from both pharmaceutical and social sciences, to study how and why drugs are used. Historical and cross-cultural examples are employed in this dialogue on the nature and meaning of drug-taking experiences and their influence on drug-taking behaviors. **Prerequisite:** P3 Standing (32-0-2)

#### **PHRE 5389—Pharmacy Law of Puerto Rico**

This course covers the statutes, rules, and regulations of the pharmacy profession and the pharmacy technician occupation, as well as the manufacture, distribution, and dispensing of drugs in the Commonwealth of Puerto Rico. The dispensing of controlled substances will be emphasized

according to the applicable local and federal laws. General aspects of human rights and professional ethics will also be covered. (32-0-2)

#### **PHRE 5391—The Nuclear Pharmacy Experience**

This course covers and explains what a nuclear pharmacy is and the responsibilities, activities, and knowledge required in order to function as a nuclear pharmacist. The course places emphasis on radiopharmaceuticals (radioactive medication), their mechanisms of action, dose range, method of compounding, and ultimate role in the diagnosis of diseases and/or therapy. (32-0-2)

#### **PHRE 5401—Current Topics in Sociobehavioral and Administrative Pharmacy**

Specialized topics dealing with current issues, procedures, and policies related to sociobehavioral pharmacy are covered in this course. ([16-48]-0-[1-3])

#### **PHRE 5411—Current Topics in Pharmacy Practice**

This course discusses topics on current issues, procedures, and policies related to pharmacy practice. Topics can vary from semester to semester. (32-0-2)

#### **PHRE 5417—Veterinary Pharmacotherapy**

This course explores the most common animal diseases encountered in veterinary medicine and presents current pharmacotherapeutic approaches for these conditions as they relate to the practice of community and clinical pharmacy. (32-0-2)

#### **PHRE 5427—Introduction to Pharmacometrics: Modeling and Simulation (IPMS)**

IPMS will expose the student to cutting-edge tools and techniques used to answer complicated problems in drug development and utilization. IPMS leverages information and knowledge from core biomedical and pharmaceutical courses together with mathematical modeling and simulation and clinical data from patients or published literature. Students will be required to synthesize the data to create models and perform simulations to answer problems with drug therapy. The course also includes hands-on training using standard modeling and simulation software. **Prerequisite:** P3 Standing (32-0-2)

#### **PHRE 5429—Antimicrobial Stewardship**

Antimicrobial stewardship aims to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use, including development of drug toxicity, selection of pathogenic organisms, and emergence of antimicrobial resistance. Principles of antimicrobial stewardship and concepts related to the management of infectious pathogens are the emphasis of this course. Upon completion of this course, students will be prepared to practice as a pharmacist in the forthcoming post-antibiotic era. (32-0-2)

### **PHRE 5445—Leadership, Engagement, and Development (LEAD)**

This course provides an in-depth look at the behaviors and skills needed to be an effective leader. Students are exposed to a variety of leadership theories and styles within the context of student leadership development. Communication styles, teamwork, cultural competence, and conflict management are examined within the interpersonal context. Course materials and activities challenge students to connect theory to practice and enhance communication skills through the use of student presentations on topics related to collaborative and interprofessional experiences. **Prerequisites:** PHRC 4580 and PHRC 4680 (16-0-1)

### **PHRE 5511—Survey of Complementary Therapies**

This course provides students with information about complementary therapies that are frequently seen, or could be recommended, for various disease states. Nutritional supplements, herbal remedies, homeopathic remedies, and others will be studied. The proper dosing, side effects, and drug and disease state interactions will also be considered in recommending these therapies. (32-0-2)

### **PHRE 5563—Rounding with Pharmacy Residents**

The course will expand the student's knowledge base on selected topics covered in therapeutics and pathophysiology I and II, as well as other related hospital topics. This will be achieved by working through patient and hospital management problems and developing individual pharmacotherapeutic plans while taking into consideration therapeutic, economic, and operational aspects. **Prerequisites:** PHRC 5410 and P3 Standing (32-0-2)

### **PHRE 5613—Pediatric Pharmacotherapy**

This course introduces the student to pharmacotherapy of common pediatric diseases. The course will expand on topics addressed in therapeutics/pathophysiology II and present more complex pharmacotherapy issues relating to pediatrics. **Prerequisites:** PHRC 4300, 5300, 6430, and P3 Standing (32-0-2)

### **PHRE 5619—Pharm.D./D.M.D.**

#### **Interprofessional Experience**

This interprofessional education (IPE) course will allow pharmacy students and dental students to work together in caring for the HIV-infected population. Students will be conducting medication reconciliation for HIV-infected patients at a dental clinic. Students will observe dental procedures and provide education on medication efficacy, medication side effects, and the importance of medication adherence to dental students. Students will also educate patients on proper oral hygiene and medication adherence. Students will be expected to be at the dental clinic approximately four hours per week for 10 weeks. Didactic lectures will address overall health management

of patients with HIV infections. **Prerequisites:** PHRC 5420 and P3 Standing (16-48-2)

### **PHRE 5637—History of Pharmacy**

This course reveals the proud heritage of the profession of pharmacy and its service to humanity. Significant drug discoveries, as well as individuals who contributed to the evolution of the profession, will be examined. Selected minerals, drugs, and botanicals of historical value will be described. The evolution of pharmacy education, organizations, and pharmaceutical manufacturing will be presented. (32-0-2)

### **PHRE 5639—Clinical Neuropsychopharmacology**

This course incorporates didactic lecture, classroom discussion of cases, student presentations, and clinical monitoring of a patient with a neurological or a psychiatric disorder. The course is designed to introduce students to advanced concepts in the pharmaceutical care and medication management of a patient with a mental and/or neurological illness. **Prerequisites:** PHRC 5410, 5420, and P3 Standing (32-0-2)

### **PHRE 5641—Applied Secondary Database Analysis**

This course will give students the opportunity to apply the skills learned in the research design and biostatistics course by completing a retrospective research project using a federal secondary database. By the end of the course, students will have written a basic research protocol, completed a mock Institutional Review Board application, become familiarized with the basic structure and methodology of the United States National Health and Nutrition Examination Survey (NHANES) database, prepared a dataset, conducted descriptive and basic statistical analyses, written an abstract, and presented a scientific poster to a small audience. **Prerequisite:** PHRC 5350 (32-0-2)

### **PHRE 5643—Parenteral Medication Therapies**

This course exposes students to topics and skills that expand their knowledge of the use of intravenous therapies in the management of diseases. The student will learn both didactically and in small-group, hands-on activities. After completion of this course, the student should be more prepared to compound, evaluate, and monitor IV therapies. **Prerequisite:** P2 standing (16-48-2)

### **PHRE 5991—Research in Pharmacy Practice**

Students, under the direction of one or more pharmacy practice faculty members, will perform individual research projects. Projects may involve direct patient care or translational research (e.g., pharmacokinetics, pharmacogenomics). Semester credits must be negotiated with the adviser and approved by the department chair prior to the start of any work. Students will be involved in both the planning and execution of the research project. (0-[48-144]-[1-3])

### **PHRE 5993—Literature Research in Pharmaceutical Sciences**

The course involves the directed reading, evaluation, and analysis of scientific literature (papers and reviews) in the fields of pharmacology, pharmaceuticals, biopharmaceuticals, pharmacokinetics, drug delivery systems, pharmaceutical technology, biotechnology, toxicology, and others. It involves thorough reading and assimilation of scientific information and preparing reports and/or manuscripts as agreed between the adviser and advisee. Through a mutual agreement between faculty members and students, a specific area of research within a field will be selected according to the interest of student and faculty member. Under the direct supervision of a faculty member, the student will be trained on the retrieval of scientific information, will be mentored to understand the findings of the paper(s), and will build a hypothesis of his or her own on the leading topic from various publications and reviews. Students will also be trained in how to write papers and reviews. (0-[144-192]-[3-4])

### **PHRE 5995—Research in Sociobehavioral and Administrative Pharmacy I**

This research elective course is designed to provide students with fundamental understanding of issues surrounding research methodology in pharmacy, public health, and biomedical science researches. The course provides guidance to students through the complete research process, from formulation of research problem and hypothesis, to literature review, data collection and analysis, and summary of research report. **Prerequisite:** PHRC 4300 (0-[48-144]-[1-3])

### **PHRE 5997—Research in Sociobehavioral and Administrative Pharmacy II**

This research elective course is the continuation of the Research in Sociobehavioral and Administrative Pharmacy I elective course. It is designed to provide guidance to students through the complete research processes, from formulation of a topic to data collection and analysis, to completion of a final report. The amount and nature of the work to be done for this research elective course will be determined by the individual faculty research adviser. **Prerequisite:** PHRC 4300, 5350, and 5995 (0-[48-192]-[1-4])

### **PHRE 5999—Research in the Pharmaceutical Sciences**

In this course, students work under the direction/supervision of one or more faculty members in a research laboratory. Students are involved in planning and executing an approved research project using basic techniques of scientific research. Students will be awarded 3 or 4 semester credits on the basis of 48 laboratory hours per credit. (0-[144-192]-[3-4])

### **PHRE 6431—Team-Based Medication Management Practices**

This course provides student-pharmacists with broad-based exposure to patient-care activities that will prepare them to practice as part of an interprofessional team in an ambulatory care practice environment. Students will participate in various direct patient-care activities, including telephonic medication therapy management (MTM) services, adherence outreach, and transitional care management to help improve medication-related outcomes. The course will also emphasize interprofessional collaboration and cooperation, such that students will be able to demonstrate effective communication techniques, collect and analyze data, develop and implement treatment plans, provide education, provide instruction on patient self-management, and conduct appropriate follow-up. In addition to live lectures and online recordings, the student will be expected to be at the Adherence Transitions of Care and Medication Therapy Management (MTM) Center on the Fort Lauderdale/Davie campus for patient-care activities approximately four hours per week. Didactic lectures will address overall health management of patients including, but not limited to, MTM, adherence, and transitions of care. After successful completion of this course, students will complete a physician-precepted Advanced Pharmacy Practice Experience (APPE) ambulatory care rotation during their final year. **Prerequisite:** P3 Standing (16-48-2)

### **PHRE 6997—Travel Study Program**

Special topics relevant to the profession of pharmacy will be covered. The goal of each travel study program is to provide the student with an overview, understanding, and appreciation for pharmaceutical and medical practices practiced outside the United States. (48-0-3)

### **PHRE 7695—Advanced Pharmacy Practice Experience: Selective IV**

This is an optional Advanced Pharmacy Practice Experience (APPE) for students who have successfully completed all required APPEs. This option provides additional depth or breadth of practice knowledge and skills. It will not count as a required APPE or elective course. **Prerequisite:** Successful completion of all didactic coursework assessments, required APPEs, and college approval (0-160-4)

## Master of Science (M.S.) in Pharmaceutical Affairs

The Master of Science (M.S.) in Pharmaceutical Affairs is a two-year graduate program designed for people interested in the acquisition of knowledge and skills associated with pharmaceutical agents. The degree will prepare students for managerial or sales positions in the pharmaceutical industry, or positions in academia, contract research organizations, managed care organizations, health care systems, and governmental and nongovernmental agencies. Graduates will be able to critically analyze issues related to the production and use of pharmaceuticals and act as leaders in the field. The M.S. in Pharmaceutical Affairs will also act as a bridge for students interested in additional preparation prior to pursuing a Pharm.D. or Ph.D. degree.

This program is located at the NSU Miami Campus. Off-campus housing is available in the area.

### Admissions Requirements

The M.S. in Pharmaceutical Affairs program bases its selection of candidates on academic performance, Pharmacy College Admission Test (PCAT) or Graduate Record Exam (GRE) scores, personal interviews, written applications, and letters of reference.

1. Prior to matriculation, applicants must have received a baccalaureate degree from a regionally accredited college or university. A baccalaureate degree in any field of study is acceptable, as long as all prerequisites are met.
2. Applicants must complete the following prerequisite coursework at a regionally accredited college or university with a grade of 2.0 or higher on a 4.0 scale.

Course	Semester Hours
General Biology I and II including laboratory .....	6
Anatomy and Physiology (with or without laboratory) ...	6
General Chemistry including laboratory .....	8
Organic Chemistry including laboratory .....	8
General Physics (with or without laboratory) .....	3
English .....	6
Calculus .....	3
Speech/Public Speaking/Oral Communication (in English) .....	3
Advanced Sciences (choose <b>two</b> of the following courses: genetics, cellular biology, molecular biology, microbiology, or biochemistry) ....	6
Humanities/Social and Behavioral Sciences/ Other Electives	
Social and Behavioral Sciences .....	3
Humanities .....	3
Electives in either discipline .....	9*
<b>TOTAL</b>	<b>64</b>

\* *Ethics, micro or macroeconomics, and general/life science statistics are highly recommended and may substitute for up to 9 humanities and social and behavioral sciences elective credits.*

3. Applicants must have a minimum cumulative GPA of 2.5 or higher on a 4.0 scale.
4. Applicants must submit official scores from the PCAT or GRE.
  - PCAT scores must be no more than **three** years old at the time of application. Applicants should take the PCAT no later than January prior to the expected date of matriculation. Candidates may register online at [pcatweb.info](http://pcatweb.info), or call 800-622-3231 with any questions.
  - GRE Scores must be no more than **three** years old at the time of application. Applicants should take the GRE no later than April prior to the expected date of matriculation. You may register online at [gre.org](http://gre.org), or call 609-921-9000 if you have any questions.
5. Two letters of reference from a pre-professional committee—or, if such a committee does not exist, letters of reference from one science professor and one liberal arts professor—are necessary.

### Foreign Pharmacy Graduates

Foreign pharmacy graduates may be eligible for admission with

1. a Bachelor of Pharmacy degree or a Bachelor of Science degree in Pharmacy from an accredited institution
2. completion of the coursework below with a grade of 2.0 or higher on a 4.0 scale

Course	Semester Hours
Anatomy and Physiology .....	6
Biochemistry .....	4
Microbiology .....	3
Pharmacology .....	6
Pharmaceutics .....	6
Pharmacokinetics .....	4
<b>TOTAL</b>	<b>29</b>

*Foreign pharmacy graduates must also complete numbers 3, 4, and 5 under the main Admissions Requirements.*

### Application Procedures

Candidates for admission must submit the following by June 15:

1. a completed electronic application (available on our website at [pharmacy.nova.edu/masters](http://pharmacy.nova.edu/masters))
2. a nonrefundable application fee of \$50 (U.S.)

3. official transcripts from all colleges and universities attended (A maximum of 6 credits may be transferred from other accredited graduate institutions.)
4. official PCAT or GRE scores, not more than three years old at the time of interview
5. two letters of reference

Proof of English proficiency, if applicable, is required of applicants. The following standardized tests currently satisfy NSU College of Pharmacy English requirements for nonnative English speakers:

- Test of English as a Foreign Language (TOEFL)\*: score of 213 or above on a computer-based test or 80 or above on the Internet-based test (*toefl.org*)
- International English Language Testing System (IELTS)\*: score of 6.0 or higher on the test module (*ielts.org*)

\* *TOEFL and IELTS scores may be no more than two years old at the time of the interview.*

Candidates who have taken college courses in the United States may also prove English proficiency by completing, with a grade of 2.0 or higher on a 4.0 scale, two college-level English composition courses at a regionally accredited college or university in the United States.

All admissions materials and foreign evaluations must be mailed to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Pharmacy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Interview Process

A personal interview is part of the admissions process; however, being interviewed is not a guarantee of admission. Upon receipt of the completed application, a review will be made to determine if the applicant will be granted an interview. Not all applicants will be granted an interview. The Office of Admissions will notify selected applicants for interviews.

### Notice of Acceptance

Notice of acceptance or other action by the committee on admissions will be on a “rolling” or periodic schedule. Early completion of the application process is in the best interest of the applicant. Admission to the program is contingent upon successful completion of all prerequisite coursework prior to the first day of the semester. Proof of successful completion is required.

### Transcripts

Upon acceptance, final and official transcripts from all colleges and universities attended, and/or final and official documents, must be received within 90 calendar days from

the start of the semester. If not received by that time, the student will not be allowed to continue class attendance. Financial aid will not be disbursed to a student until all the required documents are received and the student is fully admitted.

### Foreign Coursework

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • *wes.org*
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • *jsilny.com*
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • *ece.org*

It is the applicant’s responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University.

All admissions materials and foreign evaluations must be mailed to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Pharmacy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Program Requirements

Students must purchase an iPad for assignments and assessments and have an active account with an Internet service provider. In addition, students must have ongoing access to a computer capable of connecting to the Internet and playing streaming video files. Online course notes and discussions will be provided to the student through an online course management system. NSU will provide access to email, online databases, and library resources.

### Tuition: M.S. in Pharmaceutical Affairs Program

**All tuition and fees are subject to change by the board of trustees without notice.**

Tuition for 2018–2019 will be posted on the college website (*pharmacy.nova.edu*).

## **Fees and Deposit—All Programs**

- Acceptance and Preregistration Deposit—\$1,000. This deposit is required to reserve the accepted applicant's place in the entering, first-year class. This deposit will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is due within three weeks of an applicant's acceptance.
- Health Professions Division General Access Fee—\$145. This fee is required annually.
- NSU Student Services Fee—\$1,350. This fee is required annually.
- Registration Fee—\$30 per semester.
- Late Payment Fee—\$100. All tuition and fees not paid within 30 days after the start of the semester will incur this fee.
- College of Pharmacy Fees—Additional fees may be incurred for college-approved activities. These fees are estimated at \$500 over the course of the program.

The first semester's tuition and fees, less the \$1,000 deposit, are due on or before the first day of classes. Tuition for each subsequent semester is due on or before the first day of classes. Students will not be permitted to register or attend classes until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important. Applicants should have specific plans for financing their professional education. This should include tuition, fees, iPads, computer-related expenses, health insurance, books, printing, required equipment, and living and other miscellaneous expenses.

Each student is required to carry adequate personal medical and hospital insurance. For more information about NSU's required health insurance, visit the website at [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance).

## **Course of Study**

The two-year degree program will provide a strong science foundation for those interested in doctoral-level graduate programs in pharmacy and other science fields. Students will be better prepared to further pursue the doctoral-level career paths currently being offered nationwide.

Courses are offered online, on campus, or via videoconferencing. Some courses will be combined with existing Pharm.D. and Ph.D. courses, while others will be stand-alone, master's degree-specific courses. M.S. students may be assessed differently when appropriate.

In the final year, each student will choose one of two culminating experience courses designed to integrate and assess the student's ability to engage in evidence-based decision making. The program must be completed within four academic years from the date of matriculation.

## **Graduation Requirements**

To receive a degree, a student must fulfill the following requirements:

- be of good moral character
- successfully complete all curricular requirements and assessments with a minimum cumulative GPA of 2.0 on a 4.0 scale within four academic years
- satisfactorily meet all financial obligations to the university (to receive credentials)
- submit an application for degree/diploma to the registrar's office by the posted deadline (Applications received after the deadline will not be considered for that year's commencement ceremony.)

## Curriculum Outline

The curriculum is currently under review and will be revised as needed. These courses are representative of the overall requirements of the program at the time of publication. Updates to the curriculum will be posted on the college website (*pharmacy.nova.edu*).

First Year—Fall			Credit Hours
PHRE	5311	Pharmaceutical Marketing	2
PHRM	5681	Essentials of Professional Practice I	2
PHRM	5810	Patient Care Basics	2
PHRM	5820	Biochemical Basis of Drug Therapy	2
PHRM	5830	Fundamentals of Pharmacodynamics	3
PHRM	5850	Pharmaceutical Calculations	1
PHRM	5871	Evidence-Based Practice I	1
PHRM	5881	Leadership and Professional Development I	1
			<b>Total 14</b>

First Year—Winter			Credit Hours
PHRM	5910	Nonprescription Drugs and Self-Care	3
PHRM	5921	Individualized Drug Therapy I: Pharmacokinetics	3
PHRM	5922	Individualized Drug Therapy II: Special Populations	2
PHRM	5962	Essentials of Professional Practice II	2
PHRM	5972	Evidence-Based Practice II	2
			<b>Total 12</b>

Second Year—Fall			Credit Hours
HPH	7210	Bioethics: Principles of Life Science Research	3
PHRM	5030	Biostatistics	3
PHRM	5001	Health Economics	3
PHRM	5021	Population Health and Public Policy	3
PHRM	5601	Teaching Certificate I	1
PHRM	5701	Graduate Seminar*	1
			<b>Total 14</b>

\*repeatable course

Second Year—Fall			Credit Hours
PHRE	5641	Applied Secondary Database Analysis	2
PHRE		Elective	3
PHRM	5570	Biomedical Literature Evaluation	2
PHRM	5602	Teaching Certificate II	1
PHRM	5701	Graduate Seminar*	1
<b>Total</b>			<b>9</b>

\*repeatable course

## Master of Science (M.S.) in Pharmaceutical Affairs Course Descriptions

### PHRM (Master's Degree) and HPD Core Classes

#### HPH 7210—Bioethics: Principles of Life Science Research

This course provides a structured approach for identifying, analyzing, and resolving ethical issues in medicine and the life sciences. Students analyze and discuss traditional philosophical theories regarding the nature of moral good. They will apply these theories to critical issues and selected case studies involving experiments with human subjects, organ transplantation, in vitro fertilization, the use of animals in research, the collection and publication of research data, conflicts of interest, and other topics of current concern. Students will explore the personal values, professional standards, and institutional guidelines that define the roles and responsibilities of the health care practitioner and researcher. (48-0-3)

#### PHRM 5000—Medical Terminology

This online course will provide an overview of medical terminology. Upon completion, students will demonstrate proficiency in the medical terminology required to be successful in pharmacy education. (8-0-0)

#### PHRM 5001—Health Economics

This course will introduce students to the economic analysis of health care markets and the production of health. It covers a variety of topics, including the determinants of health; the supply of, and demand for, health care services; the impact of insurance on the demand for health care services; the role of government in health care markets; the market for pharmaceuticals; and the economic evaluation of health care programs. (48-0-3)

#### PHRM 5021—Population Health and Public Policy

This graduate research seminar introduces students to (1) the fundamental concepts and frameworks used for the study of population health and public policy, (2) the

financing and managing of health systems at the local and international levels, and (3) the formulation and analysis of public health policies. The course will emphasize the intersection of public health and the determinant of drug use and pharmacy-related policies. Students will have the opportunity to analyze and critically evaluate existing health policies, public health actions, and reforms. The course will be highly interactive. Students are expected to contribute and participate in the discussion of current research, case studies, and policies. Student learning will be assessed through oral exams, written assignments, presentations, and an analytical paper. This course should provide skills for the conceptualization of research projects addressing current health issues related to pharmacy. (48-0-3)

#### PHRM 5030—Biostatistics

This is a statistical course for graduate health science majors. The course will introduce methods for presenting data in summary form, analyzing data, and designing experiments. It will emphasize the application of statistical ideas and methods to the analysis and interpretation of experiments and comparative data. The student will be able to assess a situation involving data analysis, state the null and alternative hypotheses proposed, decide on the correct statistical procedure to test the null hypothesis and the assumptions of the test used, calculate the statistic, assess its statistical significance, and interpret the data in light of the calculated results. (48-0-3)

#### PHRM 5110—Pharmaceutics I

Pharmaceutics I emphasizes the theories and applications of underlying physicochemical principles in preparation of pharmaceutical dosage form. It also emphasizes biopharmaceutics principles, as well as drug development and approval processes. (48-0-3)



### **PHRM 5150—Nonprescription Therapies**

This course discusses the use of nonprescription therapies, including drug and nondrug treatments. Patient education information, potential drug interactions, and recommended treatments will also be discussed. (48-0-3)

### **PHRM 5200—Pharmacy Calculations**

Pharmacy Calculations includes the study of different methods used by the pharmacist in the process of solving the mathematical problems typically found in the practice of the profession of pharmacy. This course also emphasizes metric and common systems conversions, fundamentals of measurements, percentages, dose calculation, specific gravity, dilution, concentration, and dosage adjustment. (16-0-1)

### **PHRM 5203—Social Measurements and Techniques**

This course introduces students to the concepts of advanced measurement theory and methods used in research. This course acquaints students with cutting-edge models in measurement theory and methods, as well as with the application of computer software with which to implement those methodologies. After completing the course, students should be prepared to begin working on advanced applications of measurement in the sociobehavioral sciences. (48-0-3)

### **PHRM 5210—Pharmacodynamics I**

This is the first course in the pharmacodynamics sequence. This course applies the principles of organic chemistry in order to understand drug actions at the molecular level. It introduces students to the basic pharmacokinetic principles (absorption, distribution, metabolism, and elimination) as it pertains to pharmacology. The remainder of the course covers physiological receptors and key pharmacogenomic concepts. (48-0-3)

### **PHRM 5220—Pharmacodynamics II**

This is the second course in the pharmacodynamics sequence. This course applies the principles of biochemistry, physiology, and pathophysiology to help students understand drug actions at the receptor, cellular, and system levels under normal physiological and pathological conditions. It focuses on the drugs that act on the autonomic nervous system, cardiovascular system, and blood components. **Prerequisites:** PHRM 5210 and PHRM 5410 (48-0-3)

### **PHRM 5229—Product Development and Industrial Pharmacy**

This course provides the student with the essential information about the various stages of the new drug approval process and drug development, including pre-formulation, comparison studies, suitability of pharmaceutical excipients, and formulation. Additionally, it provides the student with the principles of pharmaceutical processing, such as filtration, milling,

mixing, drying, and compression of pharmaceutical solids. It also deals with the production and quality control of tablets, capsules, liquid dosage forms, semi-solid dosage forms, and sterile products. Coverage includes the science of packaging materials, production management, quality assurance, and regulations in the pharmaceutical industry, including validation, good manufacturing practice, and FDA guidelines for stability of pharmaceutical dosage forms. (48-0-3)

### **PHRM 5300—Pharmacy and the U.S. Health Care System**

This course covers concepts related to the structure and function of the United States health care system. Emphasis is placed on the analysis of issues associated with personnel; the finance, organization, and regulation of the health care system; and the provision of pharmacy services in the context of the health care enterprise. (32-0-2)

### **PHRM 5410—Physiology and Pathophysiology I**

This two-semester course reviews the physical and chemical processes occurring in the human body that are responsible for the maintenance of health and the pathophysiology of disease. Topics covered during the first semester include membrane and cellular physiology, genetic diseases, and the physiology and pathophysiology of the integumentary, musculoskeletal, nervous, lymphatic, and cardiovascular systems. The second semester (PHRM 5420) addresses the physiology and pathophysiology of the digestive, urinary, respiratory, endocrine, and reproductive systems. (64-0-4)

### **PHRM 5420—Physiology and Pathophysiology II**

This two-semester course reviews the physical and chemical processes occurring in the human body that are responsible for the maintenance of health and the pathophysiology of disease. The second semester reviews the physiology and pathophysiology of the digestive, urinary, respiratory, endocrine, and reproductive systems. (64-0-4)

### **PHRM 5550—Introduction to Drug Information Resources and Health Informatics**

This course provides a detailed review of the fundamental tools necessary to identify the quality of health care information available in primary, secondary, and tertiary resources. Students learn the strengths and weaknesses of the various references and how to apply their use in practice. Active learning experiences include retrieving scientific literature, utilizing electronic resources, performing literature searches, and formulating responses to drug information requests. Students also learn fundamental aspects of health informatics including basic terminology and tools (e.g., electronic health records, eprescribing, and clinical decision support systems), both the benefits and limitations associated with the use of health information technology, and the legal/ethical considerations in cyber environments. (32-0-2)

### **PHRM 5570—Biomedical Literature Evaluation**

This course provides a framework to guide the student through the thought processes necessary to evaluate and synthesize primary literature using an evidence-based approach. Through didactic and application-based learning, students become proficient in literature evaluation techniques to assess therapeutic value and applicability in patient care. **Prerequisite:** PHRM 5550 (32-0-2)

### **PHRM 5601—Teaching Certificate I**

This course will help students develop teaching skills. It is administered through the ITALICSRx training program, which is designed for those interested in gaining expertise in the education and mentorship of health-related professionals and students. In the course, students learn to develop instructional and assessment methods that are innovative, outcome based, and applicable for a variety of audiences and settings. (16-0-1)

### **PHRM 5602—Teaching Certificate II**

This course is part two of a two-part teaching certificate series and will prepare students to pursue teaching careers. Topics such as instructional design, delivery methods, learning assessment, and teaching innovation will be included. The student will be able to demonstrate and practice delivering content and skills to different types of students at both the undergraduate and graduate levels. Learning technologies for distance learning will be evaluated and explored as they apply to pharmaceutical sciences and affairs. (16-0-1)

### **PHRM 5701—Graduate Seminar**

This course will equip students with the necessary tools to prepare and present lucid reports on their own research, as well as the research of others. The course will consist of weekly lectures that will be required of all graduate students throughout their course of study and research. Speakers will include faculty members, students, and guests presenting aspects of their research. (16-0-1)

### **PHRM 5810—Patient Care Basics**

This course provides students with an introductory toolkit to providing patient-centered care. It introduces students to the pharmacist's patient-care process and its role in delivering consistent patient-care services. The pharmacist's role in the medication use process is explored and the use of information technology and quality measures in these processes are addressed. Basic patient care skills of vital sign assessment, point-of-care testing, interpretation of medical and pharmacy terminology, and laboratory values are introduced and social, behavioral, and communication factors impacting patient care are discussed. (16-32-2)

### **PHRM 5820—Biochemical Basis of Drug Therapy**

This course focus is on the structure and function of vitamins, carbohydrates, proteins, hormones, nucleic acids, and lipids, as well as bioenergetics and major catabolic pathways at the cellular level. It establishes the biochemical basis for cell structure and emphasizes an integrated approach to the understanding of cellular metabolism; provides a biochemical, genetic, and molecular basis for understanding disease and drug functioning; and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. (32-0-2)

### **PHRM 5830—Fundamentals of Pharmacodynamics**

This course applies the concepts of organic chemistry to understand drug action at the molecular level. It introduces students to basic pharmacological principles that explain drug effects as they pertain to mechanisms of action and drug disposition into different organs and tissues. In addition, this course describes drug actions at physiological receptors focusing on compounds that act on the autonomic nervous system. (48-0-3)

### **PHRM 5850—Pharmaceutical Calculations**

This course introduces the common systems of measurement and mathematical principles used in the traditional practice of pharmacy. Emphasis is also placed on calculations relevant to specific dose regimens based on patient-specific clinical parameters. Competencies developed throughout the course shall prepare students to accurately analyze and solve real-life pharmaceutical problems involving calculations used in the preparation and dispensing of pharmaceutical preparations. (16-0-1)

### **PHRM 5861—Essentials of Professional Practice I**

This is the first of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses the structure and function of health care systems, laws that govern the pharmacist's scope of practice, and the foundation for effective patient communication. (32-0-2)

### **PHRM 5871—Evidence-Based Practice I**

This is the first of a five-course sequence that prepares the student to retrieve, evaluate, and use medical and scientific literature and other drug information resources. It is designed to prepare students to apply drug information skills for the delivery of patient-centered care using evidence-based principles to improve outcomes. Students learn the strengths and weaknesses of the various references and how to apply their use in practice. Active learning

experiences include retrieving scientific literature, utilizing electronic resources, performing literature searches, and formulating responses to basic drug information requests. (16-0-1)

#### **PHRM 5881—Leadership and Professional Development I**

This is the first in a series of five courses that center on the development of self-awareness, professionalism, leadership skills, and an innovative and entrepreneurial mindset. This course presents the foundational principles of professionalism, leadership development, goal setting, career planning, teamwork, constructive criticism, professional interaction, and personal/professional growth. Students will develop professional goals, create a professional bio and curriculum vitae, and identify professional areas of interest to guide career planning. Curriculum and cocurriculum activities stimulating student growth in the four major areas of development will be documented and tracked through the electronic portfolio. (16-0-1)

#### **PHRM 5910—Nonprescription Drugs and Self-Care**

This course is designed to familiarize the student with the principles and theories of self-care, nonprescription medications, medical devices, and home testing kits commonly found in community pharmacy practice. The pharmacist's role in self-care is explored and students apply the pharmacist's patient-care process in solving patient-care cases. It approaches medical conditions by focusing on typical presenting signs and symptoms. For each condition, students explore the basic causes, signs and symptoms, basic self-care guidelines, and when to refer patients. Emphasis is placed on problem-solving processes involved in the therapeutic evaluation, rational use, and recommendation of treatment to patients. Topics include dermatological, respiratory, ophthalmic, otic, oral, gastrointestinal, and genital/urinary disorders. Durable medical products are also addressed. A very strong emphasis is placed on patient care and patient counseling. (43-0-3)

#### **PHRM 5921—Individualized Drug Therapy I: Pharmacokinetics**

This is the first of two courses that explores the individualization of drug therapy. This course provides students with the foundation in pharmacokinetic concepts and application. The principles involved in drug absorption, distribution, metabolism, and elimination in the human body are discussed and mechanisms and rates of these processes are studied. The influence of physiologic and biochemical processes on the fate of drugs in the body are explored and pharmacokinetic principles are applied in the therapeutic monitoring of drugs. (43-0-3)

#### **PHRM 5922—Individualized Drug Therapy II: Special Populations**

This is the second of two courses that explores the individualization of drug therapy. This course focuses on providing students with a foundation on pharmacogenomic concepts and treatment of patient populations with altered pharmacokinetic and/or pharmacodynamic parameters. Genetic, age-related, and condition-specific alterations in drug disposition are explored and pharmacotherapeutic concepts related to pediatric, geriatric, and pregnancy/lactation populations are addressed. (32-0-2)

#### **PHRM 5962—Essentials of Professional Practice II**

This is the second of a five-course sequence that prepares the student to develop the knowledge and problem-solving skills needed to become a practice-ready professional who can apply concepts to manage the quality and safety of the medication-use process and deliver patient-centered care. This course addresses professional communications, managing people, ethics in professional practice, and quality improvement in the medication-use process. (32-0-2)

#### **PHRM 5972—Evidence-Based Practice II**

This is the second of a five-course sequence that prepares the student to retrieve, evaluate, and use medical and scientific literature and other drug information resources. This course is designed to expose students to the fundamentals of research design and methodology and applied biostatistical data analysis. It focuses on familiarizing students with general methodologic approaches used in experimental design, statistical analysis of data, investigator's responsibilities, ethical considerations in research, protection of human subjects, and institutional review boards (IRBs). The course also introduces health informatics in practice. (32-0-2)

### **PHRE (Elective) Courses**

#### **PHRE 5311—Pharmaceutical Marketing**

An overview of drug and pharmaceutical care development and distribution systems is provided in this course. It gives students knowledge of the practice of marketing, develops market research skills, and shows how to formulate marketing plans and strategies as they apply to the profession of pharmacy and the pharmaceutical industry. (32-0-2)

### PHRE 5641—Applied Secondary Database Analysis

This course will give students the opportunity to apply the skills learned in the research design and biostatistics course by completing a retrospective research project using a federal secondary database. By the end of the course, students will have written a basic research protocol, completed a mock Institutional Review Board application, become familiarized with the basic structure and methodology of the United States National Health and Nutrition Examination Survey (NHANES) database, prepared a dataset, conducted descriptive and basic statistical analysis, written an abstract, and presented a scientific poster to a small audience. (32-0-2)

### PHRE 5642—Analytic Systematic Review Project

This course will provide a culmination and integration of the student's skills with health-related, epidemiological, and medical information. Outcomes include research of a given topic, a scientific paper describing research products, a professional poster, and platform presentations. Presentations will be made to peers and health professionals, providing valuable experience in presentation ability and in medical information resource utilization. (32-0-2)

## Master of Science (M.S.) in Pharmaceutical Sciences

The M.S. in Pharmaceutical Sciences is a two-year graduate program with one of three unique areas of emphasis: 1) Molecular Medicine and Pharmacogenomics—centering on drug discovery principles, 2) Drug Development (Pharmaceutics)—focusing on drug delivery to the desired target, or 3) Social and Administrative Pharmacy—concerned with the interface between pharmacy and society (pharmacy outcomes).

The degree will prepare students for positions in academia or technological or managerial positions in the pharmaceutical industry, contract research organizations, managed care organizations, health care systems, and government agencies. Upon successful completion of the degree, students are prepared for further study in a doctoral program, medicine, or a health-related discipline.

### Admissions Requirements

Candidates who have an earned degree in a field related to the sciences will be considered for the M.S. in Pharmaceutical Sciences Program. The college takes a holistic approach in the evaluation of applications, looking beyond grades and test scores, but also focusing on work, extracurricular activities, and life experiences.

Those students applying to the Drug Development (Pharmaceutics) or the Molecular Medicine and Pharmacogenomics sequences are required to have earned a **Bachelor of Science degree in pharmacy, chemistry, biology, or a related scientific area**. Students applying to the Social and Administrative Pharmacy sequence are required to have earned a **Bachelor of Science degree in pharmacy, economics, statistics, public health, health services research, or other related fields**.

1. Applicants must have earned a baccalaureate degree from a regionally accredited institution of higher education.

2. Applicants must have earned a cumulative GPA equal to 3.0 or better on a 4.0 scale.

3. Applicants must submit official scores from the Graduate Record Examination (GRE) general test (verbal reasoning, quantitative reasoning, and analytical writing).

- Scores must be **less than five years old** at time of application.

- The NSU GRE code is **5522** for all submissions.

- For more information, please visit *gre.org*.

4. Three letters of reference from professors or supervisors in the applicant's field of study must be submitted.

### Application Procedures

Candidates for admission must submit the following by **June 15**:

1. a completed electronic application (available on our website at *pharmacy.nova.edu/masters*)

2. a nonrefundable application fee of \$50 (U.S.)

3. official transcripts from all colleges and universities attended and, if applicable, foreign evaluations

4. a personal essay (may be submitted online with application)

5. official GRE scores

6. three letters of reference

Proof of English proficiency, if applicable, is required of applicants. The following standardized tests currently

satisfy NSU College of Pharmacy English requirements for nonnative English speakers:

- Test of English as a Foreign Language (TOEFL)\*: score of 213 or above on a computer-based test or 80 or above on the Internet-based test ([toefl.org](http://toefl.org))
- International English Language Testing System (IELTS)\*: score of 6.0 or higher on the test module ([ielts.org](http://ielts.org))

\* TOEFL and IELTS scores may be no more than two years old at the time of the interview.

Candidates who have taken college courses in the United States may also prove English proficiency by completing, with a grade of 2.0 or higher on a 4.0 scale, two college-level English composition courses at a regionally accredited college or university in the United States.

All application materials and foreign evaluations must be mailed to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Pharmacy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Interview Process

A personal interview is part of the admissions process; however, being interviewed is not a guarantee of admission. Upon receipt of a completed application, a review will be made to determine if the applicant will be granted an interview. Not all applicants will be granted an interview. The Office of Admissions will notify selected applicants for interviews.

### Notice of Acceptance

Notice of acceptance or other action by the Committee on Admissions will be on a “rolling” or periodic schedule. Early completion of the application process is in the best interest of the applicant. Admission to the program is contingent upon successful completion of all prerequisite coursework prior to the first day of the semester. Proof of successful completion is required.

### Transcripts

Upon acceptance, final and official transcripts from all colleges and universities attended, and/or final and official documents, must be received within 90 calendar days from the start of the semester. If not received by that time, the student will not be allowed to continue class attendance. Financial aid will not be disbursed to a student until all the required documents are received and the student is fully admitted.

### Foreign Coursework

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National

Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny and Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant’s responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University.

All admissions materials and foreign evaluations must be mailed to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Pharmacy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Program Requirements

All students must purchase an iPad for assignments and assessments and have an active account with an Internet service provider. In addition, students must have ongoing access to a computer capable of connecting to the Internet and playing streaming video files. Online course notes and discussions will be provided to the student through an online course management system. NSU will provide access to email, online databases, and library resources.

### Tuition: M.S. in Pharmaceutical Sciences Program

**All tuition and fees are subject to change by the board of trustees without notice.**

Tuition for 2018–2019 will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

### Fees and Deposit—All Programs

- Acceptance and Preregistration Deposit—\$1,000. This deposit is required to reserve the accepted applicant’s place in the entering first-year class. The deposit will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is due within three weeks of an applicant’s acceptance.

- Health Professions Division General Access Fee—\$145. This fee is required annually.
- NSU Student Services Fee—\$1,350. This fee is required annually.
- Registration Fee—\$30 per semester.
- Late Payment Fee—\$100. All tuition and fees not paid within 30 days after the start of the semester will incur this fee.
- College of Pharmacy Fees—Additional fees will be incurred for college-approved activities. These fees are estimated at \$1,000 over the course of the program.

The first semester's tuition and fees, less the \$1,000 deposit are due on or before the first day of classes. Tuition for each subsequent semester is due on or before the first day of classes. Students will not be permitted to register or attend classes until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important. Applicants should have specific plans for financing their professional education. This should include tuition, fees, iPads, computer-related expenses, health insurance, books, printing, required equipment, and living and other miscellaneous expenses.

Each student is required to carry adequate personal medical and hospital insurance. For more information about NSU's required health insurance, visit the website at [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance).

## Curriculum Outlines

The curriculum is currently under review and will be revised as needed. These courses are representative of the overall requirements of the program at the time of publication and are subject to change. Updates to the curriculum will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

### Molecular Medicine and Pharmacogenomics

First and Second Years	Credits
Advanced Pharmacogenomics and Molecular Medicine	3
Advanced Physical Pharmacy	3
Bioethics: Principles of Life Science Research*	3
Biostatistics	3
Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics	3
Electives	5–6
Graduate Seminar**	1–4
Molecular and Cellular Pharmacodynamics	3
Pharmaceutical Sciences Research Design	1

## Course of Study

The two-year degree program will provide a strong science foundation for those interested in doctoral-level, graduate programs in pharmacy and other science fields. Students will be better prepared to further pursue the doctoral-level career paths currently being offered nationwide.

Courses are blended with existing Ph.D. and Pharm.D. courses—master's degree students will be assessed differently when appropriate. Each sequence has courses and emphasis specific to its discipline.

## Graduation Requirements

To receive a degree, students must fulfill the following requirements:

- be of good moral character
- successfully complete all curricular requirements and assessments with a minimum cumulative GPA of 3.0 on a 4.0 scale within four academic years
- satisfactorily meet all financial, library, and university obligations (to receive credentials)

Research Project	4
Research Techniques and Instrumentation	3
Scientific Writing*	1
<b>Total Credits</b>	<b>33–37</b>

### **Drug Development (Pharmaceutics)**

<b>First and Second Years</b>	<b>Credits</b>
Advanced Physical Pharmacy	3
Bioethics: Principles of Life Science Research*	3
Biostatistics I*	3
Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics	3
Electives	5–6
Graduate Seminar**	1–4
Molecular and Cellular Pharmacodynamics	3
Pharmaceutical Sciences Research Design	1
Product Development and Industrial Pharmacy	3
Research Project	4
Research Techniques and Instrumentation	3
Scientific Writing*	1
<b>Total Credits</b>	<b>33–37</b>

### **Social and Administrative Pharmacy**

<b>First and Second Years</b>	<b>Credits</b>
Bioethics: Principles of Life Science Research	3
Biostatistics	3
Elective	3
Graduate Seminar**	1–4
Health Economics	3
Pharmacoeconomics	3
Pharmacy Management and Finance	3
Population Health and Public Policy	3
Research Project	4
Scientific Writing*	1
Social Measurement and Techniques	3
Theories of Health-Seeking Behavior	3
<b>Total Credits</b>	<b>33–37</b>

\*HPD core courses

\*\*repeatable course

## Master of Science (M.S.) in Pharmaceutical Sciences Course Descriptions

### PHRM (Master's Degree) and HPD Core Classes

#### HPH 7210—Bioethics: Principles of Life Science Research

This course provides a structured approach for identifying, analyzing, and resolving ethical issues in medicine and the life sciences. Students analyze and discuss traditional philosophical theories regarding the nature of moral good. They will apply these theories to critical issues and selected case studies involving experiments with human subjects, organ transplantation, in vitro fertilization, the use of animals in research, the collection and publication of research data, conflicts of interest, and other topics of current concern. Students will explore the personal values, professional standards, and institutional guidelines that define the roles and responsibilities of the health care practitioner and researcher. (48-0-3)

#### HPH 7610—Scientific Writing

This course exposes students to, and provides practice in, various types of writing skills necessary for scientists and researchers, including research logs, internal reports, technical reports, abstracts, presentations and journal manuscripts, dissertation formats, and grant applications. Students are exposed to various search databases, style manuals, and publication outlets. (16-0-1)

#### PHRM 5001—Health Economics

This course will introduce students to the economic analysis of health care markets and the production of health. This course covers a variety of topics including the determinants of health; the supply of, and demand for, health care services; the impact of insurance on the demand for health care services; the role of government in health care markets; the market for pharmaceuticals; and the economic evaluation of health care programs. (48-0-3)

#### PHRM 5030—Biostatistics

This is a statistical course for graduate health science majors. The course will introduce methods for presenting data in summary form, analyzing data, and designing experiments. It will emphasize the application of statistical ideas and methods to the analysis and interpretation of experiments and comparative data. The student will be able to assess a situation involving data analysis, state the null and alternative hypotheses proposed, decide on the correct statistical procedure to test the null hypothesis and the assumptions of the test used, calculate the statistic, assess its statistical significance, and interpret the data in light of the calculated results. (48-0-3)

#### PHRM 5004—Advanced Physical Pharmacy

This course presents an application of underlying physical principles to formulate and to develop various pharmaceutical products. This course describes physical principles in both solid and non-solid states. The students will learn how basic physical principles are applied in development of current and novel pharmaceutical solids, semi-solids, homogeneous, and heterogeneous systems. This course describes the importance, properties, and applications of different polymer systems, new drug carriers, and rheology modifiers in developing current and novel dosage forms. Drug stability and solubility and approaches to enhance the solubility of the poorly soluble drugs will also be discussed. (48-0-3)

#### PHRM 5012—Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics

This course deals with the principles that explain the processes of absorption, distribution, and elimination of drugs. The advances in pharmacokinetic modeling, compartmental analysis, model-independent methods, single and multiple dosing, protein binding, metabolite kinetics, interspecies scaling to translate animal data to humans, effect of disease states, and data analysis using relevant software will be discussed, as will applying the principles of biopharmaceutics and pharmacokinetics to the design of controlled release and targeted drug delivery systems. Emphasis is on bioequivalence and bioavailability of traditional pharmaceutical dosage forms and novel drug delivery systems including the assessment of biosimilars. (48-0-3)

#### PHRM 5014—Molecular and Cellular Pharmacodynamics

This course studies the considerations in operating and regulating cellular processes by manipulating receptors for therapeutic advantage through coupled signaling pathways. Recent developments in this technique, as it applies to the treatment of disease, will be presented. (48-0-3)

#### PHRM 5020—Advanced Pharmacogenomics and Molecular Medicine

This course is designed to educate students with an in-depth knowledge and understanding of the cellular and molecular bases that have evolved as the basis of human diseases. The course offers the contemporary molecular biological concepts to apply toward understanding molecular bases of individual variation, its application to drug response, and possible new interventions. Students will be able to understand and apply the knowledge of modern molecular biological techniques for diagnostics and detection of infection; gene defects; and fingerprinting; transgenesis; biopharming; immunotherapies; and the ever-developing field of gene therapy and regenerative medicine. (48-0-3)



**PHRM 5021—Population Health and Public Policy**

This graduate-level, interactive course introduces students to: (1) the fundamental concepts and frameworks used for the study of population health and public policy; (2) the financing and managing of health systems at the local and international levels; and (3) the formulation and analysis of public health policies. The course will emphasize the intersection of public health and the determinant of drug use and pharmacy-related policies. Students will have the opportunity to analyze and critically evaluate existing health policies, public health actions; and reforms. The course will be highly interactive. Students are expected to contribute and participate in the discussion of current research, case studies, and policies. Student learning will be assessed through oral exams, written assignments, presentations, and an analytical paper. This course will provide skills for the conceptualization of research projects addressing current health issues related to pharmacy. (48-0-3)

**PHRM 5025—Pharmacy Management and Finance**

This course provides an overview of management theories, human resources, and financial management applied to pharmacy and health care institution operations. Elements of supervision, management, and leadership are discussed in an effort to help students develop the skills needed to operate a pharmacy effectively. Also covered are finance topics such as capital costs, profit analysis, cost structures, budgeting, payment for services rendered, and accounting. (48-0-3)

**PHRM 5060—Pharmaceutical Sciences  
Research Design**

This course provides an analysis of the study designs most commonly employed in experimental research with emphasis in basic and clinical pharmacological research. Upon completion of the course, students will understand the considerations that go into selecting qualitative, quantitative, and mixed methods of research design. The course prepares students to select the most appropriate design to better answer a specific research question, as well as to understand the strengths and limitations of such a design. (16-0-1)

**PHRM 5203—Social Measurement and Techniques**

This course introduces students to the concepts of advanced measurement theory and methods used in research. It acquaints students with cutting-edge models in measurement theory and methods, as well as with the application of computer software with which to implement those methodologies. After completing the course, students should be prepared to begin working on advanced applications of measurement in the sociobehavioral sciences. (48-0-3)

**PHRM 5204—Research Techniques  
and Instrumentation**

This course will provide students with a broad overview of technologies and instruments used in pharmaceutical sciences research. Topics covered include the fundamentals of spectroscopy and chromatography, basic protein and molecular biology techniques, and others. The course will allow students to read the literature with greater understanding as methodological terminology begins to have more meaning. (48-0-3)

**PHRM 5209—Pharmacoeconomics**

This course provides an overview of pharmacoeconomics and some of the health outcome measurements that apply to health/pharmacy-related disciplines. The course is designed to focus on methodological principles of pharmacoeconomics analyses and the strengths and weaknesses of specific methods. Practical examples for successful implementation of these concepts are discussed. (48-0-3)

**PHRM 5211—Theories of Health-Seeking Behavior**

This course covers social and behavioral theories related to medication use, health services utilization, provider-patient communication, and other health-seeking behaviors. Students will examine and apply select health behavior theories at the individual, interpersonal, and community level. They will examine research conducted using the theories, with emphasis in the pharmacy field. Students are expected to apply theories in defining research questions, research design, and data analysis. (48-0-3)

**PHRM 5229—Product Development and  
Industrial Pharmacy**

This course provides the student with the essential information about the various stages of the new drug approval process and drug development, including pre-formulation, comparison studies, suitability of pharmaceutical excipients, and formulation. Additionally, it provides the student with the principles of pharmaceutical processing, such as filtration, milling, mixing, drying, and compression of pharmaceutical solids. The course also deals with the production and quality control of tablets, capsules, liquid dosage forms, semi-solid dosage forms, and sterile products. Coverage includes the science of packaging materials, production management, quality assurance, and regulations in the pharmaceutical industry, including validation, good manufacturing practice, and FDA guidelines for stability of pharmaceutical dosage forms. (64-0-4)

### **PHRM 5700—Research Project**

Under the direction of faculty members, students will craft a mentored research project that draws on the educational experiences of their specialized track and electives. This research is provided to develop increased independence for students, while still maintaining the structure and faculty member oversight necessary to ensure that learning goals are met. The research may be a combination of classroom, laboratory, field, or in silico study. This supervised experience will allow students to work on projects that complement classroom work in the context of a structured course. The project will be designed to include practical instruction on evidence-based study development, data collection, and scientific writing. (64-4-0)

### **PHRM 5801—Graduate Seminar**

This course will equip students with the necessary tools to prepare and present lucid reports on their own research, as well as the research of others. The course will consist of weekly lectures that will be required of all graduate students throughout their course of study and research. Speakers will include faculty members and guests, as well as students presenting aspects of their research. (16-0-1)

## **M.S. in Pharmaceutical Sciences Elective Courses**

### **PHRE 5023—Pharmaceutical Marketing**

This course is intended to provide graduate students with an in-depth understanding of the global development and marketing of pharmaceuticals, with an emphasis on the U.S. system. (48-0-3)

### **PHRE 5207—Secondary Data Analysis of Pharmacy-Related Sources**

This course guides the student through the intricacies of utilizing secondary data for research. The emphasis is on utilizing sources of previously collected data that deal with pharmacy-related issues, including administrative, sociobehavioral, and clinical themes. Methodological issues arising from the various analytic approaches (e.g., meta-analysis, case-control analysis, content analysis) will be identified and discussed. (48-0-3)

### **PHRE 5216—Polymers**

This course presents basic concepts and properties of polymers as related to formulation, development, and design of pharmaceutical dosage forms and products. It describes how basic principles of polymers—structural, physical, chemical, and mechanical properties—can be utilized in modifying and developing current and novel pharmaceutical products. The course highlights important areas of polymer applications in controlled drug delivery, targeted drug delivery, tissue engineering, nanotechnology, and medical devices. (48-0-3)

### **PHRE 5222—Applied Pharmacology**

Students will use pharmacological principles to study the effects of therapeutic agents on the central nervous system, the endocrine system, the gastrointestinal system, blood, and blood-forming organs. It will address the rationale for the use of therapeutic agents; their effects on cells, tissues, organ systems, and patients; the mechanisms underlying these effects; the therapeutic value of specific drug effects; the limitation of the use of the agents; and the adverse effects of drugs. (48-0-3)

### **PHRE 5223—Drugs of Abuse**

The primary purpose of this elective course is to provide pharmacy students with an understanding of the pharmacology of drugs of abuse. Specifically, the types of substances abused, the patterns of abuse, the methods/routes of drugs of abuse, the pertinent toxicokinetics of these substances, the pharmacologic/toxicologic mechanism(s), the clinical manifestations of intoxication and/or withdrawal, the treatment of drug intoxication/withdrawal, and the societal impact of drug abuse will be discussed. (32-0-2)

### **PHRE 5228—Principles of Pharmaceutical Analysis**

This course explores the fundamentals of pharmaceutical analysis. This includes the principles of pharmaceutical analysis techniques and their applications in the pharmaceutical research and development (both academic and industrial). It is crafted to provide students with a solid conceptual ground to understand how a particular analytical technique works, to enable students to critically evaluate instrumentation choices when needed, and to allow them to select the appropriate tools. (48-0-3)

### **PHRE 5391—The Nuclear Pharmacy Experience**

This course covers and explains what a nuclear pharmacy is and the responsibilities, activities, and knowledge required in order to function as a nuclear pharmacist. It places emphasis on radiopharmaceuticals (radioactive medication), their mechanisms of action, dose ranges, methods of compounding, and ultimate role in the diagnosis and treatment of diseases. (32-0-2)

### **PHRE 5999—Research in the Pharmaceutical Sciences**

In this course, students work under the direction/supervision of one or more faculty members in a research laboratory. Students are involved in planning and executing an approved research project using basic techniques of scientific research. Students will be awarded 3 or 4 semester credits on the basis of 48 laboratory hours per credit. (0-[144-192]-[3-4])

## Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences

### Admissions Requirements

Candidates with degrees in fields related to the sciences will be considered for the Ph.D. in Pharmaceutical Sciences program. The College of Pharmacy takes a holistic approach in the evaluation of applications, looking beyond grades and test scores, but also focusing on work, extracurricular activities, and life experiences.

Those students applying to the Drug Development (Pharmaceutics) or the Molecular Medicine and Pharmacogenomics sequences are required to have earned a **Bachelor of Science degree in pharmacy, chemistry, biology, or a related scientific area**. Students applying to the Social and Administrative Pharmacy sequence are required to have earned a **Bachelor of Science degree in pharmacy, economics, statistics, public health, health services research, or other related fields**.

1. Applicants must have earned a baccalaureate degree from a regionally accredited institution of higher education.

2. Applicants must have earned a cumulative GPA equal to 3.0 or better on a 4.0 scale.

3. Applicants must submit official scores from the Graduate Record Examination (GRE) general test (verbal reasoning, quantitative reasoning, and analytical writing).

- Scores must be **less than five years old** at the time of application.
- The NSU GRE code is **5522** for all submissions.
- For more information, please visit *gre.org*.

4. Three letters of reference from professors or supervisors in the applicant's field of study must be submitted.

### Application Procedures

Candidates for admission must submit the following by March 1:

1. a completed electronic application (available on our website at *pharmacy.nova.edu*)
2. a nonrefundable application fee of \$50 (U.S.)
3. official transcripts from all colleges and universities attended
4. a personal essay (may be submitted online with application)
5. three letters of reference
6. official GRE scores

Proof of English proficiency, if applicable, is required of applicants. The following standardized tests currently satisfy NSU College of Pharmacy English requirements for nonnative English speakers:

1. Test of English as a Foreign Language (TOEFL)\*: score of 213 or above on a computer-based test or 80 or above on the Internet-based test (*toefl.org*)

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\* *TOEFL and IELTS scores may be no more than two years old at the time of the interview.*

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Nova Southeastern University  
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College of Pharmacy Admissions  
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### Interview Process

A personal interview is part of the admissions process; however, being interviewed is not a guarantee of admission. Upon receipt of a completed application, a review will be made to determine if the applicant will be granted an interview. Not all applicants will be granted an interview. The Office of Admissions will notify selected applicants for interviews.

### Notice of Acceptance

Notice of acceptance or other action by the Committee on Admissions will be on a "rolling" or periodic schedule. Early completion of the application process is in the best interest of the applicant. Admission to the program is contingent upon successful completion of all prerequisite coursework prior to the first day of the semester. Proof of successful completion is required.

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Upon acceptance, final and official transcripts from all colleges and universities attended, and/or final and official documents, must be received within 90 calendar days from the start of the semester. If not received by that time, the student will not be allowed to continue class attendance. Financial aid will not be distributed to a student until all the required documents are received and the student is fully admitted.

### Foreign Coursework

Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National

Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University.

All admissions materials and foreign evaluations must be mailed to

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Enrollment Processing Service  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### **Tuition: Ph.D. Program**

**All tuition and fees are subject to change by the board of trustees without notice.**

Annual tuition for 2018–2019 will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

### **Fees and Deposit—All Programs**

- Acceptance and Preregistration Deposit—\$1,000. This deposit is required to reserve the accepted applicant's place in the entering, first-year class. This deposit will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is due within three weeks of an applicant's acceptance.
- Health Professions Division General Access Fee—\$145. This fee is required annually.
- Late Payment Fee—\$100. All tuition and fees not paid within 30 days after the start of the semester will incur this fee.
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The first semester's tuition and fees, less the \$1,000 deposit, are due prior to the start of the semester. Tuition and fees for each subsequent semester are due on or before the start of each semester. The financial ability of applicants to complete their training at the college is important. Applicants should have specific plans for financing their graduate education. This should include tuition, fees, iPads, computer-related expenses, health insurance, books, printing, required equipment, and living and other miscellaneous expenses.

Each student is required to carry adequate personal medical and hospital insurance. For more information about NSU's required health insurance, visit the website at [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance).

### **Graduation Requirements**

To receive a Ph.D. degree, students must fulfill the following requirements:

- be of good moral character
- successfully complete the requirements of the curriculum within seven academic years with a GPA of 3.0 on a 4.0 scale
- have one first author publication (accepted, in-press, or published)
- satisfactorily meet all financial, library, and university obligations (to receive credentials)

## Social and Administrative Pharmacy Sequence

### Program Description

Entering pharmacy graduate students must select one of three sequences to focus their graduate studies upon: Social and Administrative Pharmacy, Drug Development (Pharmaceutics), or Molecular Medicine and Pharmacogenomics. Research topics available to students are consistent with the expertise of faculty members in the College of Pharmacy (COP) at NSU. In addition, the Ph.D. program is consistent with the criteria for accreditation set by the Commission on Colleges of the Southern Association of Colleges and Schools.

The Social and Administrative Pharmacy sequence focuses on research skills and supporting coursework that address the dynamic and complex nature of the provision of pharmacy services. Students who select this sequence are expected to conduct their dissertation research in one of two tracks: 1) Sociobehavioral and Cultural Pharmacy or 2) Pharmacoeconomics and Outcomes. Students who pursue either track in this sequence are advised by faculty members in the Department of Sociobehavioral and Administrative Pharmacy, a group of researchers with expertise in pharmacoeconomics, health disparities and vulnerable populations, cultural competency, development and implementation of sustainable pharmacy services, patients' decision making, pharmacy marketing, and outcomes research.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. An average GPA of 3.0 or higher must be maintained. Coursework aimed at filling academic gaps in a student's background will not count toward program requirements. Both a written or comprehensive and an oral qualifying examination are required to advance to candidacy. Research, culminating in a successfully defended dissertation, is required of all students in their respective areas.

At the completion of this course of study and research, students will

- demonstrate the knowledge base expected at the Ph.D. level in their specialty
- design and conduct independent research that adds to the understanding of their specialty
- prepare and defend rational and structured proposals seeking support for their research
- effectively communicate the results of their own research
- be competitive for careers in academia, industry, government, or regulatory positions

## Social and Administrative Pharmacy Curriculum Sequence

The curriculum may be revised as needed. These courses are representative of the overall requirements of the program at the time of publication and are subject to change. Updates to the curriculum will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

First and Second Years	Credits
Advanced Biostatistics I*	3
Advanced Biostatistics II*	3
Advanced Quantitative Methods	3
Bioethics: Principles of Life Science Research*	3
Elective	6
Graduate Research**	3–9
Graduate Seminar**	1–4

Health Economics	3
Pharmaceutical Marketing	3
Pharmacoeconomics	3
Pharmacy Management and Finance	3
Population Health and Public Policy	3
Research Design*	3
Research Funding and Proposal Development*	1
Research/Internship	3
Scientific Writing*	1
Social Measurement and Techniques	3
Theories of Health-Seeking Behavior	3

<b>Third Year</b>	<b>Credits</b>
Dissertation Research	16
Elective	3
Advanced Graduate Research	5
Graduate Seminar**	1–2

<b>Fourth Year</b>	<b>Credits</b>
Graduate Seminar**	1–2
Dissertation Research	24

\*HPD core course

\*\*repeatable course

- Notes:
- Qualifying exams will commence during the summer semester of the second year.
  - Fourth and subsequent years are as necessary (maximum seven years).
  - Graduation from the program requires the preparation and successful defense of a dissertation.

## Drug Development (Pharmaceutics) Sequence

### Program Description

Entering pharmacy graduate students must select one of three sequences to focus their graduate studies upon: Social and Administrative Pharmacy, Drug Development (Pharmaceutics), or Molecular Medicine and Pharmacogenomics. Research topics available to students are consistent with the expertise of faculty members in the College of Pharmacy (COP) at NSU. In addition, the Ph.D. program is consistent with the criteria for accreditation set by the Commission on Colleges of the Southern Association of Colleges and Schools.

The Drug Development (Pharmaceutics) sequence emphasizes the development of laboratory research skills and supporting coursework that are integral to the theory and practice associated with the incorporation of drug entities into the forms and formulations to achieve the most effective delivery of drugs to the site of biological and medical action. Students who pursue this sequence are advised by faculty members in the department of pharmaceutical sciences, a group of researchers with expertise in pharmaceutics-related disciplines. Particular areas of expertise include such as abuse-resistant formulations, novel drug delivery approaches, and molecularly targeted drug delivery systems.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. An average GPA of 3.0 or higher must be maintained. Coursework aimed at filling academic gaps in a student's background will not count toward program requirements. Both a written or comprehensive and an oral qualifying examination are required to advance to candidacy. Research, culminating in a successfully defended dissertation, is required of all students in their respective areas.

At the completion of this course of study and research, students will

- demonstrate the knowledge base expected at the Ph.D. level in their specialty
- design and conduct independent research that adds to the understanding of their specialty
- prepare and defend rational and structured proposals seeking support for their research
- effectively communicate the results of their own research
- be competitive for careers in academia, industry, government, or regulatory positions

## Drug Development (Pharmaceutics) Curriculum Sequence

The curriculum may be revised as needed. These courses are representative of the overall requirements of the program at the time of publication and are subject to change. Updates to the curriculum will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

First and Second Years	Credits
Advanced Biostatistics I*	3
Advanced Pharmacokinetics and Biopharmaceutics	3
Advanced Physical Pharmacy	3
Advanced Topics in Pharmaceutical Sciences	1
Bioethics: Principles of Life Science Research*	3
Elective	6
Graduate Research**	3–15
Graduate Seminar**	1–4

Pharmaceutical Sciences Research Design	3
Product Development and Industrial Pharmacy	4
Research Funding and Proposal Development*	1
Research/Internship	3
Research Techniques and Instrumentation	3
Scientific Writing*	1

Third Year	Credits
Advanced Topics in Pharmaceutical Sciences	2
Dissertation Research	24
Graduate Seminar**	1–2

Fourth Year	Credits
Graduate Seminar**	1–2
Dissertation Research	24

\*HPD core course

\*\*repeatable course

- Notes:
- Qualifying exams will commence during the summer semester of the second year.
  - Fourth and subsequent years are as necessary (maximum seven years).
  - Graduation from the program requires the preparation and successful defense of a dissertation.

## Molecular Medicine and Pharmacogenomics Sequence

### Program Description

Entering pharmacy graduate students must select one of three sequences to focus their graduate studies upon: Social and Administrative Pharmacy, Drug Development (Pharmaceutics), or Molecular Medicine and Pharmacogenomics. Research topics available to students are consistent with the expertise of faculty members in the College of Pharmacy (COP) at NSU. In addition, the Ph.D. program is consistent with the criteria for accreditation set by the Commission on Colleges of the Southern Association of Colleges and Schools.

The Molecular Medicine and Pharmacogenomics sequence emphasizes laboratory research and the development of research skills that are integral to elucidation of the mechanism of action of drugs and the extent and characteristics of those actions. Students who pursue this sequence will be primarily under the tutelage of faculty members in the department of pharmaceutical sciences, a group of researchers with expertise in pharmacology, medicinal chemistry, toxicology, neuroscience, and

biochemistry. Particular areas of expertise include cardiovascular pharmacology, molecular pharmacology, anti-inflammatory steroids, central nervous system diseases, and cancer pharmacology.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. An average GPA of 3.0 or higher must be maintained. Coursework aimed at filling academic gaps in a student's background will not count toward program requirements. Both a written or comprehensive and an oral qualifying examination are required to advance to candidacy. Research, culminating in a successfully defended dissertation, is required of all students in their respective areas.

At the completion of this course of study and research, students will



- demonstrate the knowledge base expected at the Ph.D. level in their specialty
- design and conduct independent research that adds to the understanding of their specialty
- prepare and defend rational and structured proposals seeking support for their research
- effectively communicate the results of their own research
- be competitive for careers in academia, industry, government, or regulatory positions

## Molecular Medicine and Pharmacogenomics Curriculum Sequence

The curriculum may be revised to better meet the demands of the profession. These courses are representative of the overall requirements of the program at the time of publication and are subject to change. Updates to the curriculum will be posted on the college website ([pharmacy.nova.edu](http://pharmacy.nova.edu)).

First and Second Years	Credits
Advanced Biostatistics I*	3
Advanced Pharmacogenomics and Molecular Medicine	3
Advanced Pharmacokinetics and Biopharmaceutics	3
Applied Pharmacology	3
Bioethics: Principles of Life Science Research*	3
Clinical Pharmacology	4
Elective	3
Experimental Statistics and Informatics	1
Graduate Research**	3–15
Graduate Seminar**	1–4
Journal Club	1
Molecular and Cellular Pharmacodynamics	3
Research Design	1
Research Funding and Proposal Development*	1
Research/Internship	3
Research Techniques and Instrumentation	3
Scientific Writing*	1
<b>Third Year</b>	<b>Credits</b>
Dissertation Research	24
Graduate Seminar**	1–2
Elective	3

Fourth Year	Credits
Graduate Seminar**	1–2
Dissertation Research	24

\*HPD core course

\*\*repeatable course

- Notes:
- Qualifying exams will commence during the summer semester of the second year.
  - Fourth and subsequent years are as necessary (maximum seven years).
  - Graduation from the program requires the preparation and successful defense of a dissertation.

## Ph.D. Program Course Descriptions

### HPD Core Courses

#### HPH 7210—Bioethics: Principles of Life Science Research

This course provides a structured approach for identifying, analyzing, and resolving ethical issues in medicine and the life sciences. Students analyze and discuss traditional philosophical theories regarding the nature of moral good. They will apply these theories to critical issues and selected case studies involving experiments with human subjects, organ transplantation, in vitro fertilization, the use of animals in research, the collection and publication of research data, conflicts of interest, and other topics of current concern. Students will explore the personal values, professional standards, and institutional guidelines that define the roles and responsibilities of the health care practitioner and researcher.

#### HPH 7320—Advanced Biostatistics I

This course is the first of a two-course sequence focusing on inferential statistics for students interested in conducting quantitative research in the health sciences. It enables students to gather data and apply experimental design models toward solving practical problems and improving the efficiency of formulating and providing health care services.

#### HPH 7330—Advanced Biostatistics II

This course is the second of a two-course sequence focusing on inferential statistics for students interested in conducting quantitative research in the health sciences. It enables students to gather data and apply experimental design models toward solving practical problems and improving the efficiency of formulating and providing health care services.

#### HPH 7400—Research Design

This course prepares students to evaluate pharmaceutical procedures and practices from a scientific viewpoint.

Students will learn to identify issues requiring additional investigation, and to design research that efficiently and effectively addresses those issues. By the end of the course, the student will prepare a first draft of a research proposal.

#### HPH 7610—Scientific Writing

This course exposes students to, and provides practice in, various types of writing skills necessary for scientists and researchers, including research logs, internal reports, technical reports, abstracts, presentations and journal manuscripts, dissertation formats, and grant applications. Students are exposed to various search databases, style manuals, and publication outlets.

#### HPH 7620—Research Funding and Proposal Development

This course provides an overview of the process of conceptualizing, developing, writing, and submitting research grant applications to solicit extramural support for research efforts. It will describe the process through which federal grant applications are evaluated and scored and through which funding decisions are made.

### Ph.D. Program Courses

#### PHRP 7000/7218/7303—Graduate Research

This course introduces students to the fundamental tenets of pharmaceutical sciences research at the graduate level. This course is required each semester until students become degree candidates. Students will work on a one-on-one basis with their faculty mentor to become familiar with the research interests, literature, and laboratory techniques of the mentor. (48-0-3)

#### PHRP 7001—Health Economics

This course will introduce students to the economic analysis of health care markets and the production of health. This course covers a variety of topics including the determinants of health; the supply of, and demand

for, health care services; the impact of insurance on the demand for health care services; the role of government in health care markets; the market for pharmaceuticals; and the economic evaluation of health care programs. (48-0-3)

#### **PHRP 7004—Advanced Physical Pharmacy**

This course presents application of underlying physical principles to formulate and develop various pharmaceutical products. The course describes physical principles in both solid and non-solid states. Students will learn how basic physical principles are applied in development of current and novel pharmaceutical solids, semi-solids, and homogeneous and heterogeneous systems. Moreover, the course describes the importance, properties, and application of different polymer systems, new drug carriers, and rheology modifiers in developing current and novel dosage forms. Drug stability and solubility and approaches to enhance the solubility of poorly soluble drugs will also be discussed. (48-0-3)

#### **PHRP 7006—Clinical Pharmacology: Pharmacodynamics Principles and Cardiovascular Pharmacology**

This course will apply the principles of organic chemistry, biochemistry, physiology, and pathophysiology to understand drug actions at the receptor, cellular, and systems levels under physiological and pathological conditions. Special emphasis will be placed on students' understanding of determinants of drug absorption, distribution, physiological receptors, drug-receptor interaction, drug metabolism, and elimination. This course will also focus on the drugs that act on the autonomic nervous system, cardiovascular system, and blood components as well. The rationale for the use of these therapeutic agents; their effects on cells, tissues, organ systems, and patients; the mechanisms underlying these effects; the therapeutic value of specific drug effects; and the adverse effects of the drugs will be addressed as well. (64-0-4)

#### **PHRP 7012—Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics**

This course deals with the principles that explain the processes of absorption, distribution, and elimination of drugs. The advances in pharmacokinetic modeling, compartmental analysis, model-independent methods, single and multiple dosing, protein binding, metabolite kinetics, interspecies scaling to translate animal data to humans, effect of disease states, and data analysis using relevant software will be discussed, applying the principles of biopharmaceutics and pharmacokinetics to the design of controlled release and targeted drug delivery systems. Emphasis is on bioequivalence and bioavailability of traditional pharmaceutical dosage forms and novel drug delivery systems, including the assessment of biosimilars. (48-0-3)

#### **PHRP 7013—Internship**

This is a course designed to provide students with an introduction to research in industry or an institutional setting. Students will work one-on-one with their supervisor to become familiar with cutting-edge research and problem-solving in industry and institutions. Ultimately, the underlying purpose of this experience is to expose students to the research and environment that exist in industry and various institutions. (48-0-3)

#### **PHRP 7020—Experimental Statistics and Informatics**

This course provides an overview of the principles of experimental statistics and informatics that are relevant to the experimental design of studies, as well as interpretation and processing of the information garnered from these studies, in the biomedical sciences, but particularly in the area of molecular medicine and pharmacogenomics. (16-0-1)

#### **PHRP 7021—Population Health and Public Policy**

This graduate research seminar introduces Ph.D. students to (1) the fundamental concepts and frameworks used for the study of population health and public policy, (2) the financing and managing of health systems at the local and international levels, and (3) the formulation and analysis of public health policies. The course will emphasize the intersection of public health and the determinant of drug use and pharmacy-related policies. Students will have the opportunity to analyze and critically evaluate existing health policies, public health actions, and reforms. The course will be highly interactive. Students are expected to contribute and participate in the discussion of current research, case studies, and policies. Student learning will be assessed through oral exams, written assignments, presentations, and an analytical paper. This course should provide skills for the conceptualization of research projects addressing current health issues related to pharmacy. (48-0-3)

#### **PHRP 7023—Pharmaceutical Marketing**

This course is intended to provide the graduate student with an in-depth understanding of the global development and marketing of pharmaceuticals with an emphasis on the U.S. system. (48-0-3)

#### **PHRP 7025—Pharmacy Management and Finance**

This course provides an overview of management theories, human resources, and financial management applied to pharmacy and health care institution operations. Elements of supervision, management, and leadership are discussed in an effort to help students develop the skills needed to operate a pharmacy effectively. Also covered are finance topics such as capital costs, profit analysis, cost structures, budgeting, payment for services rendered, and accounting. (48-0-3)

### **PHRP 7060—Pharmaceutical Sciences Research Design**

The purpose of this course is to provide an analysis of the study designs most commonly employed in experimental research with emphasis in basic and clinical pharmacological research. Completion of the course is expected to enable students to understand the considerations that go into selecting qualitative, quantitative, and mixed methods of research design. The course prepares students to select the most appropriate design to better answer a specific research question, as well as to understand the strengths and limitations of such design. (48-0-3)

### **PHRP 7114—Molecular and Cellular Pharmacodynamics**

This course is a study of the considerations in operating and regulating cellular processes by manipulating receptors for therapeutic advantage through coupled signaling pathways. Recent developments in this technique as it applies to the treatment of disease will be presented. **Prerequisites:** Clinical Pharmacology (PHRC 4230) or equivalent. (48-0-3)

### **PHRP 7203—Social Measurement and Techniques**

This course introduces students to the concepts of advanced measurement theory and methods used in research. It acquaints students with cutting-edge models in measurement theory and methods, as well as with the application of computer software used to implement those methodologies. After completing the course, students should be prepared to begin working on advanced applications of measurement in the sociobehavioral sciences. (48-0-3)

### **PHRP 7204—Research Techniques and Instrumentation**

This course will augment the student's rotation experiences with a broader view of state-of-the-art technologies and instruments used in pharmaceutical sciences research. It will allow the student to read the literature with greater understanding as methodological terminology begins to have more meaning. It is meant to be a broad survey of technologies, not provide a deep background in any specific technology. (48-0-3)

### **PHRP 7205—Advanced Quantitative Methods**

This course exposes students to selected advanced empirical methods useful in social, behavioral, economic, and administrative research and provides them with hands-on experience in conducting empirical research. Within this context, this course covers a variety of topics including linear programming, network models, utility and game theory, panel data methods, instrumental variables methods, and propensity score matching approaches.

The course will be presented in an application context. Examples from social, behavioral, economic, and administrative studies will be used to illustrate key ideas and methods. **Prerequisites:** HPH 7300 and HPH 7310 (48-0-3)

### **PHRP 7207—Secondary Data Analysis of Pharmacy-Related Sources**

This course guides the student through the intricacies of utilizing secondary data for research. The emphasis is on utilizing sources of previously collected data that deal with pharmacy-related issues, including administrative, socio-behavioral, and clinical themes. Methodological issues arising from the various analytic approaches (e.g., meta-analysis, case-control analysis, content analysis) will be identified and discussed. (48-0-3)

### **PHRP 7208—Advanced Pharmacokinetics**

This course will explain the model development techniques that can be utilized for complex pharmacodynamic systems. Advanced data analysis techniques and modern pharmacokinetic theory will be discussed. (48-0-3)

### **PHRP 7209—Pharmacoeconomics**

This course provides an overview of pharmacoeconomics and some of the health outcome measurements that apply to health/pharmacy-related disciplines. The course is designed to focus on methodological principles of pharmacoeconomics analyses and the strengths and weaknesses of specific methods. Practical examples for successful implementation of these concepts are discussed. (48-0-3)

### **PHRP 7211—Theories of Health-Seeking Behavior**

This course covers social and behavioral theories related to medication use, health services utilization, provider patient communication, and other health-seeking behaviors. Students will examine and apply select health behavior theories at the individual, interpersonal, and community level. They will examine research conducted using the theories, with emphasis in the pharmacy field. Students are expected to apply theories in defining research questions, in research design, and in data analysis. (48-0-3)

### **PHRP 7212—Advances in Drug Delivery**

This course provides current information on the science and technology of novel drug delivery systems. Particularly, it emphasizes the development and evaluation of controlled and targeted drug delivery systems based on physiochemical properties of the therapeutic agent and polymer and pharmacokinetics. Coverage includes material on the advantages, disadvantages, and limitations of advanced drug delivery over traditional methods. Recent advances in drug delivery will be presented and discussed. (48-0-3)

### **PHRP 7213—Epidemiology of Drug Use, Abuse, and Misuse**

This course is designed to introduce doctoral students to the epidemiology of drug use, misuse, and abuse. The course focuses on drug use, misuse, and abuse as social phenomena and deals with the history of drug use and regulatory attempts in America; pharmacology and use patterns related to specific drugs; use, abuse, and misuse as medical, psychological, and social concepts; drug importation, manufacture, and distribution (including both the legal and illegal drug industries); perspectives on the etiology of drug use/abuse; drug abuse prevention and educational programs; and approaches to drug abuse treatment. (48-0-3)

### **PHRP 7216—Pharmaceutical Polymers**

This course presents basic concepts and properties of polymers as related to formulation, development, and design of pharmaceutical dosage forms and products. It describes how basic principles of polymers—structural, physical, chemical, and mechanical properties—can be utilized in modifying and developing current and novel pharmaceutical products. Moreover, the course highlights important areas of polymer applications in controlled drug delivery, targeted drug delivery, tissue engineering, nanotechnology, and medical devices. (48-0-3)

### **PHRP 7220—Advanced Pharmacogenomics and Molecular Medicine**

This course is designed to educate students with an in-depth knowledge and understanding of the cellular and molecular bases that have evolved as the basis of human diseases. The course offers the contemporary molecular biological concepts to apply toward understanding molecular bases of individual variation, its application to drug response, and possible new interventions. Students will be able to understand and apply the knowledge of modern molecular biological techniques for diagnostics and detection of infection; gene defects; fingerprinting, transgenesis, biopharming, and immunotherapies; and the ever-developing field of gene therapy and regenerative medicine. (48-0-3)

### **PHRP 7221—Advanced Graduate Research**

This research course is design to provide guidance to students through the complete research process, from formulation of a topic to data collection and analysis to completion of a final report. Students are encouraged to present research findings at appropriate professional conferences. (80-0-5)

### **PHRP 7222—Applied Pharmacology**

Students will use pharmacological principles to study the effects of therapeutic agents on the central nervous system, the endocrine system, the gastrointestinal system, blood,

and blood-forming organs. The course will address the rationale for the use of therapeutic agents; their effects on cells, tissues, organ systems, and patients; the mechanisms underlying these effects; the therapeutic value of specific drug effects; the limitation of the use of the agents; and the adverse effects of drugs. (48-0-3)

### **PHRP 7224—Elective: Advances in Central Nervous System Pharmacology**

This course reviews recent developments in the understanding of select CNS neurotransmitter/neuropeptide receptor systems with particular emphasis on their relevance to the actions of psychopharmacological agents. It focuses on the neuroanatomy, neurophysiology, and pathophysiology of specific neurotransmitter/neuropeptide systems and examines the interaction of these systems in the expression of CNS effects. (48-0-3)

### **PHRP 7226—Journal Club**

This course provides graduate students with an opportunity to critically read, interpret, and present research literature. The audience will be fellow peers, postdoctoral students and faculty members. Students will prepare and present high-quality written and oral critiques of peer-reviewed publications in the biomedical field. This course will help students stay abreast of current knowledge in their, as well as their colleagues, fields of research; develop presentation skills; and promote interdisciplinary interactions. (16-0-1)

### **PHRP 7229—Product Development and Industrial Pharmacy**

This course provides the student with the essential information about the various stages of the new drug approval process and drug development, including pre-formulation, comparison studies, suitability of pharmaceutical excipients, and formulation. Additionally, this course provides the student with the principles of pharmaceutical processing, such as filtration, milling, mixing, drying, and compression of pharmaceutical solids. It also deals with the production and quality control of tablets, capsules, liquid dosage forms, semi-solid dosage forms, and sterile products. Coverage includes the science of packaging materials, production management, quality assurance, and regulations in the pharmaceutical industry, including validation, good manufacturing practice, and FDA guidelines for stability of pharmaceutical dosage forms. (64-0-4)

### **PHRP 7235—Elective: Cardiovascular Risk Factors**

This course is designed to provide the student with the background knowledge necessary for the clinical sciences, information related to cardiovascular risk factors, and the foundation from which pharmacists practice pharmaceutical care. The course reviews all major classes of cardiovascular risk factors and discusses evidence-based therapy. The rationale of prevention, lifestyle modifications, and current therapies for the treatment

of common and silent cardiovascular risk factors are also addressed. Attention is given to specific clinical studies regarding new strategies to prevent and treat risk factors associated with cardiovascular disease. (48-0-3)

#### **PHRP 7250—Advanced Topics in Pharmaceutical Sciences**

This course offers a survey of cutting-edge techniques and discoveries that are germane to the pharmaceutical sciences, particularly in the area of pharmaceuticals. (48-0-2)

#### **PHRP 7252—Pharmacognosy**

The use of herbal and other naturally derived medicines has increased dramatically in the United States over the past decade. This course will provide basic information about medicinal drugs derived from plants and other natural sources. The major classes of medicinally active natural products, their origin (nomenclature + taxonomy), structure, biosynthesis, and mode of action will be covered. The naturally derived constituents and their therapeutic efficacy in the following categories of drugs will be discussed: laxatives, cardiac stimulants, carminatives, drugs acting on the CNS, anti-hypertensives, antitussives, antirheumatics, antitumor, antidiabetics, diuretics, antidiysenterics, antimalarials, oxytocics, vitamins, and enzymes. The importance of natural products as drugs and drug precursors, as well as their regulation in the pharmaceutical industry, will be addressed. Students will be asked to compile and evaluate scientific information in pharmacognosy and to describe the pros and cons associated with use of naturally derived medicines. (48-0-3)

#### **PHRP 7340—Role of Pharmacy in Adolescent Health**

In this course, students will analyze different health situations that youth face during adolescence, from risky behaviors to chronic illnesses. It is an interactive course in which students will have the opportunity to explore, in depth, issues regarding adolescent health from human development, ecological, and cultural perspectives. The students will explore how pharmacists can contribute to the promotion or maintenance of adolescent health, the prevention of disease, and the management of chronic diseases. Students will be expected to prepare a literature review and design health promotion and education strategies on an issue of their choice. (48-0-3)

#### **PHRP 7350—Contemporary Issues in Pharmacy**

This course is designed to explore a broad spectrum of contemporary issues related to pharmacy practice, pharmaceutical industry, third-party payment, and health policy. It aims to increase student awareness and understanding of the change in pharmacy practices and their impacts to the U.S. health care system. (48-0-3)

#### **PHRP 8000/8100/8200—Dissertation Research**

This course consists of independent, full-time research on an approved dissertation problem mentored by a major adviser. The research effort will continue until the problem is solved or resolved to the satisfaction of the mentor and the student's dissertation committee. Certification for graduation requires an oral defense of the written dissertation resulting from this research endeavor. (128-0-8)

#### **PHRP 8400—Graduate Seminar**

The purpose of this course is to equip students with the necessary tools so that they can prepare and present lucid reports on their own research, as well as the research of others. The course will consist of weekly lectures that will be required of all graduate students throughout their course of study and research. Speakers will include faculty members and guests, as well as students presenting aspects of their research. (16-0-1)

#### **PHRP 8900—COP Dissertation**

The final and central requirement for awarding the Ph.D. degree is the completion of a substantial research project that is demonstrated by the preparation and defense of a dissertation, which will be completed in this course. (16-0-1)

## Student Organizations

### Student Government Association (SGA)

Student Government Association (SGA) is the official voice of all students. The organization is open to all students and welcomes proposals and participation from the entire student body. Its responsibilities include collecting and expressing student opinion, dispensing funds for student activities, acting as liaison for the student body, promoting pharmacy, supporting organization and class activities, and working to improve the quality of life for students at the College of Pharmacy.

### Other Organizations and Fraternities

Many student organizations addressing various professional and practice-related interests are also open for student membership including

- Academy of Managed Care Pharmacy (AMCP)
- Alpha Zeta Omega (AZO)
- American Pharmacists Association—Academy of Student Pharmacists (APhA-ASP)
- American Society of Consultant Pharmacists (ASCP)
- Christian Pharmacists Fellowship International (CPFI)
- Class Councils
- College of Psychiatric and Neurologic Pharmacists (CPNP)
- Florida Society of Health-System Pharmacists (FSHP)
- International Pharmaceutical Students Federation (IPSF)
- International Society for Pharmacoeconomics and Outcomes Research (ISPOR)
- Jewish Pharmacy Student Organization (JPSO)
- Kappa Psi (KΨ)
- National Community Pharmacists Association (NCPA)
- Ph.D. Graduate Pharmacy Association (PGPA)
- Phi Delta Chi (PDC)
- Phi Lambda Sigma (PLS)
- Rho Chi
- Student College of Clinical Pharmacy (SCCP)
- Student National Pharmaceutical Association (SNPhA)

## College of Pharmacy Faculty

### Biochemistry

Chair and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam**

### Microbiology

Chair and Professor: **K. Davis** | Professor: **H. E. Laubach**  
| Associate Professor: **B. Mayi** | Assistant Professor: **M. Demory Beckler**

### Physiology

Chair and Professor: **W. Schreier** | Professor: **Y. Zagvazdin**  
| Assistant Professor: **A. Mashukova**

### Pathology

Chair and Assistant Professor: **E. Murdock** | Professor:  
**B. Jones** | Assistant Professor: **A. Villa**

### Pharmaceutical Sciences

Interim Chair and Associate Professor: **A. M. Castejon** |  
Professors: **M. A. Clark, L. Cubeddu, R. Deth, P. Gannett, W. D. Hardigan, H. Omidian, A. Rathinavelu, R. Speth** | Associate Professors: **R. Ansari, J. Latimer, A. Lymperopoulos, Y. Kwon, M. Rawas-Qalaji** | Assistant Professors: **J. Gutiérrez-Rocca, D. Mastropietro, E. Nieves, M. Trivedi** | Clinical Assistant Professors: **J. Czerwinska, D. Gazze** | Academic Facilitators/Instructors: **R. Rodriguez-Millan, J. Varela** | Research Associate/Instructor: **T. Havrànek**

### Sociobehavioral and Administrative Pharmacy

Chair and Professor: **M.J. Carvajal** | Professors: **B. Bleidt, L. Lai, A. I. Wertheimer** | Associate Professors: **N. Khanfar, I. Popovici, A. Perez Rivera, S. Rabionet, J. Sanchez** | Assistant Professors: **G. Alvarez, G. Armayor, G. Silva-Suarez** | Instructor: **R. S. Nappi**

### Pharmacy Practice

Chair and Associate Professor: **M. Seamon** | Professor: **J. Rey** | Associate Professors: **L. Deziel, R. McGory, K. Sando, E. Sherman, D. Singh-Franco, W. Wolowich** | Assistant Professors: **Y. Alvarado, L. Arce-Malavé, K. Ayala, E. Frenzel Shepherd, K. Fuller, G. Hale, R. Jones, T. Joseph, S. Kjelson, A. Levin, J. Marin, M. Metzner, C. Moreau, B. Ortiz, G. Silva-Suarez, J. Steinberg, K. Stultz, M. Worley** | Clinical Assistant Professors: **E. Byrne, F. Colón-Pratts, B. Hierholzer, R. Lozada Diaz, B. Hammer, P. Medina Rivera, J. Riskin** | Academic Facilitator/Instructors: **M. Miranda, O. Elharar**

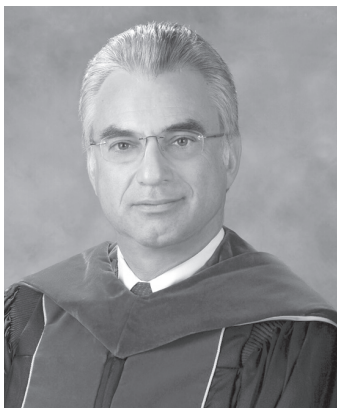


# College of Optometry





# College of Optometry



David Loshin, O.D.,  
Ph.D., FAAO (*Dipl.*)  
Dean

## Mission Statement

The mission of the College of Optometry is to educate and train optometric physicians to practice at the highest level of proficiency, integrity, and professionalism and to provide a multidisciplinary environment that encourages and supports scholarship, community service, and lifelong learning.

## Administration

David Loshin, O.D., Ph.D., FAAO (*Dipl.*)  
Dean

Josephine Shallo-Hoffmann, Ph.D., FAAO  
Associate Dean for Academic Affairs

Nicole Patterson, O.D., M.S., FAAO  
Assistant Dean for Student Affairs

Linda Rouse, O.D., M.B.A., FAAO  
Assistant Dean for Finance and Operations

Barry Frauens, O.D., FAAO  
Chair, Clinical Education

Joseph Sowka, O.D., FAAO (*Dipl.*)  
Chair, Didactic Education

## Optometry

Sight is one of our most precious gifts and the optometric physician is dedicated to the preservation and enhancement of this gift. The optometric physician, through academic and clinical training, is able to examine, diagnose, treat, and manage disorders and diseases of the visual system and associated structures. Optometry is constantly evolving as a profession to enable optometric physicians to broaden their scope as the primary eye-care practitioner.

The profession of optometry offers many challenges and rewards to those willing to devote themselves to serving others through a lifetime of study and dedication to excellence.

Today's optometrists practice in urban and rural communities throughout the nation, in individual or group practices, hospital settings, centers for vision research, and in the public health service. They also take part in teaching, research, and public health. Nova Southeastern University College of Optometry stands alone as the only optometric academic institution in the state of Florida.

Furthermore, the college benefits from the integrated multidisciplinary health care programs of the university's Health Professions Division, represented by optometry, osteopathic medicine, dental medicine, pharmacy, and allied health and nursing. Nova Southeastern University takes pride in the optometry degree program, which provides a strong didactic and clinical education.

## Accreditation

The Doctor of Optometry Program at the Nova Southeastern University College of Optometry is fully accredited by The Accreditation Council on Optometric Education (ACOE). The ACOE (243 North Lindbergh Avenue, St. Louis, Missouri; telephone number 800-365-2219) is the accrediting body for professional degree programs offered by all optometric institutions in the United States.

## Admissions Requirements

The College of Optometry selects students based on the candidate's application content, preprofessional academic performance, Optometry Admissions Test (OAT) scores, letters of evaluation, and a personal interview. The requirements are summarized below.

### 1. Minimum of 90 semester credit hours

Prior to matriculation, applicants must have completed a minimum of 90 semester hours (30 of which must be taken at a four-year institution) of specified coursework at a regionally accredited college or university. Only exceptional candidates for admission will be considered without a Bachelor of Science degree. There is no requirement that a student must have majored in a specific area; however, a background in biological sciences is recommended. The dean is empowered to evaluate the total qualifications of every student and to consider any unusual circumstances.

### 2. Prerequisite course requirements

The college requires the students to earn a grade of 2.0 or better in each of the following required subjects:

- calculus—3 semester hours
- physics, including laboratory—8 semester hours
- biology, including laboratory—8 semester hours

- general chemistry, including laboratory—8 semester hours
- organic chemistry, including laboratory—4 semester hours
- microbiology—3 semester hours
- biochemistry—3 semester hours
- anatomy/physiology—3 semester hours
- social/behavioral sciences or humanities courses, in any combination—15 semester hours
- English (composition, literature)—6 semester hours

Note: Upon review of a student's individual case, the committee on admissions may require additional coursework and testing as a condition of acceptance.

### 3. Optometry Admission Test

All applicants are required to submit official Optometry Admission Test scores (must be no more than two years old).

### Application Process

The college participates in the Optometry Centralized Application Service (OptomCAS) for the receipt and processing of all applications. OptomCAS takes no part in the selection of students. The Office of Admissions works on a rolling admissions basis. Applications are accepted from July 1 to April 1 via the OptomCAS centralized application service. Entering students are admitted to the program for the fall term only. Each applicant must submit a completed application from OptomCAS, the supplemental application, and a nonrefundable fee of \$50. Since applications received early in the application cycle will be given priority consideration, it is in the best interest of the prospective student to complete the applications early.

Listed below are the necessary steps to complete the application process.

The application for admission must be submitted electronically through an interactive, web-based application, which can be accessed at [optomcas.org](http://optomcas.org).

This application includes

- completed OptomCAS application
- official transcripts from the registrars of all colleges and universities attended submitted electronically or mailed directly by the college or university
- OAT scores (must be no more than two years old)
- letters of recommendation according to the OptomCAS procedures (may be submitted electronically or mailed directly to OptomCAS)

Upon completion of this centralized application, Nova Southeastern University's College of Optometry requires a secondary application. This application will be sent to the applicant via email upon notification from OptomCAS. The email will contain a link to access the secondary application online.

The applicant should submit the following materials to NSU:

- completed secondary application
- nonrefundable application fee of \$50

The deadline date for submitting the secondary application for NSU's College of Optometry is April 1.

### Optometry Admission Test

All applicants are required to take the Optometry Admission Test. This online examination evaluates an applicant in the following areas: quantitative reasoning, reading comprehension, biology, general chemistry, physics, and organic chemistry. It can be taken any time by making an appointment with a Prometric Testing Center. Applicants must wait 90 days before repeating test administrations.

Test information is available at

Optometry Admission Test  
211 East Chicago Avenue  
Chicago, IL 60611  
Telephone: 800-232-2678

Website: [ada.org/oat](http://ada.org/oat)

### Interview Process

A personal interview is a part of the application process. However, being interviewed is not a guarantee of admission. Upon completion of the applicant's file, a review will be made to determine if the candidate will be granted an interview. Not all applicants will be granted an interview, and only those applicants whose files are complete will be considered. The Office of Admissions will notify selected candidates of the date and time of the interview.

### Notice of Acceptance

Notice of acceptance will be on a rolling or periodic schedule. Early completion of the application process is in the best interest of the student.

### Reapplicants

If you are reapplying to Nova Southeastern University's College of Optometry, please take time to answer these additional questions. In order to fully consider your application, it will be necessary for you to submit the answers to these questions (on a separate sheet of paper) with your secondary application.

- Why are you interested in reapplying to Nova Southeastern University's College of Optometry?

- What have you been doing since your last application to Nova Southeastern University's College of Optometry?
- What changes in your application make you a more competitive candidate?

## **Core Performance Standards for Admission and Progress**

### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause-effect relationships in clinical situations and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. Examples include, but are not limited to, identification of cause/effect relationships in clinical situations, development of treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration.

### **Interpersonal Communication**

Candidates and students must be able to interact and communicate effectively, with respect to policies, protocols, and process—with faculty and staff members, students, patients, patient surrogates, and administration—during the student's educational program. They must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but also reading and writing. Candidates and students must also be able to communicate effectively and efficiently in all written forms with all members of the health care team. They must have interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds.

A student must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written exams and patient charts; elicit patient backgrounds; describe patient changes in moods, activity, and posture; and coordinate patient care with all members of the health care team. A student must be able to communicate or provide communication in lay language so that patients and their families can understand the patient's conditions, treatment options, and instructions. The student must be able to accurately

enter information in the patient's electronic health record, according to his or her program's requirements.

### **Motor Skills**

Candidates and students must have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of some health care professionals are cardiopulmonary resuscitation (CPR), administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, and the ability to calibrate and use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

### **Strength and Mobility**

Candidates and students must have sufficient mobility to attend emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and maneuver in small places.

### **Hearing**

Candidates and students must have sufficient auditory ability to monitor and assess health needs. They must be able to hear information given by the patient in answer to inquiries; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to monitor equipment.

### **Visual**

Candidates and students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. Students must have sufficient visual ability to use ophthalmologic instruments. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration. Candidates and students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment. A student must also possess the visual acuity to read charts, records, radiographs, small print, and handwritten notation.

### **Tactile**

Candidates and students must have sufficient tactile ability for physical assessment. They must be able to perform palpation and functions of physical examination and/or those related to therapeutic intervention. The student must be able to use tactile senses to diagnose directly by palpation and indirectly by sensations transmitted through instruments.

### **Behavioral and Social Attributes**

Candidates and students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; the ability to take responsibility for their own actions with respect to policies, protocols, and process with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program; the prompt completion of all responsibilities attendant to the diagnosis, care, and treatment of patients; and the development of mature, sensitive, and effective relationships with the patients. Candidates and students must be able to physically tolerate taxing workloads, to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, diversity, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and education process.

### **ASCO Functional Guidelines**

The ability to meet these guidelines, along with other criteria established by the Association of Schools and Colleges of Optometry, is necessary for graduation from an optometric professional program. Visit <https://www.optomcas.org/overview/asco-functional-guidelines> for more information.

### **Tuition and Fees**

- Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([optometry.nova.edu/od/admissions/expenses.html](http://optometry.nova.edu/od/admissions/expenses.html)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- Eligible students must request in-state tuition on their application. For tuition purposes, a student's Florida residency status (in-state or out-of-state) will be determined at initial matriculation and will remain the same throughout the entire enrollment of the student at NSU. Accordingly, tuition will not be adjusted as a result of any change in residency status after initial enrollment registration.
- Acceptance fee is \$250. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the first tuition payment, but is not refundable in case of withdrawal. It is payable within two weeks of the applicant's acceptance.
- Deposit is \$750, due April 15, under the same terms as the acceptance fee.
- College laboratory/equipment fee is \$50 per year, due at time of registration.

The financial ability of applicants to complete their training is important because of the limited number of positions available. Applicants should have specific plans for financing four years of professional education. This should include provision for tuition, living expenses, books and equipment, travel, and miscellaneous expenses.

### **Financial Aid**

The function of the Student Financial Assistance Program at Nova Southeastern University is to help as many qualified students as possible to complete their optometric education. Various loans, scholarships, and grants are available to qualified students to help ease the high cost of an optometric education. These financial assistance programs are described in a variety of separate university publications.

### **Undergraduate/O.D. Dual Admission Program**

Nova Southeastern University Health Professions Division has established a dual admission program with the NSU Halmos College of Natural Sciences and Oceanography for a select number of highly motivated, qualified students interested in pursuing both undergraduate and professional studies in optometry. This allows students to receive their doctoral degree in optometry in seven years.

Students must maintain a 3.0 GPA and achieve acceptable scores on the Optometry Admission Test (OAT). Students will spend three years in the undergraduate school and will be awarded a B.S. degree from the Halmos College upon completion of the first year of professional education at the NSU College of Optometry. Students will receive the O.D. (Doctor of Optometry) degree after four years of training at NSU College of Optometry.

For information and requirements, please contact

Nova Southeastern University  
Halmos College of Natural Sciences and Oceanography  
Office of Admissions  
3301 College Avenue  
Fort Lauderdale, Florida 33314-7796

### **Transfer Students**

Circumstances may warrant that a student enrolled in one optometric college seeks to transfer to another institution. Any individual wishing to transfer to Nova Southeastern University College of Optometry must meet the following criteria.

The applicant must

1. complete a formal application (supplemental application) to the NSU College of Optometry Office of Admissions by April 1
2. meet all admissions requirements to NSU College of Optometry, which include submitting official transcripts

of all college courses taken, NBEO scores (if taken), and letters of evaluation

3. be in good standing at the transferring institution as documented by a letter from the dean of the transferring institution
4. supply a written statement outlining reasons for request for transfer
5. complete a personal interview

Upon approval of a transfer request, the students will be notified in writing of their standing at NSU and the requirements that they must complete.

Before being permitted to enter clinical rotations at NSU, the transferring student will have to complete and pass the preclinical proficiency examination administered by the NSU College of Optometry.

Decisions on transfer applications are made by the dean's office. The decision will be based on factors that include, but are not limited to, academic record, circumstances leading to the transfer request, available space, and admissions standards. The College of Optometry will evaluate such credit and grant that which is appropriate. Send application and documentation to

Nova Southeastern University  
Enrollment Processing Services  
College of Optometry, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### **Promotion, Suspension, Dismissal, and Readmission**

The policies for promotion, suspension, dismissal, and readmission are outlined in the *College of Optometry Student Handbook*, which is revised, updated, and distributed annually to all optometry students.

### **Requirements for Graduation**

In order to be eligible for the degree of Doctor of Optometry, each student shall

1. have satisfactorily completed the program of study required for the degree, including all assignments, as outlined in this catalog
2. have satisfactorily met all financial and library obligations
3. have passed Part I and taken Part II of the National Board Examination (international students can be exempted from taking Part II by the dean of student affairs or his designee), documented by sending a copy of test scores, certified by the NBEO, to the dean or his designee
4. have obtained a baccalaureate degree

Note: Upon the successful completion of the second year of optometric study, the College of Optometry may

award a baccalaureate degree to those who do not possess a baccalaureate degree, and who have completed 90 credit hours of undergraduate work.

5. attend in person the commencement program, at which time the degree is conferred

The college reserves the right, and the student, by his or her act of matriculation, concedes to the college the right to require withdrawal at any time the college deems it necessary to safeguard its standards of scholarship, professional behavior, and compliance with regulations or for other reasons as are reasonably appropriate.

### **Course of Study**

The Doctor of Optometry degree is awarded after successful completion of four years of professional study. The didactic focus of the first two years is in the basic sciences, including biochemistry, microbiology, anatomy, physiology, pharmacology, optics, and the vision sciences. Some of the basic science courses are taught in combined classes with other health care students. Concurrently, students initiate the study of general optometric theory and methods; general pathology; and the diagnosis, treatment, and management of binocular vision anomalies and ocular disease in preparation for direct patient care in our primary care clinic.

In the third academic year, students study contact lenses, pediatric, geriatric, and rehabilitative optometry and develop a deeper understanding and ability to diagnose, treat, and manage increasingly complex conditions concerning anomalies of vision development and ocular disease. Additionally, students begin training in the primary care clinic by providing direct patient eye care.

The fourth year of the academic program is entirely clinical with intensive training in university-based or affiliated primary, secondary, and tertiary care facilities. These include clinics dealing with contact lenses, pediatrics, binocular vision, low vision, and geriatric issues. Students also receive training in medical/surgical tertiary care settings. By the completion of the program, our students have been trained to be optometric physicians capable of providing quality eye care.

### **Extended (Five-Year) Doctor of Optometry Degree**

The College of Optometry has instituted an extended program leading to the Doctor of Optometry (O.D.) degree. The extended program is designed for individuals who are returning to school after an absence, are changing professional fields, or who require a lighter course load initially because of family or other obligations. Students in the extended program take courses with the full time students but with a reduced course load. Coursework covered in the first two years of the traditional full-time program is covered in three years in the extended program.

The last two years of both programs are identical. The curriculum and graduation requirements for the extended and full-time programs are the same. The enrollment for the extended program is limited. The dean of the College of Optometry will make the final determination on eligibility for the extended program.

Tuition for 2018–2019 (subject to change by the board of trustees) will be posted on our website ([optometry.nova.edu/od/admissions/expenses.html](http://optometry.nova.edu/od/admissions/expenses.html)). Tuition reverts to the regular rate for the fourth and fifth years.

### Student Organizations

The College of Optometry Student Government Association (OSGA) is the official voice of all optometry students. The OSGA welcomes input and participation from the entire student body. Its responsibilities include collecting and expressing student opinion, dispensing funds for student activities, acting as liaison for the student body, promoting optometry, supporting club and class activities, and working to improve the quality of life for students at the College of Optometry.

Other Organizations—Many other student organizations addressing various professional and practice-related interests are open for student membership, including the following:

- American Academy of Optometry
- American Optometric Student Association (AOSA)
- Beta Sigma Kappa (BSK)
- Canadian Association of Optometry Students (CAOS)
- College of Optometrists in Vision Development (COVD)
- Fellowship of Christian Optometrists (FCO) International
- Florida Optometric Student Association (FOSA)
- Gold Key International Optometric Honor Society
- National Optometric Student Association (NOSA)
- Nova Optometric Practice Management Association (NOPMA)
- Optometric Student Association for Ocular Disease (OSAOD)
- Student Volunteer Optometric Services to Humanity (VOSH)
- Honors Program

### Master of Science in Clinical Vision Research Graduate Program

NSU College of Optometry has a two-year, 45-credit, all-online Master of Science in Clinical Vision Research (CVR) program. This program is designed to help optometrists, optometric educators, optometric students, and other professionals enhance their ability to perform clinical research. This innovative program includes curricula leading to a master of science in CVR. The program requirements may be completed at home or a library at times convenient to the student.

#### Core Courses

- CVR 7200—Clinical Research Ethics
- CVR 7300—Fundamentals of Biostatistics
- CVR 7310—Principle of Statistical Inference
- CVR 7400—Clinical Research Design
- CVR 7500—Information Science for Clinical Research
- CVR 7600—Introduction to Research Funding and Proposal Development
- CVR 7700—Presentation, Evaluation, and Publication of Clinical Vision Research
- CVR 7800—Ethical and Legal Issues in Human Subject Research
- CVR 8210—Visual Health and International Development
- CVR 8220—Epidemiology

To be admitted to the Master of Science in Clinical Vision Research program, applicants must have completed one of the following:

- earned a previous clinical (e.g., O.D., D.O., M.D.) or graduate degree
- earned a baccalaureate degree with a minimum grade point average of 3.0
- NSU third-year optometry students who have passed part I of the NBEO

Applicants with coursework taken at institutions outside of the United States must have the coursework evaluated for United States equivalence.

Applicants whose grade point average is below 3.0 must achieve a minimum average score of 1100 on the Graduate Record Examination (GRE). An average score in the 50th percentile or higher on either the OAT or MCAT may be substituted.



Applicants from countries in which English is not the official language are required to submit scores from the Test of English as a Foreign Language (TOEFL) with a score of 79.

For further information regarding the program, call (954) 262-1101 or 877-640-0218 or access our website at [optometry.nova.edu/cvr](http://optometry.nova.edu/cvr), where an application can be downloaded.

Applications should be sent to

Nova Southeastern University  
Enrollment Processing Services  
College of Optometry, Graduate Program Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

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## Traditional Four-Year Program Curriculum Outline

The curriculum is revised and modified frequently to meet the demands of the profession. These courses are representative of the overall requirements of the program at the time of publication.

First Year—Fall Term			Lecture	Laboratory	Semester Hours
OPTC	1134	Gross Anatomy/Anatomy of the Head and Neck	54	36	4.0
OPT	1233	Biochemistry	54	0	3.0
OPT	1323	Microbiology	54	0	3.0
OPT	1443*	Theoretical Optics I	54	0	3.0
OPTL	1443*	Theoretical Optics I Lab	0	36	1.0
OPT	1724	Optometric Theory and Methods I	36	0	2.0
OPTL	1724	Optometric Theory and Methods I Lab	0	72	2.0
OPT	1831 <sup>+</sup>	Contemporary Issues in Optometry	18	0	1.0
OPT	2422*	Ocular Anatomy	36	0	2.0
<b>Total Semester Hours:</b>					<b>21.0</b>

First Year—Winter Term			Lecture	Laboratory	Semester Hours
OPTC	2023	General Neuroanatomy	36	18	2.5
OPTC	2144	General Physiology	72	0	4.0
OPT	2223*	Theoretical Optics II	54	0	3.0
OPTL	2223*	Theoretical Optics II Lab	0	36	1.0
OPT	2323*	Visual Optics	36	0	2.0
OPT	2522*	Visual Neurophysiology	36	0	2.0
OPT	2622*	Ocular Motility	36	0	2.0
OPT	2724	Optometric Theory and Methods II	36	0	2.0

OPTL	2724	Optometric Theory and Methods II Lab	0	54	1.5
OPT	3122*	Ocular Physiology	36	0	2.0

**Total Semester Hours: 22.0**

<b>First Year—Summer Term</b>			Lecture	Laboratory	Semester Hours
OPT	1511*	Psychophysical Methodology	18	0	1.0
OPTL	3021	Optometric Simulation Lab	0	36	1.0
OPT	3344A*	Psychophysics/Monocular Sensory Processes I	36	0	2.0
OPT	4811	Epidemiology	18	0	1.0

**Total Semester Hours: 5.0**

<b>Second Year—Fall Term</b>			Lecture	Laboratory	Semester Hours
OPT	3033	General Pathology	54	0	3.0
OPTC	3244	General Pharmacology I	72	0	4.0
OPT	3344B*	Psychophysics/Monocular Sensory Processes II	36	0	2.0
OPT	3434*	Ophthalmic Optics I	54	0	3.0
OPTL	3434*	Ophthalmic Optics I Lab	0	36	1.0
OPT	3534	Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management	72	0	4.0
OPT	3624	Optometric Theory and Methods III	36	0	2.0
OPTL	3624	Optometric Theory and Methods III Lab	0	54	1.5
OPT	4322*	Introduction to Binocular Vision	36	0	2.0
OPT	4951A <sup>+</sup>	Community Outreach I	18	0	1.0

**Total Semester Hours: 23.5**

<b>Second Year—Winter Term</b>			Lecture	Laboratory	Semester Hours
OPTC	4022	General Pharmacology II	27	0	1.5
OPT	4122*	Ocular Pharmacology	36	0	2.0
OPT	4234*	Ophthalmic Optics II	54	0	3.0
OPTL	4234*	Ophthalmic Optics II Lab	0	36	1.0
OPT	4433	Anomalies of Binocular Vision I	54	0	3.0
OPTL	4433	Anomalies of Binocular Vision I Lab	0	36	1.0
OPT	4524	Optometric Theory and Methods IV	36	0	2.0
OPTL	4524	Optometric Theory and Methods IV Lab	0	54	1.5

OPT	4634	Diagnosis and Pharmacological Management of Glaucoma and Vitreoretinal Disease	72	0	4.0
OPT	4951B+	Community Outreach II	18	0	1.0

**Total Semester Hours: 20.0**

<b>Second Year—Summer Term</b>			Lecture	Laboratory	Semester Hours
OPT	1612+	Health Systems, Economics, Policy, and Ethics	36	0	2.0
OPT	4721+	Nutrition in Eye Care	18	0	1.0
OPT	5411+	Clinical Gerontology	18	0	1.0
OPT	7111	Primary Care Clinic I	0	80	2.5
OPT	7112	Clinic Conference	10	0	1.0
OPT	7151	Optical Services Rotation I	0	16	0.5
OPT	7181	Seminars in Laser and Surgical Ophthalmic Care	18	0	1.0
OPT	9997**	Advanced Care Clinic	0	32	1.0

**Total Semester Hours: 9.0/10.0\***

<b>Third Year—Fall Term</b>			Lecture	Laboratory	Semester Hours
OPT	5022	Anomalies of Binocular Vision II	36	0	2.0
OPTL	5022	Anomalies of Binocular Vision II Laboratory	0	36	1.0
OPT	5122	Contact Lenses I	36	0	2.0
OPTL	5122	Contact Lenses I Laboratory	0	36	1.0
OPT	5322	Clinical Medicine: Diagnostic and Pharmacologic Management of Systemic Diseases	36	0	2.0
OPTL	5412	Physical Diagnosis Laboratory: Testing, Pharmacological Aspects, and Injection Technique	0	18	0.5
OPT	6233	Neuro-Eye Disease: Diagnostic, Medical, and Pharmacological Management	54	0	3.0
OPT	6322	Rehabilitative Optometry Low Vision	36	0	2.0
OPTL	6322	Rehabilitative Optometry Low Vision Laboratory	0	36	1.0
OPT	7122	Primary Eye Care Clinic II	0	144	2.5
OPT	7161	Optical Services Rotation Clinic II	0	16	0.5
OPT	7999A	Board Preparation I	36	0	1.0

OPT	9991	Sports and Performance Vision in Primary and Tertiary Optometric Practice (elective)	18	0	1.0
OPT	9997**	Advanced Care Clinic	0	32	1.0

**Total Semester Hours: 18.5/20.5\*\***

<b>Third Year—Winter Term</b>			Lecture	Laboratory	Semester Hours
OPT	5233	Ocular and Systemic Eye Disease: Diagnostic, Medical, and Pharmacological Management	54	0	3.0
OPT	6122	Contact Lens II	36	0	2.0
OPTL	6122	Contact Lenses II Laboratory	0	36	1.0
OPT	6633	Pediatric Optometry and Learning-Related Vision Problems	54	0	3.0
OPTL	6633	Pediatric Optometry and Learning-Related Vision Problems Laboratory	0	18	0.5
OPT	7132	Primary Care Clinic III	0	144	2.5
OPT	7171	Optical Services III	0	16	0.5
OPT	7999B	Board Preparation II	36	0	1.0
OPT	9997**	Advanced Care Clinic	0	32	1.0
OPT	9998	Board Review	18	0	1.0

**Total Semester Hours: 14.5/15.5**

<b>Third Year—Summer Term***</b>			Lecture	Laboratory	Semester Hours
OPT	6522	Practice Management	36	0	2.0
OPT	7146	Primary Care Clinical Externship	0	320	5.5
OPT	7214	Cornea and Contact Lens Externship	0	240	4.0
OPT	7224	Pediatric and Binocular Lens Externship	0	240	4.0
OPT	7233	Vision Rehab. and Geriatric Externship	0	240	4.0
OPT	7308	Medical and Surgical Care Externship	0	480	8.0
OPT	7408	Clinical Elective Externship	0	480	8.0
OPT	7501 <sup>+</sup>	Current Topics in Practice Management	18	0	1.0

**Total Semester Hours: 36.5**

<b>Fourth Year—Fall and Winter Terms***</b>			Lecture	Laboratory	Semester Hours
OPT	6522	Practice Management	36	0	2.0
OPT	7146	Primary Care Clinical Externship	0	320	5.5
OPT	7214	Cornea and Contact Lens Externship	0	240	4.0
OPT	7224	Pediatric and Binocular Vision Externship	0	240	4.0
OPT	7233	Vision Rehabilitation and Geriatric Externship	0	160	2.5

OPT	7308	Medical and Surgical Care Clinical Externship	0	480	8.0
OPT	7408	Clinical Elective Externship	0	480	8.0
OPT	7501 <sup>+</sup>	Current Topics in Practice Management	18	0	1.0
OPT	9991	Sports and Performance Vision in Primary and Tertiary Optometric Practice (elective)	18	0	1.0

**Fourth Year Total Semester Hours: 35.0/36.0**

\* Successful completion of these courses can lead to a Bachelor of Science degree in Vision Science.

\*\* This course is offered to part of the class each semester.

\*\*\* Three-month terms—order of courses will vary. Timing of clinical externships will vary based upon student selections and clinic schedules. This curriculum represents the courses at the time of the printing of this catalog and is subject to change.

<sup>+</sup> This course is a service learning course.

## Extended Program Curriculum Outline

<b>First Year—Fall Term</b>					Semester Hours
OPTC	1134	Gross Anatomy/Anatomy of the Head and Neck			4.0
OPT	1233	Biochemistry			3.0
OPT	1323	Microbiology			3.0
OPT	1831 <sup>+</sup>	Contemporary Issues in Optometry			1.0
OPT	2422*	Ocular Anatomy			2.0
<b>Total Semester Hours:</b>					<b>13.0</b>

<b>First Year—Winter Term</b>					Semester Hours
OPT	1721	Clinical Optometric Procedures			1.0
OPTC	2023	General Neuroanatomy			2.5
OPTC	2144	General Physiology			4.0
OPT	2522*	Visual Neurophysiology			2.0
OPT	2622*	Ocular Motility			2.0
OPT	3122*	Ocular Physiology			2.0
<b>Total Semester Hours:</b>					<b>13.5</b>

<b>Second Year—Fall Term</b>					Semester Hours
OPT	1443*	Theoretical Optics I			3.0
OPTL	1443*	Theoretical Optics I Lab			1.0
OPT	1724	Optometric Theory and Methods I			2.0
OPTL	1724	Optometric Theory and Methods I Lab			2.0

OPT	3033	General Pathology	3.0
OPTC	3244	General Pharmacology I	4.0
OPT	4951A <sup>+</sup>	Community Outreach I	1.0

**Total Semester Hours: 16.0**

**Second Year—Winter Term** Semester Hours

OPT	2223*	Theoretical Optics II	3.0
OPTL	2223*	Theoretical Optics II Lab	1.0
OPT	2323*	Visual Optics	2.0
OPT	2724	Optometric Theory and Methods II	2.0
OPTL	2724	Optometric Theory and Methods II Lab	1.5
OPTC	4022	General Pharmacology II	1.5
OPT	4951B <sup>+</sup>	Community Outreach II	1.0

**Total Semester Hours: 12.0**

**Second Year—Summer Term** Semester Hours

OPT	1511*	Psychophysical Methodology	1.0
OPTL	3021	Optometric Simulation Lab	1.0
OPT	3344A*	Psychophysics/Monocular Sensory Processes I	2.0
OPT	4811	Epidemiology	1.0

**Total Semester Hours: 5.0**

**Third Year—Fall Term** Semester Hours

OPT	3344B*	Psychophysics/Monocular Sensory Processes II	2.0
OPT	3434*	Ophthalmic Optics I	3.0
OPTL	3434*	Ophthalmic Optics I Lab	1.0
OPT	3534	Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management	4.0
OPT	3624	Optometric Theory and Methods III	2.0
OPTL	3624	Optometric Theory and Methods III Lab	1.5
OPT	4322*	Introduction to Binocular Vision	2.0

**Total Semester Hours: 15.5**

**Third Year—Winter Term** Semester Hours

OPT	4122*	Ocular Pharmacology	2.0
OPT	4234*	Ophthalmic Optics II	3.0
OPTL	4234*	Ophthalmic Optics II Lab	1.0
OPT	4433	Anomalies of Binocular Vision I	3.0
OPTL	4433	Anomalies of Binocular Vision I Lab	1.0

OPT	4524	Optometric Theory and Methods IV	2.0
OPTL	4524	Optometric Theory and Methods IV Lab	1.5
OPT	4634	Diagnosis and Pharmacological Management of Glaucoma and Vitreoretinal Disease	4.0

**Total Semester Hours: 17.5**

**Third Year—Summer Term** Semester Hours

OPT	1612+	Health Systems, Economics, Policy, and Ethics	2.0
OPT	4721+	Nutrition in Eye Care	1.0
OPT	5411+	Clinical Gerontology	1.0
OPT	7111	Primary Care Clinic I	2.5
OPT	7112	Clinic Conference	1.0
OPT	7151	Optical Service Rotation I	0.5
OPT	7181	Seminars in Laser and Surgical Ophthalmic Care	1.0
OPT	9997**	Advanced Care Clinic	1.0

**Total Semester Hours: 9.0/10.0**

**Fourth Year—Fall Term** Semester Hours

OPT	5022	Anomalies of Binocular Vision II	2.0
OPTL	5022	Anomalies of Binocular Vision II Lab	1.0
OPT	5122	Contact Lenses I	2.0
OPTL	5122	Contact Lenses I Lab	1.0
OPT	5322	Clinical Medicine: Diagnostic and Pharmacological Management of Systemic Diseases	2.0
OPTL	5412	Physical Diagnosis: Testing, Pharmacological Aspects, and Injection Technique	0.5
OPT	6233	Neuro-Eye Disease: Diagnostic, Medical and Pharmacological Management	3.0
OPT	6322	Rehabilitative Optometry: Low Vision	2.0
OPTL	6322	Rehabilitative Optometry Lab	1.0
OPT	7122	Primary Care Clinic II	2.5
OPT	7161	Optical Services Rotation II	0.5
OPT	7999A	Board Preparation I	1.0
OPT	9991	Sports and Performance Vision in Primary and Tertiary Optometric Practice (elective)	1.0
OPT	9997**	Advanced Care Clinic	1.0

**Total Semester Hours: 18.5/20.5**

<b>Fourth Year—Winter Term</b>			<b>Semester Hours</b>
OPT	5233	Ocular and Systemic Eye Disease: Diagnostic, Medical, and Pharmacological Management	3.0
OPT	6122	Contact Lenses II	2.0
OPTL	6122	Contact Lenses II Lab	1.0
OPT	6633	Pediatric Optometry and Learning-Related Vision Problems	3.0
OPTL	6633	Pediatric Optometry and Learning-Related Vision Problems Lab	0.5
OPT	7132	Primary Care Clinic III	2.5
OPT	7171	Optical Services III	0.5
OPT	7999B	Board Preparation II	1.0
OPT	9997**	Advanced Care Clinic	1.0
OPT	9998	Board Review	1.0

**Total Semester Hours: 14.5/15.5\***

<b>Fourth Year—Summer Term</b>			<b>Semester Hours</b>
OPT	6522	Practice Management	2.0
OPT	7146	Primary Care Clinical Externship	5.5
OPT	7214	Cornea and Contact Lens Externship	4.0
OPT	7224	Pediatric and Binocular Lens Externship	4.0
OPT	7233	Vision Rehab. and Geriatric Externship	4.0
OPT	7308	Medical and Surgical Care Externship	8.0
OPT	7408	Clinical Elective Externship	8.0
OPT	7501 <sup>+</sup>	Current Topics in Practice Management	4.0

**Total Semester Hours: 39.5**

<b>Fifth Year—Fall and Winter Terms</b>			<b>Semester Hours</b>
OPT	6522	Practice Management	2.0
OPT	7146	Primary Care Clinical Externship	5.5
OPT	7214	Cornea and Contact Lens Externship	4.0
OPT	7224	Pediatric and Binocular Vision Externship	4.0
OPT	7233	Vision Rehabilitation and Geriatric Externship	2.5
OPT	7308	Medical and Surgical Care Clinical Externship	8.0
OPT	7408	Clinical Elective Externship	8.0
OPT	7501 <sup>+</sup>	Current Topics in Practice Management	1.0
OPT	9991	Sports and Performance Vision in Primary and Tertiary Optometric Practice (elective)	1.0

**Total Semester Hours: 35.0/36.0**



\* Successful completion of these courses can lead to a Bachelor of Science degree in Vision Science.

\*\* Timing of clinical externships will vary based upon student selections and clinic schedules. This curriculum represents the courses at the time of the printing of this catalog and is subject to change.

+ This course is a service learning course.

## College of Optometry Course Descriptions

Note: Listed at the end of each entry are lecture hours, laboratory hours, and semester hours.

### Medical Sciences

The following courses listed are taught by College of Medical Sciences faculty members.

#### OPTC 1134—Gross Anatomy: Head and Neck

This course presents the study of the general anatomical and functional features of the major systems of the human body. These include the skeletal system, muscular system, peripheral nervous system, respiratory system, cardiovascular system, digestive system, and urogenital system. In addition, the latter part of the course includes a detailed study of the anatomical and functional features of the head and neck region.

This course is intended to prepare students in the knowledge, skills, and attributes needed of an entry-to-practice Doctor of Optometry. While this course should also help students prepare for licensing examinations, such as those administered by the NBEO, nothing in this course, including the lectures and discussions, coursework, study guides, teaching notes, electronically posted information, or other materials, should be believed or understood to utilize actual confidential examination items from licensing examinations. For example, throughout this course, the instructors may indicate points of emphasis for NBEO study and preparatory work. This instructional approach does not reflect knowledge of actual NBEO examination items, but represents a suggested area of focus based entirely upon the NBEO content outline/matrix. All materials in this course have been prepared in good faith to comply with the highest ethical standards of the profession. (54-36-4)

#### OPT 1233—Biochemistry

This course will enable the student to describe and understand the biochemical components of the human body and the metabolism of these components. The biochemical basis of ocular functions will be emphasized where appropriate. (54-0-3)

#### OPT 1323—Microbiology

The microbiology course for optometry includes both the basic aspects of human immunology and the most important microbial pathogens involved in diseases of the eye. The basic biology of microorganisms is covered, followed by a general medical approach to each disease. (54-0-3)

#### OPTC 2023—General Neuroanatomy

This course will examine the structural, functional, and developmental features of the human nervous system with reference to different disease states. (36-18-2.5)

#### OPTC 2144—General Physiology

The purpose of this course is to provide the student with an understanding of various factors and processes responsible for the development, progression, and procreation of life. The material of the course will be presented in accordance with an organ systems approach with particular emphasis on applications of the discussed principles to the specific clinical examples and disorders that affect eyes and vision. The areas covered will include cellular physiology, skeletal and smooth muscle, the cardiovascular system, the nervous and sensory systems, the renal system, the respiratory system, the gastrointestinal system, and the endocrine system. (72-0-4)

#### OPTL 3021—Optometric Simulation Lab

This is the first course in a sequence that introduces the student to augmented reality simulation medicine. This course will teach students both the mechanical technique and introduce the basic anatomy and pathophysiology of the retina using an augmented reality binocular indirect ophthalmoscope simulator. At the end of the course, students should understand how to get a focused image of the eight principle quadrants of the retina and how to move their view around the retinal periphery. The basic anatomy and pathophysiology of the retina will be reviewed in the summer semester. Case-based diagnostic training using augmented reality simulation will be implemented alongside pathology and clinical courses later in the curriculum. (0-36-1)

### **OPT 3033—General Pathology**

The course consists of a study of fundamental concepts of general and systemic pathology (consideration of particular organ systems such as cardiovascular diseases, pulmonary diseases, etc.), supplemented by pathological cases in the clinical setting on selected diseases. Emphasis in this course will be given on ocular manifestations of systemic diseases whenever applicable. (54-0-3)

### **OPTC 3244—General Pharmacology I**

This course will provide the student with a thorough understanding of the classes of drugs commonly used in clinical practice. Emphasis will be on the mechanism of action, clinical indications, side effects, important drug interactions, and the basic pharmacokinetics of each drug class. (72-0-4)

### **OPTC 4022—General Pharmacology II**

This course will provide the students with a thorough understanding of the classes of drugs commonly used in clinical settings. Emphasis will be on the mechanism of action, clinical indications, side effects, important drug interactions, and the basic pharmacokinetics of each drug class. (27-0-1.5)

## **Optometric Basic Sciences**

### **OPT 1443—Theoretical Optics I**

The course covers principles of geometric optics, examples, and optometric applications. The major topics are the propagation of light, laws of reflection and refraction, prisms, refraction at curved surfaces, object-image relationships in thin lenses and cylindrical lenses, reflection at plane, and curved surfaces. The emphasis is to apply required laws, principles, relationships, and formulas to solve problems. (54-0-3)

### **OPTL 1443—Theoretical Optics I Lab**

The purpose of this course is to apply and demonstrate concepts presented in Theoretical Optics I Lecture (OPT 1443). This includes learning how to set up an experiment in the area of geometrical optics, collect and plot data, and use that data in calculations to identify unknown variables. (0-36-1)

### **OPT 1511\*—Psychophysical Methodology**

Principles of classical psychophysical methodologies are detailed. These include demonstrations and exercises performed by the students. The fundamentals of signal detection and Fourier analysis are introduced in terms of their application to the clinical practice of optometry. (18-0-1)

### **OPT 1612—Health Systems, Economics, Policy, and Ethics**

This course discusses the organization of clinical and public health systems; public health responsibilities for optometrists; health services financing; the health workforce; health policy; licensing and regulation of optometry; ethical issues in optometry; disaster preparedness; abuse reporting and infectious disease control; and current issues in public health optometry. (36-0-2)

### **OPT 1721—Clinical Optometric Procedures**

This course is designed to introduce first-year students in the extended optometry program to basic clinical skills. Students will become familiar with optometric equipment in the lab. Additionally, they will be required to observe third- and fourth-year student physicians performing clinical examinations. The skills learned in this class will then be utilized when the students participate in vision screenings and Optometric Theory and Methods Lab during their second year. (18-0-1)

### **OPT 1724—Optometric Theory and Methods I**

This course begins the optometric theory and methods sequence. Topics covered include basic clinical anatomy and optics, visual acuity, case history, refractive conditions, prescription writing, keratometry, retinoscopy, basic biomicroscopy of the anterior segment, and case analysis. Basic color vision, extra ocular motility, and stereo acuity theory and testing are also presented. (36-0-2)

### **OPTL 1724—Optometric Theory and Methods I Lab**

This lab gives the student practical experience with techniques presented in OPT 1724. Students will be performing case history, visual acuity and IPD measurement, keratometry, retinoscopy, monocular subjective refraction, color vision testing, stereo acuity testing, EOM testing, and basic biomicroscopy of the anterior segment. (0-72-2)

### **OPT 1831—Contemporary Issues in Optometry**

This course introduces optometry's past to help students understand the present and future of the optometric profession. History, professional ethics, current practice modes, and professional organizations will be covered. (18-0-1)

### **OPT 2223\*—Theoretical Optics II**

This course is a continuation of Theoretical Optics I. The course continues covering principles of geometric optics in the topics of thick lenses, multiple lens systems, instrumentation, stops, and pupils. Physical optics is then introduced, covering the wave theory of optics, including light and light sources, radiometry and photometry, light absorption, light as waves, interference, diffraction, polarization, aberrations, and image quality of the eye. The emphasis is to apply required laws, principles, relationships, and formulas to solve problems. (54-0-3)

**OPTL 2223\*—Theoretical Optics II Lab**

The purpose of this course is to apply and demonstrate concepts presented in Theoretical Optics II Lecture (OPT 2223). This includes learning how to set up experiments in the areas of geometrical and physical optics, collect and plot data, and use that data in calculations to identify unknown variables. (0-18-1)

**OPT 2323\*—Visual Optics**

The eye as optical system: optical and physical components of the eye. Schematic eye models, refractive error correction, dioptrics of the eye, stimulus to accommodation, retinal image size and quality, Purkinje images, entoptic phenomena, presbyopia, aphakia, intraocular implants, and ocular radiation effects. (36-0-2)

**OPT 2422\*—Ocular Anatomy**

The composing elements of the globe and orbit are described in detail, with particular attention to their relatively spatial positions. The embryological development of such a complex system is also explained. (36-0-2)

**OPT 2522\*—Visual Neurophysiology**

Concepts of visual neurophysiology needed to understand normal visual perception, probable source of visual symptoms associated with various eye and CNS disorders, underlying principles of new clinical diagnostic tests for eye and CNS disease, and current neurophysiological research as it relates to the clinical practice of optometry. (36-0-2)

**OPT 2622\*—Ocular Motility**

The aim of this course is to provide an introduction to the ocular motor systems and normal eye movement physiology. The ocular motor systems and the laws relating to it are detailed in terms of normal neurophysiology and neuroanatomy. Information from basic research on eye movements is synthesized to detail normal eye movements and differentiate them from pathology. (36-0-2)

**OPT 2724—Optometric Theory and Methods II**

This course continues the optometric theory and methods sequence with emphasis on intermediate clinical procedures. Topics covered include tonometry, near refraction and presbyopia, objective and subjective refraction, phorias and vergences, and introductory case analysis. (36-0-2)

**OPTL 2724—Optometric Theory and Methods II Lab**

Application and skills necessary to perform ocular examinations stressed in OPT 2724. (0-54-1.5)

**OPT 3122\*—Ocular Physiology**

The functions of each composing element of the globe and orbit are detailed. The mechanisms to achieve such functions are also explained. (36-0-2)

**OPT 3344A\*—Psychophysics/Monocular Sensory Processes I**

This course introduces the student, who is familiar with the mechanisms of visual neurophysiology, to various monocular aspects of visual function. It is a review of the product of visual function, namely, perception of the world around. Success in this course will depend, in part, upon the student's knowledge of psychophysical testing and optics provided in earlier coursework. This course is restricted to monocular aspects of relationships between the physical world and the individual's perception of it.

Students will review psychophysical methods and visual neurophysiology, then discuss dark and light adaptation. Luminance efficiency will be looked at, followed by spatial and temporal brightness perception. Flicker sensitivity will be introduced, as well as the fundamental theories behind visual field testing. The course will cover recent developments in the understanding of nonimage-forming, photosensitive, retinal ganglion cells and, as part of the visual field section, the phenomena of "blindsight." Students will finish with a large section dealing with color vision: past and current understanding of color perception, what is normal and abnormal, and how it is tested. (36-0-2)

**OPT 3344B\*—Psychophysics/Monocular Sensory Processes II**

This course is a continuation of MSP I and includes motion perception and form and pattern recognition. Theories of visual perception are discussed. Normal development, including the emmetropization process, is emphasized. Facial recognition is introduced. The course culminates in a study of art as a way to apply our knowledge of visual sensory processing and perception. (36-0-2)

**OPT 3434\*—Ophthalmic Optics I**

Theoretical and practical aspects of corrective lens design in the optical correction of ametropia: physical and optical characteristics of ophthalmic lens materials, aberrations, specifications of lens powers, ophthalmic prism, lens decentration, and multifocal lens design. Selection of lenses and frames. (54-0-3)

**OPTL 3434\*—Ophthalmic Optics I Lab**

This course offers hands-on training in the use of the lensometer to neutralize single-vision lenses, segmented multifocals, and prisms, as well as the use of the lens clock to measure surface power and base curve. Introduction to the extensive variety of lenses, coatings, and frames available is also provided, so the most appropriate ones can be recommended, based on a patient's prescription and lifestyle needs. (0-36-1)

**OPT 3534—Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management**

This course examines principles of diagnosis and management of infectious, inflammatory, congenital, hereditary, and traumatic conditions of the anterior segment of the eye. Topical and systemic pharmacological treatments are emphasized. (72-0-2)

**OPT 3624—Optometric Theory and Methods III**

This course continues the optometric theory and methods sequence with emphasis on intermediate clinical procedures. Topics covered include binocular indirect ophthalmoscopy, fundus biomicroscopy, gonioscopy, dilation and irrigation, exophthalmometry, and trial frame refraction. This course will allow students to increase clinical case analysis and efficiency, as well as the time spent with electronic medical record keeping. (36-0-2)

**OPTL 3624—Optometric Theory and Methods III Lab**

Application and skills necessary to perform clinical testing using examination procedures stressed in OPT 3624. (0-54-1.5)

**OPT 4122\*—Ocular Pharmacology**

Drugs used in the eye or capable of exerting a pharmacological or toxicological effect on the eye; routes of administration, pathophysiological processes, and treatment regimens. (36-0-2)

**OPT 4234\*—Ophthalmic Optics II**

This course is the second semester of the two-semester ophthalmic optics tract, which explores both the theoretical and practical aspects of corrective lens design. Topics this semester include absorptive lenses and lens coatings, prescribing for anisometropia and aniseikonia, optical principles of low vision devices, optics of contact lenses, and vision in the workplace and protective eyewear. (54-0-3)

**OPTL 4234\*—Ophthalmic Optics II Lab**

This course offers hands-on training in measuring frame dimensions, pupillary distance, segment height, fitting center height, and vertex distance, as well as fabricating and adjusting spectacles and making simple frame repairs. An introduction to the extensive variety of progressive addition lenses available, and the methods for correcting vertical imbalance, is also provided. (0-36-1)

**OPT 4322\*—Introduction to Binocular Vision**

Sensory aspects of binocular vision, neurophysiological foundations. Visual direction, the horopter, binocular fusion, rivalry, stereopsis, aniseikonia, motion in depth, binocular visual neurophysiology, normal development of binocular vision, strabismic and anisometric amblyopia, and normal and anomalous retinal correspondence. Clinical, research-oriented tests and treatments for abnormal binocular visual function. (36-0-2)

**OPT 4433—Anomalies of Binocular Vision I**

The primary goal of this course is to prepare the student, as a primary care optometric physician, to recognize, examine, and properly manage patients with functional ocular motor, accommodative, and vergence disorders. Accommodative and vergence mechanisms, such as lens prescribing and vision therapy, are also discussed, along with a logical, evidence-based approach to the treatment of non-strabismic binocular vision disorders. (54-0-3)

**OPTL 4433—Anomalies of Binocular Vision I Lab**

Application of concepts and material presented in Anomalies of Binocular Vision I lecture OPT 4433. (0-36-1)

**OPT 4524—Optometric Theory and Methods IV**

This course is intended to assist students in the mastery of knowledge needed by a Doctor of Optometry. While this course should help you prepare for future licensing exams, nothing in this course, including the lectures and discussions, coursework, study guides, teaching notes, or other materials, should be believed or understood to use actual confidential exam items from licensing exams. All material in this course has been prepared in good faith to comply with the highest ethical standards of the profession. (36-0-2)

**OPTL 4524—Optometric Theory and Methods IV Lab**

This course provides practical experience with advanced optometric testing procedures including three-mirror and scleral depression and automated visual fields, as well as trial frame experience. Students will practice with electronic health records and incorporating the techniques of a comprehensive exam into an efficient and complete exam sequence. Practice time for the preclinical proficiency exam will be included. (0-54-1.5)

**OPT 4634—Diagnosis and Pharmacological Management of Glaucoma and Vitreoretinal Disease**

This course examines the diagnosis and management of diseases of the ocular posterior segment, including glaucoma and diseases of the retina, vitreous, and posterior uvea. The course is weighted 40 percent glaucoma and 60 percent vitreoretinal disease. Emphasis is placed upon the advanced optometric management of these diseases. The role of the optometrist in the therapeutic management of these diseases is maximized to the fullest extent of optometric training. (72-0-4)

**OPT 4721—Nutrition in Eye Care**

This course will include a basic overview of human nutrition, including macro- and micro-nutrients in the diet. A specific emphasis will be placed on nutrients with respect to ocular health, including the carotenoids; the essential fatty acids omega 3 and 6; vitamins A, C, D, and E, and the B vitamins; zinc, selenium, and other trace elements; and other nutrients known to play a role in ocular disease (coenzyme Q10, alpha lipoic acid, taurine, magnesium, etc.). We will examine nutrition from an evidence-based perspective, using landmark studies as a framework for discussion. Body mass index, glycemic index, and obesity will be discussed as they relate to systemic and ocular disease. (18-0-1)

**OPT 4811—Epidemiology**

A study of basic principles of epidemiology with emphasis on the epidemiology of vision disorders. Topics include disease models, rates and indices, descriptive and analytic studies, screening concepts, major eye studies, control of infectious disease, investigation of an outbreak, epidemiology of vision disorders, and the use of epidemiology in clinical decision making. (18-0-1)

**OPT 4951A—Community Outreach I**

This course discusses the social and behavioral determinants of health and disease; population trends and emerging needs; cultural aspects in eye care; health promotion, education, and prevention; and community program planning, monitoring, evaluation, and theory of screening. (18-0-1)

**OPT 4951B—Community Outreach II**

This course is a continuation of OPT 4951A. The following topics are covered: social and behavioral determinants of health and disease, population trends and emerging needs, cultural aspects in eye care, health promotion, health education, prevention, community program planning, monitoring, and evaluation. (18-0-1)

**OPT 5022—Anomalies of Binocular Vision II**

Etiology and visual effects of strabismus and amblyopia. Covers testing, analysis; diagnosis; management of strabismus and amblyopia; and use of lenses, prisms, and vision therapy to ameliorate strabismus and amblyopia. (36-0-2)

**OPTL 5022—Anomalies of Binocular Vision II Lab**

Application of concepts and material presented in Anomalies of Binocular Vision II lecture OPT 5022. (0-36-1)

**OPT 5122—Contact Lenses I**

The primary goal of this course is to provide an introduction to contact lens evaluation and fitting with emphasis on clinical experiences encountered in a primary care optometric practice. A laboratory is an integral adjunct to the course. Refractive surgery alternatives will supplement the curriculum. (36-0-2)

**OPTL 5122—Contact Lenses I Lab**

Training will be provided in prescription assessment (autorefractor), corneal testing (autokeratometry, topography, and pachymetry), hydrogel (HG) contact lens (CL) care, insertion and removal of HG CLs, evaluation of spherical and toric HG CLs on the eye, the use of specialty HG CLs, and verification of gas permeable (GP) CLs. (0-36-1)

**OPT 5233—Ocular and Systemic Eye Disease: Diagnostic, Medical, and Pharmacological Management**

This course covers systemic diseases that may present with ocular findings, including key systemic clinical manifestations. Physical presentation, laboratory and imaging evaluation, spectrum of treatment modalities (including ocular and systemic pharmacologic treatment and nutritional supplementation), and interdisciplinary management are covered in detail. (54-0-3)

**OPT 5322—Clinical Medicine: Diagnosis and Pharmacologic Management of Systemic Diseases**

This course presents an overview of systemic disorders that are pertinent to the practice of clinical optometry. Attention is given to those medical conditions that are commonly encountered in optometric practice—those that may present with ocular manifestations and those that are of significant importance to medicine in general. Lectures are delivered, where possible, by board-certified specialists or other recognized experts in the different medical subspecialties. Discussions strive to focus on the pathophysiology, presenting signs and symptoms, diagnostic testing, and general management of the various clinical entities. (36-0-2)

**OPTL 5322—Physical Diagnosis Laboratory: Testing, Pharmacologic Aspects, and Injection Techniques**

Physical Diagnosis Laboratory will offer a hands-on experience in many of the diagnostic techniques employed in the work-up of systemic conditions. There will be an emphasis on those conditions that can present in the primary eye care setting. These will include the physical exam, neurological screening, and in-office lab tests. Injection procedures and anaphylaxis management will also be covered. (0-18-0.5)

**OPT 5411—Clinical Gerontology**

Discusses aging from sociological, psychological, and biophysiological perspectives; reviews diagnosis, management of visual conditions, ocular diseases of older adults, and role of optometrists as members of multidisciplinary health care team providing services to community-based, institutionalized geriatric patients. (18-0-1)

**OPT 6122—Contact Lenses II**

Advanced lens applications in specialty cornea and contact lens practice. Options for presbyopia, astigmatism, anterior segment disease, myopia, corneal thinning disorders, keratoconus, and corneal surgery. (36-0-2)

**OPTL 6122—Contact Lenses II Lab**

Training will be provided in GP CL care, insertion, and removal of corneal and mini-scleral GP CLs; evaluation of spherical GP CLs on the eye; verification of toric GP CLs; and modification of GP CLs. (0-36-1)

**OPT 6233—Neuro-Eye Disease: Diagnostic, Medical, and Pharmacological Management**

This course covers the diagnosis, management, and treatment of ocular abnormalities seen in patients with neurological disease. Clinical diagnostic imaging studies—including nuclear magnetic imaging, computerized tomography, and vascular ultrasonography—are presented for both ocular and central nervous system neuropathology. Clinical work-up, surgical referral indications, and systemic/ocular pharmaceutical treatment are covered in detail. (54-0-3)

**OPT 6322—Rehabilitative Optometry: Low Vision**

This course will present low vision topics, including etiology, demographics, case history, acuity measurement, magnification, magnifiers, telescopes, psychosocial implications, functional testing, functional implications, technology, and driving implications. Lectures, laboratories, and assigned reading will be used to explore an interdisciplinary approach to low vision rehabilitation, including the role of the optometrist in examination, prescribing, fitting, and training of low vision devices, as well as the role of many other professionals and resources. (36-0-2)

**OPTL 6322—Rehabilitative Optometry: Low Vision Lab**

Application and demonstration of concepts and material presented in Rehabilitative Optometry lecture OPT 6322. (0-36-1)

**OPT 6522—Practice Management**

This course provides the student with an introduction to basic business concepts and the application of these concepts to optometric practice management. Topics covered include accounting, finance, marketing, management, human resources, operations management, business law, practice valuation and purchase, practice start up, and financial planning. Students will also learn the value of networking and how to create a resume and cover letter. (36-0-2)

**OPT 6633—Pediatric Optometry and Learning-Related Vision Problems**

An introduction to the theory and methods of examining, diagnosing, and managing children and individuals suffering from learning-related vision problems. (54-0-3)

**OPTL 6633—Pediatric Optometry and Optometric Management of Learning-Related Vision Problems**

This lab course includes infant, toddler, and preschool optometric examinations; developmental testing; computerized oculomotor diagnostic testing; visual perceptual testing; visual perceptual assessment; and management. (0-18-0.5)

**OPT 9997—Special Care Clinic Elective**

This course deals with patient examinations in an advanced ophthalmic care setting under the supervision of appropriately credentialed faculty members. Clinical care is delivered in either the glaucoma service or diabetes and macular disease service with subsequent discussion of pathophysiology, differential diagnoses, and patient-appropriate management. Integration of didactic knowledge with clinical care is emphasized. (0-8-1)

**OPT 9998—Board Review**

(18-0-1)

## **Optometry Clinical Education**

### **OPT 7111—Primary Care Clinic I**

Patient examinations in a primary care setting under supervision of residents, faculty members: refractive conditions, visual system disorders. Grand rounds, journal reviews, case reports, and advanced ophthalmic techniques. Also included in this course is a review and discussion of patient data leading to proper clinical diagnosis and patient management. Emphasizes integration of knowledge gained in didactic courses with clinical examples. (0-80-2.5)

### **OPT 7112—Clinic Conference**

Adjunct to Primary Care Clinic I. Review and discussion of patient data leading to proper clinical diagnosis and patient management. Lectures and small group discussions emphasize integration of knowledge gained in didactic courses with clinical case examples. (10-0-1)

### **OPT 7122—Primary Care Clinic II**

Continuation of Primary Care Clinic I. (0-144-2.5)

### **OPT 7132—Primary Care Clinic III**

This course provides experience in a clinical setting for students, under the direct supervision of certified optometric physicians, to evaluate and manage the vision disorders and ocular health conditions of patients. This includes refractive, binocular, ocular health, and visual pathway conditions. In addition, the student will learn to apply appropriate management and treatment protocols. (0-144-2.5)

### **OPT 7146—Primary Care Clinical Externship**

The clinical program provides direct patient-care experience in primary care optometric practice with an emphasis on primary care under the supervision of clinical preceptors. Assignments related to independent learning will further contribute to the students' learning. (0-320-5.5)

### **OPT 7151—Optical Services Rotation I**

In this introductory rotation in the clinic's optical service, the third-year student begins to apply ophthalmic dispensing procedures learned during the second year Ophthalmic Optics lecture and laboratory to the day-to-day workings of the optical. The purpose of the student's presence in the optical is to expand and reinforce his or her knowledge of ophthalmic optics and its application and significance in patient care. (0-24-0.5)

### **OPT 7161—Optical Rotation II**

This second optical rotation allows the third-year student to apply a greater scope of learned ophthalmic dispensing procedures to the day-to-day workings of the optical. The purpose of this rotation is to reinforce the knowledge of ophthalmic optics and its application and significance in patient care. (0-36-0.5)

### **OPT 7162—Seminars in Laser and Surgical Ophthalmic Care**

This course is a series of learning modules encompassing surgical and laser procedures of the ocular adnexa, anterior segment, and posterior segment of the eye. Patient selection and preparation, preoperative care, and postoperative care will be emphasized. Surgical techniques, procedures, complications, and expected outcomes will be presented by experts in each respective area. (18-0-1)

### **OPT 7171—Optical Rotation III**

In this third rotation in the clinic's optical dispensary, the third-year student continues to apply his or her learned ophthalmic dispensing procedures to the day-to-day workings of the optical, building on the experience of the previous semesters and working more independently. Additionally, practice management concepts are introduced. The purpose of this rotation is to expand and enhance the student's knowledge of ophthalmic optics and its application in patient care by meeting the visual needs of patients. (0-36-0.5)

### **OPT 7214—Cornea and Contact Lens Externship**

The clinical program provides experience in cornea and contact lens patient care and practice management and emphasizes the use of special tests, procedures, and scholarly activities relevant to this specialty. (0-240-4)

### **OPT 7224—Pediatric and Binocular Vision Externship**

This clinical program provides exposure to pediatric optometry and binocular vision patient care with emphasis on diagnosis and treatment of functional vision disorders. It includes administration of specialty test procedures and vision therapy for the enhancement of functional skills. (0-240-4)

### **OPT 7233—Vision Rehabilitation and Geriatrics Externship**

Low vision rehabilitation and geriatric vision care in traditional and educational settings for the visually impaired. Exposure to vision-enhancing devices. (0-160-2.5)

### **OPT 7308—Medical/Surgical Clinical Externship**

Diagnosis, management, and treatment of patients in a medical/surgical setting. Pre- and post-operative care, evaluation and comanagement of patients with systemic health anomalies and medical conditions such as glaucoma. Observation of medical eye care. (0-480-8)

**OPT 7408—Clinical Elective Rotation**

An opportunity for the student to gain additional clinic experience from a choice of primary care, secondary care, or tertiary care clinic sites. (0-480-8)

**OPT 7501—Current Topics in Practice Management**

Explore current practice options in optometry including: starting from scratch, purchasing a practice, or joining a practice. Learn the proper techniques for successful coding and billing in today's managed care economy. Understand the importance of patient communication, networking, community involvement, and third party participation. Analyze today's market and the student's personal financial goals to develop a plan for successful practice. (18-0-1)

**OPT 9991—Sports and Performance Vision in Primary and Tertiary Optometric Practice (elective)**

The theory and practice of sports vision is presented in detail. The course emphasizes exploration of research supporting sports vision optometric services; analysis of visual and environmental task demands in sports; testing and evaluation techniques and procedures for athletes; treatment and management of sport-related ocular injuries; sport-related traumatic brain injuries (concussion); and optometric intervention approaches including lenses, tints, vision training/rehabilitation for sports-vision enhancement, and rehabilitation. Practice management strategies for implementation of sports vision services will also be discussed. The course will also include a hands-on component to aid with application of material taught in areas of sports vision assessment and vision training for enhancement of sports vision performance and vision rehabilitation. This will allow for practical application and further practice of testing procedures and therapeutic techniques. (18-0-1)

\*Successful completion of these courses can lead to a Bachelor of Science degree in Vision Science.

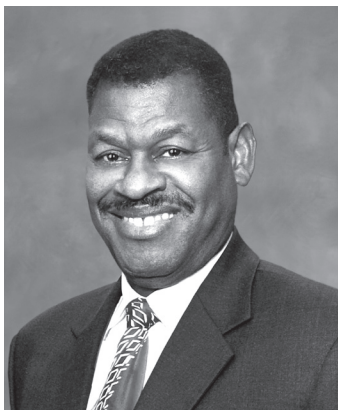




**Dr. Pallavi Patel College  
of Health Care Sciences**



# Dr. Pallavi Patel College of Health Care Sciences



Stanley Wilson,  
PT, Ed.D.  
Dean

## Vision

The Dr. Pallavi Patel College of Health Care Sciences will be recognized as a local, national, and international leader in health-care education through excellence and innovation in teaching, scholarship, and service.

## Mission

The Dr. Pallavi Patel College of Health Care Sciences strives to provide professionals with the skills necessary for the diagnosis, treatment, and prevention of disease and disability in order to assure optimum health conditions in the community and beyond. With an unwavering commitment to ethical practice and in support of the Nova Southeastern University Core Values, the college endeavors to advance research, scholarship, and the development of leadership skills utilizing traditional educational methods, distance learning, and innovative combinations of both to achieve its educational goals.

## Administration

**Stanley Wilson, Ed.D., PT, CEAS**  
Dean

**Peter L. Taylor, Ph.D.**  
Associate Dean, Academic Affairs

**William H. Marquardt, M.A., PA-C, DFAAPA**  
Associate Dean and Chair, Department of  
Physician Assistant

**Hal Strough, Ph.D., ATR, ATC**  
Associate Dean and Chair, Department of Health and  
Human Performance

**Sandrine Gaillard-Kenney, Ed.D., M.A.**  
Associate Dean

**Terry Morrow Nelson, Ph.D., M.S.**  
Assistant Dean, Student Affairs

**Brianna Black Kent, Ph.D., M.Ed., R.N.**  
Assistant Dean, Professional Development and Education

**Olufemi (Femi) Okubadejo**  
Director of Finance

**Chrystal L. Randle, M.S.**  
Employee Services Manager

**Rebecca Estes, Ph.D., OTR, CAPS**  
Chair, Department of Occupational Therapy  
Interim Director, Master of Occupational  
Therapy Program

**Lisa Farach, D.H.Sc., M.S., R.N., RRT**  
Chair, Department of Cardiopulmonary Sciences

**Erica B. Friedland, Au.D., M.S., B.A.**  
Chair, Department of Audiology

**TBA**  
Chair, Department of Health Science

**Shari Rone-Adams, D.B.A., M.H.S.A., PT**  
Chair, Department of Physical Therapy

**Wren Newman, SLP.D.**  
Chair, Department of Speech-Language Pathology

**Robert S. Wagner, M.M.Sc., AA-C**  
Chair and Assistant Professor, Anesthesiologist  
Assistant Programs—Fort Lauderdale and Tampa

**Jose Antonio, Ph.D.**  
Director, Exercise and Sport Science Program

**Llaland L. Austin II, Ed.D., CAA**  
Program Director, Anesthesiologist Assistant—Tampa

**Charlene Bolton, D.H.Sc., M.P.A.S., PA-C**  
Program Director, Physician Assistant—Jacksonville

**Lorilee H. Butler, D.H.Sc., M.P.A.S., PA-C, DFAAPA**  
Program Director, Physician Assistant—Orlando

**Jennifer Canbek, Ph.D., M.S., PT, NCS**  
Director, Professional Doctor of Physical Therapy Program

**Ricardo C. Carrasco, Ph.D., OTR/L, FAOTA**  
Director, Occupational Therapy Doctorate  
Program—Tampa

**M. Samuel Cheng, Sc.D., M.S., PT**  
Director, Physical Therapy Ph.D. Program

**Rick D. Davenport, Ph.D., OTR/L**  
Director, Occupational Therapy Ph.D. Program

**Debra Dixon, D.H.Sc., M.S., RDH**  
Program Director, Master of Health Science Program

**C. Richard Finley, Ed.D., PA-C, DFAAPA**  
Program Director, Physician Assistant—Fort Lauderdale

**Jorge Han, M.D., RVT, RDCS, RDMS**  
Director, Bachelor of Science—Medical Sonography—  
Fort Lauderdale

**Jermaine Leclerc, M.H.Sc., MHSA, CAA**  
Program Director, Anesthesiologist Assistant—  
Fort Lauderdale

**Bini Litwin, Ph.D., D.P.T., M.B.A., PT**  
Director, Transition Doctor of Physical Therapy Program

**Christopher Mitchell, M.S., B.A.**  
Director, Bachelor of Health Science Program

**Kyrus Patch, D.H.S., M.S.P.A.S., PA-C**  
Program Director, Physician Assistant—Fort Myers

**Cathy Peirce, Ph.D., OTR**  
Director, Occupational Therapy Dr.O.T. Program

**Akiva Turner, Ph.D., J.D., M.P.H.**  
Director, Ph.D. in Health Science Program

**Pradeep R. Vanguri, Ph.D.**  
Director, Athletic Training Program

**Samuel Yoders, Ph.D., RVT**  
Director, Bachelor of Science—Cardiovascular  
Sonography—Tampa

**Mary Blackinton, Ed.D., PT**  
Associate Director, Physical Therapy Program

**Steven Vertz, M.S.**  
Associate Director, Speech-Language Pathology,  
M.S. Program

**Melissa Edrich, Ed.D.**  
Coordinator, Speech-Language and Communication  
Disorders, B.S. Program

**Rachel Williams, Ph.D.**  
Coordinator, Speech-Language Pathology,  
SLP.D. Program

## **Dr. Pallavi Patel College of Health Care Sciences Programs**

The college is committed to providing the highest quality education to students in a variety of health care disciplines. The college offers the following programs and degree options:

### **Department of Anesthesia**

- Anesthesiologist Assistant, M.S., Fort Lauderdale
- Anesthesiologist Assistant, M.S., Tampa

### **Department of Audiology**

- Audiology, Au.D., Fort Lauderdale
- Audiology, Au.D., United Kingdom

### **Department of Cardiopulmonary Sciences**

- Respiratory Therapy, Postprofessional B.S.R.T.,  
Online Program
- Respiratory Therapy, First-Professional B.S.R.T.

### **Department of Health and Human Performance**

- Athletic Training, B.S.
- Exercise and Sport Science, B.S.

### **Department of Health Sciences**

- Cardiovascular Sonography, B.S., Tampa
- Medical Sonography, B.S., Fort Lauderdale
- Health Science, B.H.Sc.
- Health Science, M.H.Sc.
- Health Science, D.H.Sc.
- Health Science, M.H.Sc./D.H.Sc. Dual Degree
- Health Science, Ph.D.

### **Department of Occupational Therapy**

- Occupational Therapy, M.O.T., Fort Lauderdale
- Occupational Therapy, O.T.D., Tampa
- Occupational Therapy, Dr.O.T., Fort Lauderdale
- Occupational Therapy, Ph.D., Fort Lauderdale

### **Department of Physical Therapy**

- Entry-Level D.P.T., Fort Lauderdale
- Entry-Level D.P.T., Tampa
- Hybrid Entry-Level D.P.T., Tampa
- Physical Therapy T-D.P.T.
- Physical Therapy, Ph.D.

### **Department of Physician Assistant**

- Physician Assistant, Fort Lauderdale
- Physician Assistant, Fort Myers
- Physician Assistant, Jacksonville
- Physician Assistant, Orlando

### **Department of Speech Language Pathology**

- Speech-Language and Communication Disorders, B.S.
- Speech-Language Pathology, M.S.
- Speech-Language Pathology, SLP.D.

## **Core Performance Standards for Admission and Progress**

The Nova Southeastern University Health Professions Division is pledged to the admission and matriculation of qualified students and wishes to acknowledge awareness of laws that prohibit discrimination against anyone on the basis of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations.

Regarding those students with verifiable disabilities, the university will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards (core performance standards) as set forth herein, with or without reasonable accommodation. In adopting these standards, the university believes it must keep in mind the ultimate safety of the patients whom its graduates will eventually serve as well as the efficacy and safety in the learning environment. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions. Any exceptions to such standards must be approved by the dean of the student's particular college based upon appropriate circumstances.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data.

Honor and integrity of the health professions student and health care professional is essential and depends on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty members, patients, and members of the general public who come under the student's care or contribute to his or her training and growth. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU, each student subscribes to and pledges complete observance to NSU's Code of Conduct Policies. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

Candidates for degrees offered by the Health Professions Division must have, with or without reasonable

accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Candidates for admission and progression must be able to perform these abilities and skills in a reasonably independent manner.

### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause/effect relationships in clinical situations and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. Examples include, but are not limited to, identification of cause/effect relationships in clinical situations, development of treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration.

Students must be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging environment. They must be able to think quickly and accurately in an organized manner, despite environmental distractions.

### **Interpersonal Communication**

Candidates and students must be able to interact and communicate effectively—with respect to policies, protocols, and processes—with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program. They must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but also reading and writing. Candidates and students must also be able to communicate effectively and efficiently in all written forms with all members of the health care team. They must have interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds.

A student must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written exams and patient charts; elicit patient backgrounds; describe patient changes in moods, activity, and posture; and coordinate patient

care with all members of the health care team. A student must be able to communicate or provide communication in lay language so that patients and their families can understand the patient's conditions, treatment options, and instructions. The student must be able to accurately enter information in the patient's electronic health record, according to his or her program's requirements.

### **Motor Skills**

Candidates and students must have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of some health care professionals are cardiopulmonary resuscitation (CPR), administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, and the ability to calibrate and use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Physical therapy and occupational therapy students must be able to position patients for treatment, as well as teach the functions involving gross and fine movements.

### **Strength and Mobility**

Candidates and students must have sufficient mobility to attend emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and to maneuver in small places. Physical therapy and occupational therapy students must be able to administer treatment in a variety of settings and positions and move patients when required.

### **Hearing**

Candidates and students must have sufficient auditory ability to monitor and assess health needs. They must be able to hear information given by the patient in answer to inquires; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to monitor equipment.

### **Visual**

Candidates and students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. Physician assistant students must have sufficient visual ability to use ophthalmologic instruments. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration. Candidates and students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment.

### **Tactile**

Candidates and students must have sufficient tactile ability for physical assessment. They must be able to perform palpation and functions of physical examination and/or those related to therapeutic intervention.

### **Sensory**

Physician assistants are required to have an enhanced ability to use their sensory skills. These enhanced tactile and proprioceptive sensory skills are essential for appropriate evaluation and treatment of patients.

### **Behavioral and Social Attributes**

Candidates and students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; the ability to take responsibility for their own actions—with respect to policies, protocols, and processes—with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program; the prompt completion of all responsibilities attendant to the diagnosis, care, and treatment of patients; and the development of mature, sensitive, and effective relationships with the patients. Candidates and students must be able to physically tolerate taxing workloads, to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, diversity, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and education process.

### **Expenses and Financial Aid**

Students should anticipate spending approximately \$3,000 for books and \$19,000 per academic year for living expenses. The primary financial responsibility for a student's education rests with the student and his or her family, but economic circumstances for some families may make it necessary for the student to obtain assistance from other sources. The purpose of the Student Financial Assistance Program at Nova Southeastern University is to help as many qualified students as possible to complete their health professions education. Various loans, scholarships, and grants are available to qualified students to help ease the high cost of a health professions education. These assistance programs are described in a variety of separate university publications. The demands of these programs limit the number of hours a student can work at an outside job. During the months of clinical rotations, it is difficult or impossible for the students to work.

## Transfer Credits

Any students wishing to transfer from another university into a Dr. Pallavi Patel College of Health Care Sciences program must provide the following:

- official transcripts from all colleges or universities previously attended, sent directly to Nova Southeastern University Dr. Pallavi Patel College of Health Care Sciences Office of Admissions
- a letter of recommendation to the department chair or program director of the program in which the applicant is currently enrolled

Transfer credits, if awarded, will be given pending transcript evaluation and for courses that are directly applicable to courses outlined in the curriculum of the allied health department or program in which the student is applying. All transfer credit decisions will be made at the discretion of the department chair or program director.

## Department of Anesthesia

### Master of Science in Anesthesia—Fort Lauderdale

Anesthesiologist Assistants (AAs), also known as anesthetists, are highly educated and skilled allied health professionals who work under the supervision of physician anesthesiologists to develop and implement anesthesia care plans. AAs work exclusively within the anesthesia care team environment as described by the American Society of Anesthesiologists (ASA). AAs possess a premedical background and a baccalaureate degree, and also complete a comprehensive didactic and clinical program at the graduate level. AAs are trained extensively in the delivery and maintenance of quality anesthesia care as well as advanced patient monitoring techniques. The goal of AA education is to nurture the transformation of qualified student applicants into competent health care practitioners who aspire to practice in the anesthesia care team.

The 27-month AA course of study consists of an intensive academic and didactic program that will prepare the student to function within the anesthesia care team. The students will get an extensive clinical training experience that will consist of a minimum of 2,000 clinical hours that encompass all aspects of anesthesia care for the surgical patient. Upon completion of the course of study, students will have earned a Master of Science (M.S.) in Anesthesia degree from NSU.

Students are trained in state-of-the-art AA facilities. Our classroom features high-definition technology—providing crisp visual presentation of course materials—and video

## Promotion, Suspension, Dismissal, and Readmission

The policies for promotion, suspension, dismissal, and readmission are outlined in the *Dr. Pallavi Patel College of Health Care Sciences Student Handbook*, which is revised, updated, and distributed annually to all students.

recording capabilities, which allow students to review course lectures. The student's educational experience is enhanced by two of the largest fully functional operating rooms. The NSU AA programs are the only ones in the country to have four high-fidelity anesthesia simulators (two adult, one pediatric, and one infant). A student library, lounge, and study center area complete the AA facilities.

The first year of study focuses on the foundations of anesthesia practice through classroom, mock operating room scenarios and studies, and laboratory work. Clinical experience during the first year will increase as the year progresses. The senior year (semesters 5, 6, and 7) will consist of clinical rotations assigned in two-week and four-week intervals. During the senior year, clinical rotations are full time and involve all specialty areas in anesthesia, including general surgery, pediatrics, obstetrics and gynecology, otolaryngology, orthopedics, neurosurgery, ophthalmology, genito-urinary surgery, vascular surgery, cardiac surgery, thoracic surgery, transplantation, and trauma. Clinical rotations include days, evenings, nights, weekends, and on-call—depending upon the rotation.

Nova Southeastern University's Master of Science in Anesthesia program will prepare the student for the national certification exam administered by the National Board of Medical Examiners under the auspices of the National Commission for the Certification of

Anesthesiologist Assistants. The certification process involves successfully completing the Certifying Examination for Anesthesiologist Assistants for initial certification, registration of continuing medical education credits every two years, and successful completion of the Examination for Continued Demonstration of Qualifications every six years.

### Accreditation

The Master of Science in Anesthesia program at NSU is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP: 25400 U.S. Highway 19 North, Suite 158, Clearwater, Florida 33763, 727-210-2350).

### Mission

The mission of the M.S. in Anesthesia is to prepare students for lifelong learning and leadership roles that will benefit the health care community. The educational process will be committed to training and educating competent anesthesiologists who will embrace the anesthesia care team to provide safe, quality, and compassionate anesthesia care for all degrees of illness for the surgical patient.

### Vision

The M.S. in Anesthesia at Nova Southeastern University will provide state-of-the-art educational facilities and environment, which will allow anesthesiologist assistant students to cultivate into health care providers who are driven by compassion and guided by science to provide the best and safest patient care. It will be locally, nationally, and internationally recognized as an authority and primary source for anesthesiologist assistant information and services related to promoting the practice of delivering safe and quality anesthesia as a member of the anesthesia care team. The faculty members and students will be recognized as leaders within the profession through our collective service to the American Academy of Anesthesiologist Assistants (AAAA) and other professional organizations.

The Master of Science in Anesthesia program is dedicated to developing a well-rounded practicing AA. The faculty and current students are dedicated to the following program objectives:

- develop vigilant, knowledgeable, skilled, and compassionate anesthesia care providers who are capable of functioning within the anesthesia care team model in the delivery of all perioperative anesthesia services
- inspire and prepare the future leaders in our profession for service in local, state, and national organizations that shall advance the utilization and practice of anesthesiologist assistants

- advance anesthesiologist assistant education through the application of state-of-the-art technology and evidence-based learning practices that continue to support our student learning objectives
- develop highly skilled, interdisciplinary, and culturally sensitive faculty members who model professionalism and exemplify ethical practice, effective communication, and organizational leadership
- support the mission and goals of Nova Southeastern University—including our department, college, and division—in the provision of scholarship, service, teaching, and patient care

### Admissions Requirements

Prospective Master of Science in Anesthesia students are selected by the Committee on Admissions (COA), which considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding of the AA profession and the anesthesia care team, academic performance and level of achievement, life experiences, and recommendations. Personal interviews are offered to the most qualified applicants to assess interpersonal and communication skills, altruistic attitude, maturity, and commitment to the AA profession and anesthesia care team model.

#### Other requirements include

1. baccalaureate degree from a nationally recognized and regionally accredited college or university, including above average performance in courses required in a premed curriculum (refer to the following required courses)

#### Required Courses

- General biology with lab or Anatomy and physiology with lab (two semesters)
- General chemistry with lab (two semesters)
- Organic chemistry with lab (one semester)
- Biochemistry (one semester)
- General physics with lab (two semesters)
- Calculus (one semester)
- English composition (one semester)



### Preferred Courses—Not Required

- Anatomy with lab (one semester)
- Physiology (one semester)
- Organic chemistry (a second semester)
- Microbiology\* (one semester)
- Cell and molecular biology\* (one semester)

One semester is equal to 1.5 quarter hours.

Note: A grade of 2.0 (C) or better is required in all prerequisite classes.

*\*An advanced course in Microbiology or Cellular and Molecular Biology is preferred and would meet one semester of the General Biology requirement.*

2. official transcripts of all undergraduate and graduate coursework

3. a minimum cumulative GPA of 2.75 on a 4.0 grading scale; minimum GPA of 3.0 preferred

4. Graduate Record Examination (GRE) or Medical College Admissions Test (MCAT) scores (taken within the past five years) taken early enough for official scores to be received by admissions office by the supplemental application due date of February 15

The NSU code number is 5522. GRE information can be obtained from [gre.org](http://gre.org). Information for the MCAT is at [aamc.org/students/mcat](http://aamc.org/students/mcat).

5. three letters of recommendation from people familiar with applicant's prior academic performance, potential, character, work habits, and suitability for graduate study leading into a career in clinical practice

6. at least eight hours of documented anesthesia exposure by observation in the operating room

7. summary of an article published in a current anesthesia journal

The applicant who has graduated from a college or university in a country where English is not the primary language, regardless of United States residency status, must have a Test of English as a Foreign Language (TOEFL) score of 600 or higher for the written test (or equivalent score for the computer-based test), an International English Language Testing System (IELTS) score of 6.0, or a Pearson Test of English—Academic (PTE-Academic) score of 54. An official set of scores must be sent to Nova Southeastern University directly from the Educational Testing Service in Princeton, New Jersey.

### Computer Requirements

All students are required to have a computer with the following minimum specifications:

- Pentium or AMD at 1.00 GHz or equivalent Macintosh processor
- 2 GB RAM
- video and monitor capable of 1024 x 768 resolution or better
- full duplex sound card and speakers
- high-speed wireless Internet connection with Internet service provider
- Windows XP or NT or MAC OS
- Microsoft Office 2000 with PowerPoint, Word, and Excel minimum
- printer capability

### Application Procedures

Applicants for admission must submit to EPS, or be responsible for submission of

1. a completed application form, along with a \$50, nonrefundable application fee, accepted July 15 to March 15

2. A completed online admissions application

The Master of Science in Anesthesia program has partnered with CASAA, the Central Application Service for Anesthesiologist Assistants. To apply, visit our page on the CASAA website, [casaa.liaisoncas.com](http://casaa.liaisoncas.com).

3. three evaluation forms—supplied in the application package or by request—from supervisors or colleagues, clinical or non-clinical

4. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions

5. all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)

- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Anesthesia Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

6. complete résumé or curriculum vitae
7. copies of national and professional certifications or licenses by a recognized certifying body (if applicable)
8. summary of an article published in a current anesthesia journal (form supplied in application package)
9. evidence of eight hours documented anesthesia exposure (form supplied in application packet)

The Committee on Admissions will not consider an application until all required fees, credentials, transcripts, and evaluations have been received by the EPS.

### Personal Interviews

Once your application is complete, the Committee on Admissions will decide whether or not your application is strong enough to warrant an invitation for a personal interview. Interviews are conducted at the Nova Southeastern University main location and are by invitation only. Interviews will be held from November through March. An invitation to interview is not a guarantee of admission. Notice of acceptance or action by the committee on admissions will be on a rolling or periodic schedule; therefore early completion of the application is in the best interest of the student.

### Tuition and Fees

Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/chcs/healthsciences/anesthesia/index.html](http://nova.edu/chcs/healthsciences/anesthesia/index.html)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

- 1. Acceptance Fee—\$500.** This fee is required to reserve the accepted applicant's place in the entering first-year class, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- 2. Deposit—\$250.** This is due February 15, under the same terms as the Acceptance Fee.
- 3. Preregistration Fee—\$250.** This is due April 15, under the same terms as the Acceptance Fee.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required to carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

- 4. Anesthesiologist Assistant Clinic Support Charge—\$475/semester.**

### Requirements for Graduation

In order to be eligible to graduate with the Master of Science in Anesthesia degree, students must

- successfully complete all academic and clinical courses and degree requirements
- satisfactorily meet all financial and library obligations
- attend in person the commencement program at which the degree is conferred

## M.S. in Anesthesia—Fort Lauderdale Curriculum

Start Date: June  
Length: 27 months  
Degree: Master of Science in Anesthesia  
Total Credit Hours: 114  
Total Clinical Hours: 2,000  
All courses with the MHS prefix (except MHS 5103) will be taken online.

Summer—Semester I Courses			Credits
ANES	5048	Medical Terminology	1
ANES	5081	Introduction to Clinical Anesthesia	2
ANES	5301	Anesthesia Laboratory I	3
ANES	5328	ECG for Anesthesiologist Assistants	2
PHS	5400	Physiology	3
ANA	5420	Anatomy	5
ANES	5621	Principles of Airway Management I	2
<b>Total Credits</b>			<b>18</b>

Fall—Semester II Courses			Credits
ANES	5302	Anesthesia Laboratory II	3
ANES	5462	Pharmacology for Anesthesia I	2
ANES	5601	Applied Physiology for Anesthesia Practice I	3
ANES	5622	Principles of Airway Management II	2
ANES	5801	Instrumentation and Monitoring	2
ANES	5901	Anesthesia Principles and Practices I	2
ANES	5104*	Principles of Life Support	3
MHS	5205	Writing for Medical Publication	3
<b>Total Credits</b>			<b>20</b>

\*Basic Life Support Certification and Advanced Cardiac Lifesaving will be obtained during this semester.

Winter—Semester III Courses			Credits
ANES	5001	Clinical Anesthesia I	3
ANES	5303	Anesthesia Laboratory III	3
ANES	5463	Pharmacology for Anesthesia II	2
ANES	5602	Applied Physiology for Anesthesia Practice II	3
ANES	5802	Instrumentation and Monitoring II	1
ANES	5902	Anesthesia Principles and Practices II	2

ANES	5101	Student Lecture Series I	1
<b>Total Credits</b>			<b>15</b>

Minimum clinical experience: 150 hours (anesthesia rotations in hospital)

<b>Summer—Semester IV Courses</b>			Credits
ANES	5000	Professional Issues in Anesthesiologist Assistant Practice	2
ANES	5002	Clinical Anesthesia II	3
ANES	5304	Anesthesia Laboratory IV	3
ANES	5903	Anesthesia Principle and Practices III	2
ANES	5107	Internship	5
ANES	5603	Applied Physiology for Anesthesia Practice	3
ANES	5102	Student Lecture Series II	1
<b>Total Credits</b>			<b>19</b>

Minimum clinical experience: 144 hours (anesthesia rotations in hospital)

Pediatric Advanced Cardiac Lifesaving will be obtained during this semester.

<b>Clinical Year, Fall—Semester V Courses</b>			Credits
ANES	6001	Clinical Anesthesia III	13
<b>Total Credits</b>			<b>13</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Winter—Semester VI Courses</b>			Credits
ANES	6002	Clinical Anesthesia IV	15
ANES	6110	Anesthesia Review	2
<b>Total Credits</b>			<b>17</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Summer—Semester VII Courses</b>			Credits
ANES	6003	Clinical Anesthesia V	12
<b>Total Credits</b>			<b>12</b>

Minimum clinical experience: 356 hours (anesthesia rotations in hospital)

Curriculum is subject to change as directed by the department.

## M.S. in Anesthesia—Fort Lauderdale Course Descriptions

### **ANES 5000—Professional Issues in Anesthesiologist Assistant Practice**

As providers within the dynamic U.S. health care system, anesthesiologist assistants must possess the ability to exhibit professionalism in a wide range of clinical and nonclinical settings. This course will provide learners with an overview of contemporary and historical practice issues relevant to the anesthesiologist assistant. (2 credits)

### **ANES 5001—Clinical Anesthesia I**

Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. (3 credits)

### **ANES 5002—Clinical Anesthesia II**

This course is a continuation of ANES 5001. Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. (3 credits)

### **ANES 5621—Principle of Airway Management I**

This course will provide an opportunity to learn and appreciate structure, function, pathophysiology, disease, and management of the human airway. The basic and advanced principles of elective and emergent airway management, including equipment and techniques, will be covered. Examination, recognition, techniques, and management involved in pediatric and adult difficult airways will be discussed. Course will correlate with laboratory work for a better understanding and use of bag/mask ventilation, oral and nasal airways, oral and nasal intubation techniques, lightwands, fiberoptic intubations, double lumen tubes, surgical airways, and application of laryngeal mask airway. (2 credits)

### **ANES 5622—Principle of Airway Management II**

This course is a continuation of ANES 5621. This course will provide an opportunity to learn and appreciate structure, function, pathophysiology, disease, and management of the human airway. The basic and advanced principles of elective and emergent airway management, including equipment and techniques, will be covered. Examination, recognition, techniques, and management involved in pediatric and adult difficult airways will be discussed. Course will correlate with laboratory work for a better understanding and use of bag/mask ventilation, oral and nasal airways, oral and nasal intubation techniques, lightwands, fiberoptic intubations, double lumen tubes,

surgical airways, and application of laryngeal mask airway. (2 credits)

### **ANES 5048—Medical Terminology**

This is a self-study, online course. Use of medical language for appropriate and accurate communication in patient care. Course includes terminology and symbols, word formation, body systems and disease terms, abbreviations, and procedures. (1 credit)

### **ANES 5081—Introduction to Clinical Anesthesia**

Prepares and educates the student to work within the anesthesia care team. Introduction to induction, maintenance, and emergence from anesthesia. Includes history of anesthesia, types of anesthesia, universal precautions and infection control, layout of the operating room, sterile fields and techniques, interacting with patients, starting intravenous catheters and arterial cannulae, obtaining arterial blood samples, and application of ASA-standard monitors. Students will use an anesthesia simulator to gain the basic knowledge and usage of monitors. (2 credits)

### **ANES 5107—Internship**

Students will complete 80 hours of internship in an area of interest within a health care organization outside of their regular places of employment. The final product of this internship is an in-depth SWOT analysis of the unit or health care organization. The internship site requires prior Department of Anesthesia faculty member approval. (5 credits)

### **ANES 5301—Anesthesia Laboratory I**

A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

### **ANES 5302—Anesthesia Laboratory II**

This course is a continuation of ANES 5301. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the

monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANES 5303—Anesthesia Laboratory III**

This course is a continuation of ANES 5302. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANES 5304—Anesthesia Laboratory IV**

This course is a continuation of ANES 5303. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANES 5328—ECG for Anesthesiologist Assistants**

This course presents a comprehensive approach to perioperative emergency and advanced cardiac life support, including monitoring, interpretation, and management

of pathologic conditions affecting the circulatory and pulmonary systems. Relevant anatomy, physiology, neurophysiology, pharmacology, and medical equipment will be included. Emphasis is placed on rhythm strip analysis and evidenced-based perioperative applications. (2 credits)

#### **PHS 5400—Physiology**

Clinically relevant physiologic principles of the major organ systems covered in Anatomy. Pathological changes that occur in the human physiology in the disease process. (3 credits)

#### **ANA 5420—Anatomy**

Gross structures of the human body. Integrates topographic and radiographic anatomy to stress the application and importance of clinical anatomy. Develops the knowledge of the human anatomy necessary for the practice of the profession. (5 credits)

#### **ANES 5462—Pharmacology for Anesthesia I**

Emphasizes drugs specifically related to the practice of anesthesia, including inhaled anesthetics, opioids, barbiturates, benzodiazepines, anticholinesterases and anticholinergics, neuromuscular blockers, adrenergic agonists and antagonists, nonsteroidal anti-inflammatory drugs, antidysrhythmics, calcium channel blockers, diuretics, anticoagulants, antihistamines, and antimicrobials. (2 credits)

#### **ANES 5463—Pharmacology for Anesthesia II**

This course is a continuation of ANES 5462. Emphasizes drugs specifically related to the practice of anesthesia, including inhaled anesthetics, opioids, barbiturates, benzodiazepines, anticholinesterases and anticholinergics, neuromuscular blockers, adrenergic agonists and antagonists, nonsteroidal anti-inflammatory drugs, antidysrhythmics, calcium channel blockers, diuretics, anticoagulants, antihistamines, and antimicrobials. (2 credits)

#### **ANES 5601—Applied Physiology for Anesthesia Practice I**

This course offers pathophysiology in a systems approach—cardiovascular, pulmonary, renal, neuro, metabolic, and endocrine. It emphasizes hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/pH, and maternal and fetal physiology. The course also emphasizes those systems that affect evaluation and planning for anesthesia and that are affected by the administration of anesthesia. (3 credits)

#### **ANES 5602—Applied Physiology for Anesthesia Practice II**

This course is a continuation of ANES 5601, which offers pathophysiology in a systems approach—cardiovascular, pulmonary, renal, neuro, metabolic, and endocrine. It

emphasizes hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/pH, and maternal and fetal physiology. The course also emphasizes those systems that affect evaluation and planning for anesthesia and that are affected by the administration of anesthesia. (2 credits)

#### **ANES 5801—Principles of Instrumentation and Patient Monitoring I**

Practical principles, application, and interpretation of various monitoring modalities including ECG, invasive and noninvasive blood pressure, oximetry, cardiac output, respiratory gas analysis, respiration, and instrumentation as they pertain to anesthesia practice. Also includes intraoperative neurophysiology monitoring, temperature, renal function, coagulation/hemostasis, neuromuscular junction, transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (2 credits)

#### **ANES 5603—Applied Physiology for Anesthesia Practice III**

This course is a continuation of ANES 5602, which offers pathophysiology in a systems approach—cardiovascular, pulmonary, renal, neuro, metabolic, and endocrine. It emphasizes hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/Ph, and maternal and fetal physiology. The course also emphasizes those systems that effect evaluation and planning for anesthesia and that are affected by the administration of anesthesia. (3 credits)

#### **ANES 5802—Instrumentation and Monitoring II**

This course is a continuation of ANES 5801. Practical principles, application, and interpretation of various monitoring modalities, including ECG, invasive blood pressure, oximetry, cardiac output, respiratory gas analysis, respiration, and instrumentation, as they pertain to anesthesia practice will be discussed. The course also includes intraoperative neurophysiology monitoring, temperature, renal function, coagulation/hemostasis, neuromuscular junction, transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (1 credit)

#### **ANES 5901—Anesthesia Principle and Practices I**

Principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation. Includes the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

#### **ANES 5902—Anesthesia Principle and Practices II**

This course is a continuation of ANES 5901. Principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation. Includes

the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

#### **ANES 5903—Anesthesia Principle and Practices III**

This course is a continuation of ANES 5901. It discusses the principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation and includes the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

#### **ANES 6001—Clinical Anesthesia III**

Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. (13 credits)

#### **ANES 6002—Clinical Anesthesia IV**

This course is a continuation of ANES 6001. Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. (15 credits)

#### **ANES 6003—Clinical Anesthesia V**

This course is a continuation of ANES 6002. Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. (12 credits)

#### **ANES 6110—Anesthesia Review**

Lectures, required readings, and discussions with faculty members, visiting faculty members, and current residents

on clinical and research topics. Includes correlation of case management and complications. (1 credit)

#### **ANES 6200—Clinical Practice in Anesthesia**

This course is a continuation of ANES 6130. Developed for the student who requires additional clinical training. Developmental skills and foundations of the clinical aspects of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. (12 credits)

#### **MHS 5205—Writing for Medical Publications**

This course provides a study and review of quality medical writing techniques, issues, and procedures with emphasis on cultivating personal style and content. Focus will be on writing for peer- and evidence-based publications. (3 credits)

#### **ANES 5101—Student Lecture Series I**

This course provides the opportunity for students to explore a special topic of interest under the direction of a faculty member. Arrangements are made directly with the appropriate faculty member and the program director. Topic exploration is governed by the needs of the program

and the educational goal of the student. Possible topics involve clinical and nonclinical aspects of the practice of medicine in the United States. (1 credit)

#### **ANES 5102—Student Lecture Series II**

This course is a continuation of ANES 5101. (1 credit)

#### **ANES 5104—Principles of Life Support**

This course provides for the certification of Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). It will focus on the assessment and management of adults, children, and infants in cardiopulmonary crisis. ACLS and PALS certification will be obtained during this semester. (3 credits)

For information about the NSU AA specialization, or to request an AA admissions application packet, please contact the NSU admissions office at

Nova Southeastern University  
Health Professions Division  
Anesthesiologist Assistant  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

(954) 262-1101 or 877-640-0218  
[nova.edu/mhs/anesthesia](http://nova.edu/mhs/anesthesia)

## **Master of Science in Anesthesia—Tampa**

Anesthesiologist Assistants (AAs), also known as anesthetists, are highly educated and skilled allied health professionals who work under the supervision of physician anesthesiologists to develop and implement anesthesia care plans. AAs work exclusively within the anesthesia care team environment as described by the American Society of Anesthesiologists (ASA). AAs possess a premedical background and a baccalaureate degree, and also complete a comprehensive didactic and clinical program at the graduate level. AAs are trained extensively in the delivery and maintenance of quality anesthesia care as well as advanced patient monitoring techniques. The goal of AA education is to nurture the transformation of qualified student applicants into competent health care practitioners who aspire to practice in the anesthesia care team.

The 27-month AA course of study consists of an intensive academic and didactic program that will prepare the student to function within the anesthesia care team. The students will get an extensive clinical training experience that will consist of a minimum of 2,000 clinical hours that encompass all aspects of anesthesia care for the surgical patient. Upon completion of the course of study, students

will have earned a Master of Science in Anesthesia degree from NSU.

Through close, personal interaction with highly qualified faculty members and the latest available anesthesia technology, the first year (semesters 1, 2, 3, and 4) encompasses an in-depth course of study in the fundamentals of anesthesia. Clinical experience during the first year will increase as the year progresses. The didactic curriculum, complemented by simulation learning, will provide the student with the necessary skills to meet the clinical objectives of the curriculum. The senior year (semesters 5, 6, and 7) will consist of clinical rotations assigned in two-week and four-week intervals. During the senior year, clinical rotations are full time and involve all specialty areas in anesthesia, including general surgery, pediatrics, obstetrics and gynecology, otolaryngology, orthopedics, neurosurgery, ophthalmology, genito-urinary surgery, vascular surgery, cardiac surgery, thoracic surgery, transplantation, and trauma. Clinical rotations include days, evenings, nights, weekends, and on-call—depending upon the rotation.



Nova Southeastern University's Master of Science in Anesthesia program will prepare the student for the national certification exam administered by the National Board of Medical Examiners under the auspices of the National Commission for the Certification of Anesthesiologist Assistants. The certification process involves successfully completing the Certifying Examination for Anesthesiologist Assistants for initial certification, registration of continuing medical education credits every two years, and successful completion of the Examination for Continued Demonstration of Qualifications every six years.

### Accreditation

The Master of Science in Anesthesia program at NSU is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP: 25400 U.S. Highway 19 North, Suite 158, Clearwater, Florida 33763, 727-210-2350).

### Mission

The mission of the Master of Science in Anesthesia is to prepare students for lifelong learning and leadership roles that will benefit the health care community. The educational process will be committed to training and educating competent anesthesiologists who will embrace the anesthesia care team to provide safe, quality, and compassionate anesthesia care for all degrees of illness for the surgical patient.

### Vision

The Master of Science in Anesthesia at Nova Southeastern University will provide state-of-the-art educational facilities and environment, which will allow anesthesiologist assistant students to cultivate into health care providers who are driven by compassion and guided by science to provide the best and safest patient care. It will be locally, nationally, and internationally recognized as an authority and primary source for anesthesiologist assistant information and services related to promoting the practice of delivering safe and quality anesthesia as a member of the anesthesia care team. The faculty members and students will be recognized as leaders within the profession through our collective service to the American Academy of Anesthesiologist Assistants (AAAA) and other professional organizations.

The Master of Science in Anesthesia program is dedicated to developing a well-rounded practicing AA. The faculty and current students are dedicated to the following program objectives:

- develop vigilant, knowledgeable, skilled, and compassionate anesthesia care providers who are capable of functioning within the anesthesia care team model in the delivery of all perioperative anesthesia services

- inspire and prepare the future leaders in our profession for service in local, state, and national organizations that shall advance the utilization and practice of anesthesiologist assistants
- advance anesthesiologist assistant education through the application of state-of-the-art technology and evidence-based learning practices that continue to support our student learning objectives
- develop highly skilled, interdisciplinary, and culturally sensitive faculty members who model professionalism and exemplify ethical practice, effective communication, and organizational leadership
- support the mission and goals of Nova Southeastern University, including our department, college, and division, in the provision of scholarship, service, teaching, and patient care

### Admissions Requirements

Prospective M.S. in Anesthesia students are selected by the Committee on Admissions (COA), which considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding of the AA profession and the anesthesia care team, academic performance and level of achievement, life experiences, and recommendations. Personal interviews are offered to the most qualified applicants to assess interpersonal and communication skills, altruistic attitude, maturity, and commitment to the AA profession and anesthesia care team model.

### Other requirements include

1. baccalaureate degree from a nationally recognized and accredited college or university, including above average performance in courses required in a premed curriculum (refer to the following required courses)

### Required

- English (3 semester hours or 4 quarter hours)
- General biology with lab or Anatomy and physiology with lab (6 semester hours or 9 quarter hours)
- General chemistry with lab (6 semester hours or 9 quarter hours)
- Organic chemistry with lab (3 semester hours or 4 quarter hours)
- Biochemistry (3 semester hours or 4 quarter hours)
- General physics with lab (6 semester hours or 9 quarter hours)
- Calculus (3 semester hours or 4 quarter hours)

### Preferred but not required

- Cell and molecular biology (1 semester hour)
- Organic chemistry II (a second semester)

Note: A grade of 2.0 (C) or better is required in all prerequisite classes.

2. official transcripts of all undergraduate and graduate coursework
3. a minimum cumulative GPA of 2.75 on a 4.0 grading scale; minimum GPA of 3.0 preferred
4. Graduate Record Examination (GRE) or Medical College Admissions Test (MCAT) scores (taken within the past five years) taken early enough for official scores to be received by admissions office by the supplemental application due date of February 15

The NSU code number is 5522. GRE information can be obtained from [gre.org](http://gre.org). Information for the MCAT is at [aacmc.org/students/mcat](http://aacmc.org/students/mcat).

5. three letters of recommendation from people familiar with applicant's prior academic performance, potential, character, work habits, and suitability for graduate study leading into a career in clinical practice
6. at least eight hours of documented anesthesia exposure by observation in the operating room
7. summary of an article published in a current anesthesia journal

The applicant who has graduated from a college or university in a country where English is not the primary language, regardless of United States residency status, must have a Test of English as a Foreign Language (TOEFL) score of 600 or higher for the written test (or equivalent score for the computer-based test), an International English Language Testing System (IELTS) score of 6.0, or a Pearson Test of English—Academic (PTE-Academic) score of 54. An official set of scores must be sent to Nova Southeastern University directly from the Educational Testing Service in Princeton, New Jersey.

### Advanced Placement and Transfer of Credits

Because of its highly integrated and compact curriculum, the anesthesiologist assistant (AA) programs require matriculants to complete the entire curriculum at the specified campus. No advanced placement, transfer of credit, or credit for experiential learning will be granted.

### Computer Requirements

All students are required to have a computer with the following minimum specifications:

- Pentium or AMD at 1.00 GHz or equivalent Macintosh processor
- 256 megabytes RAM
- video and monitor capable of 1024 x 768 resolution or better
- CD-ROM drive

- full duplex sound card and speakers
- Internet connection with Internet service provider (DSL, cable, or satellite highly recommended)
- 800 x 600 or higher resolution
- Windows XP or NT or MAC OS or better
- Microsoft Office 2000 with PowerPoint, Word, and Excel minimum
- printer capability

### Application Procedures

Applicants for admission must submit to EPS, or be responsible for submission of

1. a completed application form, along with a \$50, nonrefundable application fee, accepted July 15 to February 15
2. three evaluation forms—supplied in the application package or by request—from supervisors or colleagues, clinical or non-clinical
3. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions
4. all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Anesthesia Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. complete résumé or curriculum vitae

6. copies of national and professional certifications or licenses by a recognized certifying body (if applicable)

7. summary of an article published in a current anesthesia journal (form supplied in application package)

8. evidence of eight hours documented anesthesia exposure (form supplied in application packet)

The Committee on Admissions will not consider an application until all required fees, credentials, transcripts, and evaluations have been received by the EPS.

### Personal Interviews

Once your application is complete, the Committee on Admissions will decide whether or not your application is strong enough to warrant an invitation for a personal interview. Interviews are conducted at the Nova Southeastern University Tampa Campus and are by invitation only. Interviews will be held from October through March. An invitation to interview is not a guarantee of admission. Notice of acceptance or action by the committee on admissions will be on a “rolling” or periodic schedule; therefore early completion of the application is in the best interest of the student.

### Tuition and Fees

Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/chcs/healthsciences/anesthesia/index.html](http://nova.edu/chcs/healthsciences/anesthesia/index.html)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

**1. Acceptance Fee—\$500.** This fee is required to reserve the accepted applicant’s place in the entering first-year class, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant’s acceptance.

**2. Deposit—\$250.** This is due February 15, under the same terms as the Acceptance Fee.

**3. Preregistration Fee—\$250.** This is due April 15, under the same terms as the Acceptance Fee.

The first semester’s tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required to carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

### Jewelry, Body Piercing, and Tattoos

Only appropriate jewelry for professional business attire is permitted. Visible body jewelry, such as rings for the nose, eyebrow, lip, chin, cheek, or tongue, is NOT permitted. Tattoos must be covered by clothing.

### Requirements for Graduation

In order to be eligible to graduate with the Master of Science in Anesthesia degree, students must

- successfully complete all academic and clinical courses and degree requirements
- satisfactorily meet all financial and library obligations
- attend in person the commencement program at which the degree is conferred

## M.S. in Anesthesia—Tampa Curriculum

Start Date	May
Length	27 months
Degree	Master of Science in Anesthesia
Total Credit Hours	114
Total Clinical Hours	2,000

Note: All courses with the MHS prefix will be taken online.

Summer—Semester I Course			Credits
ANET	5048	Medical Terminology	1
ANET	5621	Principles of Airway Management I	2
ANET	5081	Introduction to Clinical Anesthesia	2
ANET	5328	ECG for Anesthesiologist Assistants	2
ANAT	5420	Anatomy	5
PHST	5400	Physiology	3
ANET	5301	Anesthesia Laboratory I	3
<b>Total Credits</b>			<b>18</b>

Fall—Semester II Course			Credits
ANET	5302	Anesthesia Laboratory II	3
ANET	5601	Applied Physiology for Anesthesia Practice I	3
ANET	5462	Pharmacology for Anesthesia I	2
ANET	5901	Anesthesia Principles and Practices I	2
ANET	5622	Principles of Airway Management II	2
ANET	5801	Principles of Instrumentation and Patient Monitoring I	2
ANET	5101	Student Lecture Series I	1
MHS	5205	Writing for Medical Publication	3
ANET	5104*	Principles of Life Support	3
<b>Total Credits</b>			<b>21</b>

\*Basic and Advanced Cardiac Lifesaving and Pediatric Advanced Lifesaving will be obtained during this semester.

Winter—Semester III Courses			Credits
ANET	5001	Clinical Anesthesia I	4
ANET	5463	Pharmacology for Anesthesia II	2
ANET	5303	Anesthesia Laboratory III	3

ANET	5602	Applied Physiology for Anesthesia Practice II	3
ANET	5902	Anesthesia Principles and Practices II	2
ANET	5102	Student Lecture Series II	1
<b>Total Credits</b>			<b>15</b>

Minimum clinical experience: 150 hours (anesthesia rotations in hospital)

<b>Summer—Semester IV Courses</b>			Credits
ANET	5107	Internship	5
ANET	5000	Professional Issues in Anesthesiologist Assistant Practice	2
ANET	5002	Clinical Anesthesia II	3
ANET	5304	Anesthesia Laboratory IV	3
ANET	5602	Applied Physiology for Anesthesia Practice II	2
ANET	5903	Anesthesia Principles and Practices III	2
ANET	5103	Student Lecture Series III	1
<b>Total Credits</b>			<b>18</b>

Minimum clinical experience: 144 hours (anesthesia rotations in hospital)

<b>Clinical Year, Fall—Semester V Course</b>			Credits
ANET	6001	Clinical Anesthesia III	13
<b>Total Credits</b>			<b>13</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Winter—Semester VI Courses</b>			Credits
ANET	6002	Clinical Anesthesia IV	15
ANET	6110	Anesthesia Review	2
<b>Total Credits</b>			<b>17</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Summer—Semester VII Course</b>			Credits
ANET	6003	Clinical Anesthesia V	12
<b>Total Credits</b>			<b>12</b>

Minimum clinical experience: 356 hours (anesthesia rotations in hospital)

Curriculum is subject to change as directed by the department.

## **M.S. in Anesthesia—Tampa Course Descriptions**

### **ANET 5000—Professional Issues in Anesthesiologist Assistant Practice**

As providers within the dynamic U.S. health care system, anesthesiologist assistants must possess the ability to exhibit professionalism in a wide range of clinical and nonclinical settings. This course will provide learners with an overview of contemporary and historical practice issues relevant to the anesthesiologist assistant. **(2 credits)**

### **ANET 5001—Clinical Anesthesia I**

Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. **(4 credits)**

### **ANET 5002—Clinical Anesthesia II**

This course is a continuation of ANET 5001. Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. **(3 credits)**

### **ANET 6001—Clinical Anesthesia III**

This course is a continuation of ANET 5002. Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. **(13 credits)**

### **ANET 6002—Clinical Anesthesia IV**

This course is a continuation of ANET 5003. Developmental skills and foundations of the clinical practice of anesthesia are gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. **(15 credits)**

### **ANET 5101—Student Lecture Series I**

This seminar-style course expands upon previous anesthesia coursework as part of a three-course series. Learners will research topics pertinent to the practice of anesthesia and participate in podium presentations of their findings using visual aids. Through the course activities, learners will develop their oral communications skills and ability to synthesize medical literature. Topics are assigned by the course instructor. **(1 credit)**

### **ANET 5102—Student Lecture Series II**

This course is a continuation of ANET 5101 and will follow the same format. In this second course of the student lecture series, learners will select their own topic of research with guidance from the course instructor. This course will develop the learners' ability to select an appropriate research topic, as well as expand their knowledge of anesthesia. Podium presentations using visual aids are required. **(1 credit)**

### **ANET 5103—Student Lecture Series III**

This course is a continuation of ANET 5102 and will follow the same format. In this third course of the student lecture series, learners will select an anesthesia case and perform a case study analysis. Emphasis will be on the development of reflective learning practices and critical thinking skills. Podium presentations using visual aids are required. **(3 credits)**

### **ANET 5107—Internship**

Students will complete 80 hours of internship in an area of interest within a health care organization outside of their regular places of employment. The final product of this internship is an in-depth SWOT analysis of the unit or health care organization. The internship site requires prior Department of Anesthesia faculty member approval. **(5 credits)**

### **ANET 5621—Principles of Airway Management I**

This course will provide an opportunity to learn and appreciate structure, function, pathophysiology, disease, and management of the human airway. The basic and advanced principles of elective and emergent airway management, including equipment and techniques, will be covered. Examination, recognition, techniques, and management involved in pediatric and adult difficult airways will be discussed. Course will correlate with laboratory work for a better understanding and use of bag/mask ventilation, oral and nasal airways, oral and nasal intubation techniques, lightwands, fiberoptic intubations, double lumen tubes, surgical airways, and application of laryngeal mask airway. **(2 credits)**

### **ANET 5622—Principles of Airway Management II**

This course is a continuation of ANET 5621. This course will provide an opportunity to learn and appreciate structure, function, pathophysiology, disease, and management of the human airway. The basic and advanced principles of elective and emergent airway management, including equipment and techniques, will be covered. Examination, recognition, techniques, and management involved in pediatric and adult difficult airways will be discussed. Course will correlate with laboratory work for a

better understanding and use of bag/mask ventilation, oral and nasal airways, oral and nasal intubation techniques, lightwands, fiberoptic intubations, double lumen tubes, surgical airways, and application of laryngeal mask airway. (2 credits)

#### **ANET 5048—Medical Terminology**

This is a self-study, online course. Use of medical language for appropriate and accurate communication in patient care. Course includes terminology and symbols, word formation, body systems and disease terms, abbreviations, and procedures. (1 credit)

#### **ANET 5081—Introduction to Clinical Anesthesia**

Prepares and educates the student to work within the anesthesia care team. Introduction to induction, maintenance, and emergence from anesthesia. Includes history of anesthesia, types of anesthesia, universal precautions and infection control, layout of the operating room, sterile fields and techniques, interacting with patients, starting intravenous catheters and arterial cannulae, obtaining arterial blood samples, and application of ASA-standard monitors. Students will use an anesthesia simulator to gain the basic knowledge and usage of monitors. (2 credits)

#### **ANET 5301—Anesthesia Laboratory I**

A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANET 5302—Anesthesia Laboratory II**

This course is a continuation of ANET 5301. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and

central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANET 5303—Anesthesia Laboratory III**

This course is a continuation of ANET 5302. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANET 5304—Anesthesia Laboratory IV**

This course is a continuation of ANET 5303. A state-of-the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities—such as pulse oximetry, capnography, and blood pressure monitoring systems—are explored. Laboratory experiments will develop students' understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (3 credits)

#### **ANET 5328—ECG for Anesthesiologist Assistants**

Basic and advanced ECG interpretation using simulators to understand an overview of heart anatomy, function, and neurophysiology. (2 credits)

#### **PHST 5400—Physiology**

Clinically relevant physiologic principles of the major organ systems covered in Anatomy. Pathological changes that occur in the human physiology in the disease process. (3 credits)

### **ANAT 5420—Anatomy**

Gross structures of the human body. Integrates topographic and radiographic anatomy to stress the application and importance of clinical anatomy. Develops the knowledge of the human anatomy necessary for the practice of the profession. (5 credits)

### **ANET 5462—Pharmacology for Anesthesia I**

Emphasizes drugs specifically related to the practice of anesthesia, including inhaled anesthetics, opioids, barbiturates, benzodiazepines, anticholinesterases and anticholinergics, neuromuscular blockers, adrenergic agonists and antagonists, nonsteroidal anti-inflammatory drugs, antidysrhythmics, calcium channel blockers, diuretics, anticoagulants, antihistamines, and antimicrobials. (2 credits)

### **ANET 5463—Pharmacology for Anesthesia II**

This course is a continuation of ANET 5462. Emphasizes drugs specifically related to the practice of anesthesia, including inhaled anesthetics, opioids, barbiturates, benzodiazepines, anticholinesterases and anticholinergics, neuromuscular blockers, adrenergic agonists and antagonists, nonsteroidal anti-inflammatory drugs, antidysrhythmics, calcium channel blockers, diuretics, anticoagulants, antihistamines, and antimicrobials. (2 credits)

### **ANET 5601—Applied Physiology for Anesthesia Practice I**

Pathophysiology in a systems approach—cardiovascular, pulmonary, renal, neuro, metabolic, and endocrine. Emphasizing hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/pH, and maternal and fetal physiology. Also emphasizes those systems that affect evaluation and planning for anesthesia and that are affected by the administration of anesthesia. (3 credits)

### **ANET 5602—Applied Physiology for Anesthesia Practice II**

This course is a continuation of ANET 5601. Pathophysiology in a systems approach—cardiovascular, pulmonary, renal, neuro, metabolic, and endocrine. Emphasizing hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/pH, and maternal and fetal physiology. Also emphasizes those systems that affect evaluation and planning for anesthesia and that are affected by the administration of anesthesia. (3 credits)

### **ANET 5801—Principles of Instrumentation and Patient Monitoring I**

Practical principles, application, and interpretation of various monitoring modalities including ECG, invasive and noninvasive blood pressure, oximetry, cardiac output, respiratory gas analysis, respiration, and

instrumentation as they pertain to anesthesia practice. Also includes intraoperative neurophysiology monitoring, temperature, renal function, coagulation/hemostasis, neuromuscular junction, transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing. (2 credits)

### **ANET 5901—Anesthesia Principles and Practices I**

Principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation. Includes the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

### **ANET 5902—Anesthesia Principle and Practices II**

This course is a continuation of ANET 5901. Principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation. Includes the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

### **ANET 5903—Anesthesia Principles and Practices III**

This course is a continuation of ANES 5902. It discusses the principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation and includes the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. (2 credits)

### **ANET 6001—Clinical Anesthesia III**

Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. (13 credits)

### **ANET 6002—Clinical Anesthesia IV**

This course is a continuation of ANET 6001. Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. (15 credits)



### **ANET 6003—Clinical Anesthesia V**

This course is a continuation of ANET 6002. Encompasses the student's clinical experience in required rotations through all sub-specialty areas of anesthesia. Clinical rotations are assigned in two-week and four-week intervals and will require being on-call during some nights and weekends. Clinical practice of anesthesia is gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Monthly required readings are assigned. Monthly comprehensive examinations are administered. Each course's grade is composed of clinical evaluations and comprehensive examination scores. **(12 credits)**

### **ANET 6110—Anesthesia Review**

Lectures, required readings, and discussions with faculty members, visiting faculty members, and current residents on clinical and research topics. Includes correlation of case management and complications. **(1 credit)**

### **MHS 5103—Principles of Life Support**

Provides for the certification in Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). Courses will focus on assessment and management of adults, children, and infants in a cardiopulmonary crisis. Pediatric and Advanced Cardiac Lifesaving will be obtained during this semester. **(3 credits)**

### **MHS 5205—Writing for Medical Publications**

This course provides a study and review of quality medical writing techniques, issues, and procedures with emphasis on cultivating personal style and content. Focus will be on writing for peer- and evidence-based publications. **(3 credits)**

For information about the NSU AA specialization, or to request an AA admissions application packet, please contact the NSU admissions office at:

Nova Southeastern University  
Health Professions Division  
Anesthesiologist Assistant  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

(954) 262-1101 or 800-356-0026, ext. 21101  
<https://healthsciences.nova.edu/healthsciences/anesthesia>

### **Sources of Additional Information**

Links to non-NSU sites are provided for your convenience and do not constitute an endorsement.

For information on a career as an anesthesiologist assistant, contact:

American Academy of Anesthesiologist Assistants  
1231 Collier Road NW, Suite J  
Atlanta, Georgia 30318  
email: [aaaa@societyhq.com](mailto:aaaa@societyhq.com).  
[anesthetist.org](http://anesthetist.org)

For information on the certification process for anesthesiologist assistants, contact:

National Commission for Certification of  
Anesthesiologist Assistants  
1500 Sunday Drive, Suite 102  
Raleigh, North Carolina 27607  
[aa-nccaa.org](http://aa-nccaa.org)

For information about the anesthesia care team, contact:

American Society of Anesthesiologists  
520 N. Northwest Highway  
Park Ridge, Illinois 60068-2573  
[asahq.org](http://asahq.org)

## Department of Audiology

### Audiology Program Overview

The Department of Audiology offers the Doctor of Audiology (Au.D.) degree program. The postbachelor's, on-campus Au.D. degree program is a 119-credit, rigorous academic curriculum, which combines basic science and professional coursework with applied clinical training. Students acquire their clinical competencies from experiences in diverse practice settings. Faculty members and clinical preceptors mentor students and model professional excellence. After receiving a doctoral degree in audiology, graduates are prepared for all aspects of clinical practice as well as for positions of professional leadership.

The Doctor of Audiology (Au.D.) degree establishes audiologists in a clearly defined and prominent role within the hearing health care delivery system and strengthens their position as autonomous practitioners. The degree provides the academic foundation and diverse clinical experiences necessary to enter professional practice today and in the future. Audiologists specialize in the evaluation, diagnosis, management, and treatment of children and adults of all ages with auditory and vestibular disorders. At Nova Southeastern University, the Audiology Department benefits from the integrated interprofessional health care programs of the university's Health Professions Division. Doctor of Audiology students experience a clinically focused professional doctoral program where students complete a rigorous academic curriculum coupled with extensive clinical experiences.

#### Accreditation

The Department of Audiology is dually accredited by the Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association (ASHA) and the Accreditation Commission for Audiology Education (ACAE). Graduates will have completed the academic and clinical requirements necessary to be eligible to apply for a license as an audiologist, pursue board certification in audiology from the American Board of Audiology, and, if they choose to adhere to the clinical supervisory requirements, the Certificate of Clinical Competence from ASHA.

#### Admissions Requirements

##### Postbaccalaureate Degree

Prospective doctor of audiology students are selected by an admissions committee based on preprofessional academic performance, written application, letters of recommendation, submission of Graduate Record Examination (GRE) scores no older than five years, and a personal interview. Preference will be given to students

with a cumulative grade point average (GPA) of 3.2 or higher.

The Department of Audiology requires that

- prior to matriculation, applicants must have completed a bachelor's degree from a regionally accredited college or university
- all applicants must show evidence of computer skills through coursework or self-study prior to the end of the first term (Students may obtain instruction through the NSU Student Microcomputer Laboratory or other training facilities.)
- all NSU Au.D. students meet the requirements outlined in the *Essential Functions of the Au.D. Student* document upon admission and while matriculating

A course in Normal Language Development is required prior to taking Pediatric Audiology. If a student did not complete this course as an undergraduate, he or she can take it during the Au.D. course of study. However, it will require a separate registration and tuition.

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the Dr. Pallavi Patel College of Health Care Sciences. The college reserves the right, and the student, by his or her act of matriculation, concedes to the college the right to require his or her withdrawal any time the college deems it necessary to safeguard its standards of scholarship, conduct, and compliance with regulations or for such other reasons as are deemed appropriate. The dean and the chair of the Audiology Department reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

#### United Kingdom Program

The NSU Department of Audiology offers a program in the United Kingdom for audiologists with master's degrees in audiology. The Doctor of Audiology (Au.D.) is a clinically focused professional degree. The United Kingdom program is designed for the working professional. The content is designed to augment and expand the academic and professional experience that the working professional has achieved.

- An applicant for the program in the United Kingdom must have completed a master's degree in audiology from a regionally accredited college or university. Students are selected by a committee on admissions based on previous academic performance, written application, and letters of recommendation.

- All applicants must show evidence of computer skills through coursework or self-study prior to the end of the first term. Students may obtain instruction through the NSU Student Microcomputer Laboratory or other training facilities.
- Further information on the programs in the United Kingdom is available at [nova.edu/aud](http://nova.edu/aud).

### Transfer Students

Individuals seeking to transfer to the NSU on-campus, entry-level Doctor of Audiology Program must submit an application and follow the application and admissions process. The Department of Audiology will consider the transfer of up to nine graduate credits from another academic institution. Eligibility for course transfer requires a grade of B or better and must be accompanied by an official course description. Credits must be earned within six years prior to program admission.

### Computer Requirements

All students are expected to have a computer with Microsoft PowerPoint, Word, and Excel software. Some programs used to augment coursework require a computer with the Windows operating system.

### Application Procedures

Applicants for admission must submit or be responsible for submission of

1. a completed application form along with a \$50, nonrefundable application fee
2. three letters of recommendation from professors and/or supervisors (must use the NSU Department of Audiology evaluation form)
3. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions to the following address in its entirety:

Nova Southeastern University  
Enrollment Processing Services  
Department of Audiology Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

4. Graduate Record Examination (GRE) scores (taken within five years of the date of application)

The audiology committee on admissions will not consider an application until all required fees, credentials, test scores, transcripts and recommendations have been received by the Office of Admissions.

Notice of acceptance or action by the committee on admissions will be on a “rolling” or periodic schedule; therefore early completion of the application is in the best interest of the student.

### Personal Interviews

Completed applications are reviewed by the committee on admissions and invitations are extended for a personal interview to those applicants applying for the on-campus, entry-level Au.D. program who meet the initial admission criteria. Interviews for the on-campus postbachelor's degree program are held on campus and provide the student with an opportunity to meet faculty members and students and visit the campus. Virtual interview media is available if necessary.

Inquiries should be directed to

Audiology Admissions Counselor  
Nova Southeastern University  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

Phone: (954) 262-1101  
877-640-0218  
Fax: (954) 262-2282  
[nova.edu/aud](http://nova.edu/aud)

### Tuition and Fees

Payment of tuition and fees is expected at the time of registration. Students receiving financial aid are responsible for making sure that they have completed all applications for financial aid and that it has been granted.

- The annual tuition for 2018–2019 postbachelor's on-campus Doctor of Audiology program (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/aud](http://nova.edu/aud)).

Tuition for the United Kingdom Au.D. (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/aud](http://nova.edu/aud)).

- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- Upon acceptance, students planning to enroll are required to complete an “Intent to Enroll” form with a nonrefundable deposit of \$500. This advance payment will be deducted from the tuition payment due at registration.

The financial ability of applicants to complete their training is important because of the limited number of positions available. Applicants should have specific plans for financing four years of professional education. This should include provision for tuition, living expenses, books, and related expenses.

### Requirements for Graduation

In order to be eligible for the postbachelor's, on-campus Doctor of Audiology degree, each student must

1. satisfactorily complete the 119-credit hour program of study and related clinical placements required for the degree with an overall minimum GPA of 2.7

2. satisfactorily complete the department's knowledge and skills markers
3. fulfill all obligations to the university
4. ensure that all incomplete grades have been removed and passing grades are on file in the registrar's office
5. successfully complete a clinical externship experience
6. apply for a diploma
7. attend the commencement program at which the degree is conferred
8. report Praxis examination score (passing not a degree requirement)

The United Kingdom post-master's degree program is 34 credit hours. Students must successfully complete these credit hour requirements with a grade of 80 percent or better, meet all program and library financial obligations, and apply for a diploma.

### Course of Study: Postbachelor's Program

The Doctor of Audiology degree is awarded after successful completion of four years of professional study. Beginning in the first semester, students are given clinical assignments and experiences. There will be increased clinical involvement throughout the program as students prepare for direct patient care at our clinics and at locations throughout the community.

The fourth year is designed to be a full-time externship work experience that prepares the graduate to enter the profession at graduation. Successful completion of the Doctor of Audiology Program coupled with a passing score on the Praxis Series Examination for Audiology will enable graduates to be licensed and be eligible for professional certification. Additional information can be obtained on our website at [nova.edu/aud](http://nova.edu/aud).

## Curriculum Outline: Postbachelor's Program

### Typical Plan of Study

YEAR 1—Semester 1: Fall			Credit Hours
AUD	5010	Neuroaudiology	2
AUD	5301	Diagnostics I: Audiologic Diagnostic Procedures Across the Life Span	3
AUD	5301L	Diagnostics I Lab	1
AUD	5302	Acoustics and Instrumentation	3
AUD	5304	Anatomy and Physiology of the Auditory and Vestibular Mechanisms	3

YEAR 1—Semester 2: Winter			Credit Hours
AUD	5405	Overview of Amplification I	3
AUD	5405L	Amplification Lab I	1
AUD	6402	Diagnostics II: Site-of-Lesion Assessment	2
AUD	6402L	Diagnostics II Lab	1
AUD	6404	Auditory and Vestibular Pathologies	4
AUD	6408	Auditory Processing Evaluation and Treatment	2

<b>YEAR 1—Semester 3: Summer</b>			Credit Hours
AUD	5070	Research Methods in Audiology I: Introduction	3
AUD	5303	Psychoacoustics and Speech Perception	2
AUD	5402	Introduction to Auditory Electrophysiology	3
AUD	5403L	Electrophysiology Lab	1
AUD	5404	Introduction to Vestibular Evaluation	3
AUD	5410	Navigating the Audiology Professional Landscape	1
AUD	6510	Clinic I	1

<b>YEAR 2—Semester 1: Fall</b>			Credit Hours
AUD	6406	Overview of Amplification II	3
AUD	6406L	Amplification Lab II	1
AUD	7079	Ethics, Coding, and Reimbursement for Audiology	2
AUD	7130	Pediatric Audiology	3
AUD	6511	Clinic II	2

<b>YEAR 2—Semester 2: Winter</b>			Credit Hours
AUD	6504	Implantable Hearing Technologies	2
AUD	6508	Tinnitus Evaluation and Management	2
AUD	7120	Advanced Auditory Electrophysiology	3
AUD	7075	Counseling in Audiology	3
AUD	6512	Clinic III	2

<b>YEAR 2—Semester 3: Summer</b>			Credit Hours
AUD	7160	Advanced Vestibular Evaluation and Treatment	3
AUD	6310	Adult Audiology Rehabilitation	2
AUD	6502	Hearing Conservation	2
AUD	6520	Audiology in an Interprofessional Health Care Model	1
AUD	7607	Internship I	3

<b>YEAR 3—Semester 1: Fall</b>			Credit Hours
AUD	7100	Advanced Seminar in Amplification	2
AUD	7135	Pediatric Aural (Re)Habilitation	2
AUD	7195	Clinical Grand Rounds in Audiology	3
AUD	7031	Geriatric Audiology	1
AUD	7608	Internship II	3

<b>YEAR 3—Semester 2: Winter</b>			Credit Hours
AUD	7050	Audiologic Research Methods II: Applications	3
AUD	7071	Biochemistry and Pharmacology for Audiologists	2
AUD	7080	Practice Management for Audiology	3
AUD	7165	Vestibular Specialty Seminar (elective)	3
AUD	7613	Internship III	3

<b>YEAR 3—Semester 3: Spring</b>			Credit Hours
AUD	7610	Externship I	8

<b>YEAR 4—Semester 1: Fall</b>			Credit Hours
AUD	7611	Externship II	8

<b>YEAR 4—Semester 2: Winter</b>			Credit Hours
AUD	7612	Externship III	8

**Postbachelor's Program Total Credit Hours: 119**

## **Curriculum Outline: UK Program**

Courses Required for UK Degree Program

			Credit Hours
AUD	7050	Research Methods II: Applications	3
AUD	7071	Biochemistry and Pharmacology for Audiology	2
AUD	7030	Aging and the Auditory/Vestibular System	3
AUD	7075	Counseling in Audiology	3
AUD	7161	Genetics of Hearing Impairment	3
AUD	7101	Advanced Seminar in Amplification	3
AUD	7130	Pediatric Audiology	3
AUD	7121	Advanced Auditory Electrophysiology	3
AUD	7160	Advanced Vestibular Evaluation and Treatment	3
AUD	7181	Diagnostics III: Integration of Audiologic Test Results	3
AUD	7081	Business Management and Leadership	3
AUD	6504	Implantable Hearing Technologies	2

**Total Credit Hours: 34**

## **Audiology Course Descriptions**

### **AUD 5010—Neuroaudiology**

This course provides an introduction to the gross structure of the brain and spinal cord and the functional relationship of their parts, with emphasis on the auditory and vestibular peripheral and central nervous systems. (2 credits)

### **AUD 5070— Research Methods I: Introduction**

This course will provide students the opportunity to learn about and discuss the importance of outcomes measurement and clinical research in audiology. Students locate information, evaluate the rigor of the source and document, and synthesize the professional literature on a topic of their choosing. (3 credits)

### **AUD 5301—Diagnostics I: Audiologic Diagnosis Across the Life Span**

This course covers the components of the basic audiologic examination, including, but not limited to, case history, otoscopy, pure tone threshold evaluation, speech threshold evaluation, speech recognition evaluation, classical site-of-lesion tests, basic immittance, test result interpretation, and test battery interpretation. Audiologic screening and procedural modifications for special populations including pediatrics will also be discussed. Hypothetical cases will be presented. (3 credits)

### **AUD 5301L—Diagnostics I Lab**

This lab is designed to provide an opportunity for students to practice audiological evaluation methods. Students will conduct components of the basic audiological examination, including, but not limited to, case history, otoscopy, pure-tone air and bone threshold evaluation, speech audiometric testing, basic immittance, masking procedures, and test interpretation. (1 credit)

### **AUD 5302—Acoustics and Instrumentation**

Students will study properties of sound and conduct sound analyses. They will also learn about and conduct audiometric calibration procedures. (3 credits)

### **AUD 5303—Psychoacoustics and Speech Perception**

Students will study normal human auditory sensation and perception. Changes in auditory sensation and perception that occur as a function of sensorineural hearing loss, and their implications for hearing aid processing, audiologic evaluation, and treatment will be discussed. (2 credits)

### **AUD 5304—Anatomy and Physiology of the Auditory and Vestibular Mechanisms**

This course will provide detailed study of the anatomy and physiology of the outer ear, middle ear, inner ear, and central auditory pathways. The vestibular peripheral system and the vestibular CNS pathways are described. (3 credits)

### **AUD 5402—Introduction to Auditory Electrophysiology**

Basic procedures for acquiring and interpreting auditory electrophysiologic tests are discussed. This course describes the use of auditory brainstem-evoked response testing for threshold and neuro-otologic diagnosis. (3 credits)

### **AUD 5403L—Introduction to Electrophysiology Lab**

This lab supplements AUD 5402 and AUD 5404, providing students with practical assignments. (1 credit)

### **AUD 5404—Introduction to Vestibular Evaluation**

Basic procedures and interpretation for vestibular assessment, including electro/videonystagmography and bedside evaluations, are discussed. (3 credits)

### **AUD 5405—Overview of Amplification I**

This course is designed to provide an introduction to amplification. The content of this course includes historical perspectives on amplification; functions and features of amplification systems and their components; methods of fitting; verification; and analyses of these systems. The course also includes basic concepts in counseling. (3 credits)

### **AUD 5405L—Amplification Lab I**

This lab supplements AUD 5405, providing students with practical assignments. (1 credit)

### **AUD 5410—Navigating the Audiology Professional Landscape**

Students will be introduced to professional issues encountered in audiology clinical settings and improving clinical boundaries between the doctor and patient, as well as unique situations that arise in the clinical setting. (1 credit)

### **AUD 6310—Adult Audiologic Rehabilitation**

This course focuses on audiological intervention and remediation strategies for adults and elderly individuals with auditory communication handicaps. Emphasis will be placed on the importance of a multiprofessional approach. (2 credits)

### **AUD 6402—Diagnostics II Site-of-Lesion Assessment**

This course is designed to review basic immittance testing and introduce advanced immittance testing, acoustic reflex and reflex decay testing procedures, formula masking, and otoacoustic emissions. Case studies will be utilized. (2 credits)

### **AUD 6402L—Diagnostics II Laboratory**

This lab is designed to develop student competency with audiology test procedures, such as immittance, masking, and otoacoustic emissions. (1 credit)

**AUD 6404—Auditory and Vestibular Pathologies**

Students will study pathologies affecting the conductive, sensory, neural, and balance mechanisms. Methods for their differential diagnosis will be discussed. Case studies will be reviewed. (4 credits)

**AUD 6406—Overview of Amplification II**

In this course, the student begins to integrate theoretical and practical concepts of fitting and verification. Components and features available on contemporary hearing instruments are presented. (3 credits)

**AUD 6406L—Amplification Lab II**

This lab supplements AUD 6406, providing students with practical assignments. (1 credit)

**AUD 6408—Auditory Processing Evaluation and Treatment**

This course is designed to introduce students to auditory processing evaluation and treatment. Anatomy and physiology of the central auditory nervous system will be discussed. Tests for the evaluation of auditory processing and patterns of delay will be presented. (2 credits)

**AUD 6502—Hearing Conservation**

Students will study the impact of noise from a physiological perspective. Students will study, conduct, and interpret noise surveys. Various service delivery models from industry, schools, military, and other sites will be discussed. The basic elements of an effective hearing conservation program will be discussed. The relevant legislation mandating such programs will be presented. (2 credits)

**AUD 6504—Implantable Hearing Technologies**

This course is designed to provide students with an understanding of different implantable auditory devices for adults and children. Information covered in class will include, but is not limited to, candidacy for implantation, basic understanding of the surgery and surgical risks of implants, pre- and post-audiometric test measures to determine benefit, programming, and troubleshooting. (2 credits)

**AUD 6508—Tinnitus Evaluation and Management**

This course is designed to introduce students to tinnitus evaluation and treatment. Anatomy and physiology of the central auditory nervous system and associated subcortical and cortical structures are presented. Past and emerging theories on tinnitus will be discussed. The evaluation and treatment of both subjective and objective tinnitus will be presented. (2 credits)

**AUD 6510—Clinic I**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or documentation is required. (1 credit)

**AUD 6511—Clinic II**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or documentation is required. (2 credits)

**AUD 6512—Clinic III**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or documentation is required. (2 credits)

**AUD 6520—Audiology in an Interprofessional Health Care Model**

Students will be introduced to interprofessional practice through learning about different health care providers and their respective professional backgrounds to provide comprehensive health care for individuals, families, caregivers, and communities. Students will work through a variety of clinical cases, taking on the roles of the different service providers through a problem-based learning approach. (1 credit)

**AUD 7030—Aging and the Auditory/Vestibular System**

United Kingdom Program Only: Students will be provided with an overview of gerontology with emphasis given to differentiation between the normal aging process and pathological changes related to auditory and vestibular disorders. (3 credits)

**AUD 7050—Research Methods II: Applications**

Students will study research design, data collection, analysis, and evaluation. The ability to comprehend, analyze, and critically evaluate professional literature will be emphasized. Students will design clinically based research to test a clinical hypothesis or document treatment effectiveness. (3 credits)

**AUD 7071—Biochemistry and Pharmacology for Audiology**

The biochemistry of the ear will be described, and with that as a foundation, the mechanisms, side effects, drug interactions, and toxicity of these drugs will be examined. (2 credits)

**AUD 7075—Counseling in Audiology**

This course is designed to explore theories of counseling related to the management of individuals with auditory and vestibular disorders. Different approaches for interacting with patients and their families, individually and in groups, will be addressed. (3 credits)

**AUD 7079—Ethics, Coding, and Reimbursement for Audiology**

Students will be introduced to evaluation, treatment, and diagnosis codes relative to audiology practice. Third party reimbursement policies, procedures, and guidelines will be discussed. (2 credits)



**AUD 7080—Practice Management for Audiology**

In this course, students examine basic principles involved in the development and management of audiology practice within the framework of different models of health care delivery. Legal and ethical issues in practice management will be discussed. (3 credits)

**AUD 7081—Business Management and Leadership**

United Kingdom Program Only: In this course, students examine basic principles involved in the development and management of audiology practice within the framework of different models of health care delivery. Legal and ethical issues in practice management will be discussed. (3 credits)

**AUD 7100—Advanced Seminar in Amplification**

This course is designed to provide advanced information on the theoretical and practical concepts of fitting, verification, and analyses of amplification systems. Counseling techniques are discussed. (2 credits)

**AUD 7101—Advanced Seminar in Amplification**

United Kingdom Program Only: This course is designed to provide advanced information on the theoretical and practical concepts of fitting, verification, and analyses of amplification systems. (3 credits)

**AUD 7120—Advanced Auditory Electrophysiology**

Students will study cochlear physiologic and auditory neurophysiologic evaluation procedures, including evoked responses for all latencies and otoacoustic emissions. Interpretation of test results will be discussed in relation to underlying anatomy and physiology. (3 credits)

**AUD 7121—Advanced Auditory Electrophysiology**

United Kingdom Program Only: Students will study auditory neurophysiologic evaluation procedures, including evoked responses for all latencies and otoacoustic emissions. Interpretation of test results will be discussed in relation to underlying anatomy and physiology. (3 credits)

**AUD 7130—Pediatric Audiology**

This course is designed to provide a review of normal and abnormal auditory development in children. Audiologic assessment, management, and treatment of neonates, infants, and young children will be discussed. Evaluation procedures for the difficult-to-test patient will be explored. (3 credits)

**AUD 7135—Pediatric Audiologic (Re)Habilitation**

This course details the aspects related to the provision of audiologic rehabilitation services to children with hearing loss. It includes such topics as models of information processing during communication, development of auditory speech and language skills in children with hearing loss, provision of effective counseling and guidance to families, and provision of assessment and intervention services for the development of speech and language skills in the home and school environments. (3 credits)

**AUD 7160—Advanced Vestibular Evaluation and Treatment**

Students will study the anatomy and physiology of the peripheral and central vestibular mechanisms and the integration of the human equilibrium system. Disorders of vestibular function will be studied. Vestibular evaluation procedures will be presented. Vestibular rehabilitation and balance therapy programming and therapy techniques will be discussed and evaluated. (3 credits)

**AUD 7161—Genetics of Hearing Impairment**

United Kingdom Program Only: Students will study the basic concepts of genetics and its relation to hearing loss. They will also learn about the hereditary syndromes and birth defects associated with hearing impairments. Additionally, they will gain knowledge about audiologic counseling and interpretation of genetic data. (3 credits)

**AUD 7180—Diagnostics III: Integration of Audiologic Test Results**

United Kingdom Program Only: Students will study advanced auditory evaluation with an emphasis on integration of audiologic test results leading to management and treatment strategies. (3 credits)

**AUD 7194—Clinical Grand Rounds in Audiology**

Students critically analyze and present cases that require integration of information from throughout the curriculum. (3 credits)

**AUD 7607—Internship I**

Off-campus placement in hospital, agency, or private practice setting(s). Students must meet the schedule required by the facility to which they are assigned. Supervisory meetings are scheduled periodically. (3 credits)

**AUD 7608—Internship II**

Off-campus placement in hospital, agency, or private practice setting(s). Students must meet the schedule required by the facility to which they are assigned. Supervisory meetings are scheduled periodically. (3 credits)

**AUD 7610—Externship I**

Full-time placement in an audiology externship position. (8 credits)

**AUD 7611—Externship II**

Full-time placement in an audiology externship position. (8 credits)

**AUD 7612—Externship III**

Full-time placement in an audiology externship position. (8 credits)

**AUD 7613—Internship III**

Off-campus placement in hospital, agency, or private practice setting(s). Students must meet schedule required by facility to which they are assigned. Supervisory meetings are scheduled periodically. (3 credits)

## Department of Health and Human Performance

### Master of Science in Athletic Training Overview

#### Accreditation Status

The Athletic Training Program (ATP), established in 2003, is accredited by the Commission on Accreditation of Athletic Training Education (CAATE), effective March 2007. The CAATE provides peer review of the programs educational content based on educational standards adopted by national medical and health professional organizations.

- The American Academy of Family Physicians
- The American Academy of Pediatrics
- The American Orthopedic Society for Sports Medicine
- The Commission on Accreditation of Athletic Training Education
- The National Athletic Trainers Association

These organizations have cooperated to establish, maintain, and promote appropriate standards for quality for educational programs in athletic training and to provide recognition for exceptional programs. These standards and interpretations can be found at *caate.net*.

#### Admissions Requirements

Students with bachelor's degrees in any academic area can be considered for admission to the MSAT program. The requirements for admission are as follows.

1. A bachelor's degree from a regionally accredited college or university or an approved degree credentialing agency for international students.
2. Application and admission to Nova Southeastern University (\$50 non-refundable application fee).
3. Candidates must submit required documents to Athletic Training Centralized Application System (ATCAS) (\$85 for first application, \$45 each additional program). For this part of the admissions process, candidates are individually reviewed by the MSAT Admissions Committee as NSU considers each applicant in terms of his or her potential for success in the program.
4. Application materials will be evaluated on a rolling admissions process to ATCAS beginning February 1st and will conclude no later than May 15th. A curriculum vita/résumé, personal statement of professional and education goals, three recommendation forms/letters, official transcripts from all colleges and universities that include prerequisite courses, 50 hours of observational experience with a Certified Athletic Trainer. (Submitted using the NSU MSAT Observational Experience Form.)

5. GRE (Graduate Record Examination) scores from the ETS (Educational Testing Service) no later than January 31 of the entry year. Scores must meet the minimum of 140 on the verbal and 140 on the quantitative section. The admission committee will not consider the application until the official GRE scores are received. GRE scores must be less than five years old.

6. Successful completion of a professional interview with the NSU MSAT Admissions Committee. These online interviews are only offered to students who meet all application requirements.

7. A minimum of 2.75 cumulative grade point average (GPA) as well as a minimum of 3.0 prerequisite and science GPA, and a grade of C or better on all prerequisite courses. Students must complete all prerequisite courses prior to successfully matriculating to the MSAT program. Final transcripts must be submitted prior to matriculation.

#### Prerequisite Courses

Course Title	Semester Hours
Psychology.....	3
Statistics.....	3
Biology with lab .....	4
Anatomy and Physiology with lab (anatomy and physiology may be combined or separate) .....	8
Chemistry with lab .....	4
Physics with lab.....	4
Kinesiology/Biomechanics.....	3
Exercise Physiology.....	
Nutrition.....	3
Health/Wellness.....	3

All applications will be reviewed on a case-by-case basis. Selection for a professional interview does not guarantee admission to the program. Admission decisions will be made at the conclusion of the interview process.

#### Background Checks

As per PCHCS student handbook, accepted applicants and students are required to authorize the NSU Health Professions Division to obtain background check(s) as per adopted policy of March 2011. If the background check(s) reveal information of concern, which the NSU

Health Professions Division may deem unfavorable, HPD will request that the individual provide a detailed written explanation of the information contained in this report, along with appropriate documentation (e.g., police reports). Students may also be required to authorize clinical training facilities that they are assigned to by the Health Professions Division to obtain a background check with the results reported to the clinical training facility. Offers of admission will not be considered final until the completion of the background check(s), with results deemed favorable by the NSU Health Professions Division, and where appropriate, by the clinical training facilities. If information received indicates that the student has provided false or misleading statements, has omitted required information, or in any way is unable to meet the requirements for completion of the program, then the admission may be denied or rescinded, the student may be disciplined or dismissed, or his or her enrollment may be terminated.

Acceptance to an NSU Health Professions Division program does not guarantee that a student with information of a concern will be accepted by clinical training facilities to which they may be assigned. Following the initial background check(s), students will be asked annually to provide a certification relating to any convictions or guilty or no-contest pleas to any criminal offense other than traffic violations. Additionally, a Level 2 background check may be required of students completing certain rotations.

### Computer Requirements

All students are required to have a computer with the following minimum specifications:

- Pentium or AMD at 1.00 GHZ or equivalent Macintosh processor
- 256 MB RAM
- video and monitor capable of 1024 X 768 resolution or better
- CD-ROM drive
- full duplex sound card and speakers
- internet connection with Internet service provider (DSL, cable, or satellite highly recommended)
- Windows XP or NT or MAC OS or better
- Microsoft Office 2000 or newer with PowerPoint, Word, and Excel minimum
- printer capability

### Technical Standards

The technical standards set forth by the ATP establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills,

and competencies of an entry-level Athletic Trainer, as well as meet the expectations of the CAATE. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not progress through the program. Compliance with the program's technical standards does not guarantee a student's eligibility for the BOC exam.

Candidates for selection to the MSAT must demonstrate all of the following technical standards:

1. the mental capacity to assimilate, analyze, synthesize, integrate concepts and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm
2. sufficient postural and neuromuscular control, sensory function, and coordination to perform appropriate physical examinations using accepted techniques. And, accurately, safely, and efficiently use equipment and materials during the assessment and treatment of patients.
3. the ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds. This includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice.
4. the ability to record the physical examination results and a treatment plan clearly and accurately
5. the capacity to maintain composure and continue to function well during periods of high stress
6. the perseverance, diligence, and commitment to complete the ATP as outlined and sequenced
7. flexibility and the ability to adjust to changing situations and uncertainty in clinical situations
8. affective skills and appropriate demeanor and rapport that relate to professional education and quality patient care

MSAT applicants will be required to verify they understand and meet these technical standards or that they believe that, with certain accommodations, they can meet the standards. NSU's Office of Disability Services ([nova.edu/disabilityservices](http://nova.edu/disabilityservices)) will evaluate a student who states he /she could meet the program's technical standards with accommodation and confirm that the stated condition qualifies as a disability under applicable laws

### Application Procedures

The Master of Science in Athletic Training uses the Athletic Training Centralized Application System (ATCAS) and the NSU Supplemental Application

System. All application materials must be submitted using these two systems.

1. Submit application to NSU (\$50 non-refundable application fee).
2. Submit all required documents to ATCAS (\$85 for first application, \$45 each additional program).
3. Application materials will be evaluated on a rolling admissions process to ATCAS beginning February 1st and will conclude no later than May 15th.
4. An online interview will be offered to students who meet all application requirements.
5. Admission to the MSAT program will be contingent upon successful completion of all requirements and will be reviewed by the Athletic Training Admissions Committee.

### Dual Admission Program

Dual Admission for the MSAT is a four plus two-year combined program in which students follow a four-year course of study with any undergraduate major. This includes completion of a bachelor's degree with the appropriate prerequisites required by the Athletic Training Program. Students will receive the MSAT degree after successfully completing all undergraduate and graduate degree requirements. More information can be found on the NSU website at: [nova.edu/undergraduate/academics/dual-admission](http://nova.edu/undergraduate/academics/dual-admission).

### Tuition and Fees

While a majority of the costs for equipment, lab supplies, and learning materials are covered through student tuition and fees, there are additional costs that are the financial obligation of the students enrolled in the ATP. A summary of those costs is available on the program website; however, this list is neither exhaustive nor exclusive to all student financial obligations.

### Requirements for Graduation

In order to be eligible to graduate from the MSAT, students shall

1. successfully complete all academic and clinical courses and degree requirements with a minimum 3.0 cumulative GPA or better
2. have satisfactorily met all financial and library obligations
3. attend in person the commencement program

### The Athletic Training Student Organization (ATSO)

The purpose of the Nova Southeastern University Athletic Training Student Organization is to provide opportunities for ongoing professional development and interaction with Allied Health Care Professionals for those interested in the field of Athletic Training and Sports Medicine. This organization will be affiliated with the Nova Southeastern University (NSU) Athletic Training Education Program.

## Master of Science in Athletic Training Curriculum Outline

First Year—Summer Semester			Credits
ATTR	5100	Emergency Medicine	9
ATTR	5200	Intro to Athletic Training	3
<b>Total Credits</b>			<b>12</b>

First Year—Fall Semester			Credits
ATTR	5310	Orthopedic Evaluation I	4
ATTR	5500	Nutrition and Performance	3
ATTR	5410	Therapeutic Interventions I	4
ATTR	5610	AT Clinical Experience I	2
<b>Total Credits</b>			<b>13</b>

<b>First Year—Winter Semester</b>			Credits
ATTR	5320	Orthopedic Evaluation II	4
ATTR	5700	Evidence Based Practice	3
ATTR	5420	Therapeutic Interventions II	4
ATTR	5620	AT Clinical Experience II	2
<b>Total Credits</b>			<b>13</b>
<b>Second Year—Summer Semester</b>			Credits
ATTR	6100	Medical Pathologies	3
ATTR	5330	Orthopedic Evaluation III	3
ATTR	5430	Therapeutic Interventions III	3
ATTR	6110	Pharmacology	3
ATTR	5630	AT Clinical Experience III	1
<b>Total Credits</b>			<b>13</b>
<b>Second Year—Fall Semester</b>			Credits
ATTR	6120	Diagnostic Imaging	1
ATTR	6300	Medical Documentation	2
ATTR	6610	AT Clinical Experience IV	6
<b>Total Credits</b>			<b>9</b>
<b>Second Year—Winter Semester</b>			Credits
ATTR	6200	Health Care Administration	3
ATTR	6400	Behavioral Medicine	3
ATTR	6130	Clinical Medicine Procedures	2
ATTR	6700	Professional Practice and Clinical Reasoning	2
ATTR	6620	AT Clinical Experience V	2
<b>Total Credits</b>			<b>12</b>
<b>Total Hours</b>			<b>72</b>

## Master of Science in Athletic Training Course Descriptions

### ATTR 5100—Emergency Medicine

This course is designed to prepare students to perform the skills necessary to function as both an Emergency Medical Technician–Basic and an Athletic Trainer (EMT-B; AT). This includes all the skills necessary for the individual to provide emergency medical care at the basic life support level with an ambulance service or other specialized service such as athletic training. Students will learn to recognize emergent situations, care for and transport critical and emergent patients as part of an emergency medical team consistent with Emergency Medical Technician-Basic: National Standard Curriculum. Orientation to the specific systems with which the EMT-Basic and Athletic Trainer will be affiliated will be included. **Prerequisite:** Admission to the MSAT. (9 credits)

### ATTR 5200—Introduction to Athletic Training

This course will focus on the basic concepts of the prevention and recognition of athletic injuries and treatment procedures for proper management of athletic injuries based on current evidence. Students will also be instructed in the application of taping, wrapping, and other protective equipment. Additionally, students will learn about the governing bodies and associated documents of the athletic training profession. **Prerequisite:** Admission to the MSAT. (3 credits)

### ATTR 5310—Orthopedic Evaluation I

This course will focus on the recognition, assessment, treatment and appropriate medical referral of athletic injuries and illnesses of the lower extremities. Heavy emphasis will be placed on the clinical skills. **Prerequisite:** ATTR 5100 and ATTR 5200 (4 credits)

### ATTR 5320—Orthopedic Evaluation II

This course will focus on the recognition, assessment, treatment and appropriate medical referral of athletic injuries and illnesses of the upper extremities. Heavy emphasis will be placed on the clinical skills. **Prerequisite:** ATTR 5310 and ATTR 5610 (4 credits)

### ATTR 5330—Orthopedic Evaluation III

This course will focus on the recognition, assessment, treatment and appropriate medical referral of athletic injuries and illnesses of the head, spine, and thorax. Heavy emphasis will be placed on the clinical skills. **Prerequisite:** ATTR 5320 and ATTR 5620 (3 credits)

### ATTR 5410—Therapeutic Interventions I

This course will encompass therapeutic interventions during the acute phase of healing. Students will learn about basic therapeutic interventions used to promote optimal healing conditions, manage discomfort, and

minimize discomfort including infrared modalities and exercise. **Prerequisite:** ATTR 5100 and ATTR 5200 (4 credits)

### ATTR 5420—Therapeutic Interventions II

This course will encompass therapeutic interventions during the fibroblastic repair phase of healing. Students will learn common surgical techniques, identify patient and clinician outcomes, and develop a more thorough understanding of the use of therapeutic interventions in clinical practice. **Prerequisite:** ATTR 5410 and ATTR 5610 (4 credits)

### ATTR 5430—Therapeutic Interventions III

This course will encompass therapeutic interventions during the maturation and remodeling phase of healing. Students will learn to incorporate gait, posture, biomechanics, and ergodynamics to address needs of the patients. In addition, the use of manual therapies, including joint mobilization, therapeutic massage, myofascial release, and muscle energy techniques to restore mobility and pain management will be emphasized. Students will assess rehabilitation progress and criteria for return to participation. **Prerequisite:** ATTR 5420 and ATTR 5620 (3 credits)

### ATTR 5500—Nutrition and Performance

This course addresses the nutritional needs for general health maintenance, exercise progression programming, recovery from exercise and healing from injury. Management and recognition of disordered eating and eating disorders will also be addressed. The exercise element portion of performance will include appropriate exercise testing and developing an appropriate program design for physical maintenance. **Prerequisite:** ATTR 5100 and ATTR 5200 (3 credits)

### ATTR 5610—Athletic Training Clinical Experience I

This course will focus on field experiences and the application of learned principles from athletic training clinical skills specifically related to equipment intensive sports. Students will be directly supervised by a preceptor and given the opportunity to practice learned skills in the clinical setting. **Prerequisite:** ATTR 5100 and ATTR 5200 (2 credits)

### ATTR 5620—Athletic Training Clinical Experience II

This course will focus on field experiences and the application of learned principles from athletic training clinical skills specifically related to upper and lower extremity sports. Students will be directly supervised by a preceptor and given the opportunity to practice learned skills in the clinical setting. **Prerequisite:** ATTR 5610 (2 credits)

### **ATTR 5630—Athletic Training Clinical Experience III**

This course will focus on field experiences and the application of learned principles from athletic training clinical skills specifically related to non-orthopedic conditions. Students will be directly supervised by a preceptor and given the opportunity to practice learned skills in the clinical setting. **Prerequisites:** ATTR 5620 (1 credit)

### **ATTR 5700—Evidence Based Practice**

This course will focus on the fundamentals of evidence-based practice including clinical decision making based on available research studies and the selection and appraisal of literature according to specific criteria that yield evidence of benefit. **Prerequisites:** ATTR 5610 (3 credits)

### **ATTR 6100—Medical Pathologies**

This course will focus on the recognition, assessment, treatment and appropriate medical referral of general medical conditions related to each body system including congenital and acquired abnormalities of physically active individuals. Heavy emphasis will be placed on the related clinical skills. **Prerequisite:** ATTR 5310, ATTR 5320, and ATTR 5620 (3 credits)

### **ATTR 6110—Pharmacology**

This course will focus on the application of pharmacological principles and drug classifications pertinent to the treatment of athletic injuries. There will be a focus on the use and effects of drugs and of the disease states treated by these drug categories. Additionally, the role of the athletic trainer regarding the therapeutic use and effects of these drugs will be included in the course. **Prerequisite:** ATTR 5310, ATTR 5320, and ATTR 5620 (3 credits)

### **ATTR 6120—Diagnostic Imaging**

This course will allow the student to learn how to read and understand diagnostic imaging. This will include describing the basic principles, the different ways of testing, and their role in the diagnostic process. **Prerequisite:** ATTR 6100, ATTR 6110, and ATTR 5630 (1 credit)

### **ATTR 6130—Clinical Medicine Procedures**

This course will provide the opportunity for the student to learn clinical medicine procedures including intravenous, injections, blood draws, medication administration, applying staples and sutures, casting, and orthotics. **Prerequisite:** ATTR 6610 and ATTR 6120 (2 credits)

### **ATTR 6200—Health Care Administration**

This course will focus on the concepts of legal liability, budget/financial and personnel management, marketing, public relations, inventory control, facility design/development/maintenance, and administration of

allied-health care programs. Additionally, the day-to-day supervision, scheduling and provision of services to athletes and other physically active individuals offered in the athletic training room, health-care facilities and other venues will be addressed. **Prerequisite:** ATTR 6610 (3 credits)

### **ATTR 6300—Medical Documentation**

This course will focus on professional documentation standards which will include SOAP notes, International Classification of Diseases, 10th Edition (ICD-10), Electronic Medical Record including Allscripts. The students will learn how to be effective documenters in the health care profession. **Prerequisite:** ATTR 6100, ATTR 6110, and ATTR 5630 (2 credits)

### **ATTR 6400—Behavioral Medicine**

This course will examine the knowledge and skill necessary for recognition, assessment, and appropriate medical referral for psychosocial healthcare. Further, this course will emphasize concepts of emotional health, as well as motivation and psychological support as part of a comprehensive patient care plan. **Prerequisite:** ATTR 6610 (3 credits)

### **ATTR 6610—AT Clinical Experience IV**

This course will focus on an immersive clinical experience and the application of learned principles from athletic training clinical skills. Students will be directly supervised by a preceptor and given the opportunity to practice learned skills in the clinical setting. **Prerequisite:** ATTR 5630 (6 credits)

### **ATTR 6620—AT Clinical Experience V**

This course will focus on a variety of field experiences and the application of learned principles from athletic training clinical skills. Students will be directly supervised by a preceptor and given the opportunity to practice learned skills in the clinical setting. **Prerequisites:** ATTR 6610 (2 credits)

### **ATTR 6700—Professional Practice and Clinical Reasoning**

The student will learn the application of patient oriented evidence into a comprehensive plan of care using outcomes and evidence supported methodology. Students will apply concepts of critical analysis of peer reviewed research culminating in an evidence-based project. **Prerequisites:** ATTR 5700 and ATTR 6610 (2 credits)

## Department of Health Science

### Department of Health Science Overview

The Department of Health Science is an interdisciplinary group of programs designed for health professionals with the desire to advance academically, administratively, or clinically within their profession. Offering distance education from the undergraduate to the doctoral level is consistent with the university's and college's commitment to lifelong learning. The department offers the Bachelor of Health Science (B.H.Sc.) and Master of Health Science (M.H.Sc.) Programs in an exclusively online format. The department also offers two innovative doctoral programs. The Doctor of Health Science (D.H.Sc.) and the Ph.D. in Health Science programs are offered via online and intense compressed residential format. These are postprofessional degrees targeted at health professionals trained at the master's degree level. These programs attract active clinicians, clinician administrators, and health professions educators. A combined M.H.Sc./D.H.Sc. degree is an option also available.

The department also houses two preeminent, on-campus, entry-level programs. The Bachelor of Science in Cardiovascular Sonography is located at our Tampa, Florida, location. The Bachelor of Science in Medical Sonography is offered on our main campus in the greater Fort Lauderdale, Florida, area. Both programs are supported by state-of-the-art teaching laboratories and both programs offer a concurrent enrollment in the Master of Health Science program to qualified applicants.

- **Bachelor of Health Science (B.H.Sc.)**—online
- **Bachelor of Science—Cardiovascular Sonography (B.S.)**—entry-level, on-campus, Tampa
- **Bachelor of Science—Medical Sonography (B.S.)**—entry-level, on-campus, Fort Lauderdale
- **Master of Health Science (M.H.Sc.)**—online
- **Accelerated Dual Admission M.H.Sc/D.H.Sc.**—online with some residency requirements
- **Doctor of Health Science (D.H.Sc.)**—online with some residency requirements
- **Doctor of Philosophy (Ph.D.) in Health Science**—online with some residency requirements

Upon successful completion of the B.H.Sc. program, students are eligible to apply for admission to continue their education in health sciences in the Master of Health Science (M.H.Sc.) program and, later, the Doctor of Health Science (D.H.Sc.) or the Ph.D. in Health Science program. Each of these programs is an online degree program, with the M.H.Sc. having no residency requirement and the D.H.Sc. having a requirement for students to complete two one-week summer institutes.

#### Computer Requirements

All students in the department are required to have access to a desktop or laptop computer meeting the minimum requirements listed below:

- a recent generation of Microsoft Windows (7, 8, or above) or Apple OS (10.8 or above)
- compatible Microsoft Office software to include Word, Powerpoint, and Excel
- headphones, microphone, camera, and video conferencing capabilities
- Internet broadband access
- recommended: surge protection and appropriate back-up options

Tablets and smartphones, while very useful, may not be sufficient for all program uses. Additional minimum computer requirements can be found at <https://www.nova.edu/publications/it-standards>.



## Master of Health Science Program for Health Professionals

The Master of Health Science (M.H.Sc.) Program is a distance education program designed to provide health professionals with the theoretical and academic training necessary to enhance career mobility and professional advancement.

Health professionals practicing today in urban and rural communities throughout the nation are highly recognized as valuable members of the health care team who make quality care more accessible while reducing costs. These health care professionals are playing a prominent and respected role in providing community medical service. An increasing number of employers are seeking master's-level, academically prepared professionals to fill expanded roles that include clinical specialization, health education, research, and health care administration.

The M.H.Sc. didactic curriculum provides education in a variety of health related topics. The practical component of the program will be tailored to the individual interest and goal of the graduate student. Under faculty guidance, students will demonstrate increased understanding in their chosen area of study.

The M.H.Sc. program is designed for working nonphysician clinicians and health professionals who have graduated from an accredited health program, as well as health care managers and administrators.

### Admissions Requirements

The Department of Health Science Committee on Admissions considers the overall qualities of the applicant. Areas of consideration include personal motivation, quality and length of prior health care experience, academic performance and level of achievement, life experiences, and personal recommendations. The M.H.Sc. Program will admit clinical and administrative health care professionals with diverse undergraduate and professional education, health care work history, health care administrative experience, and life experiences who have a demonstrated capacity to pursue a rigorous course of master's degree study and increasingly responsible positions in the health care arena.

Prospective M.H.Sc. students are selected by considering the overall qualities of the applicant through application content, academic performance and level of achievement, prior clinical health care experience or one to three years of responsible administrative health care experience, life experiences, letters of evaluation, and personal motivation. In special circumstances, a personal interview may be required. Prior to matriculation into the program, applicants must hold a bachelor's degree from a regionally accredited college or university with a minimum cumulative grade point average (GPA) of 2.75 or higher on a 4.0 scale.

**Prior clinical health care experience or one–three years of health administrative experience is required.** The M.H.Sc. is a postprofessional degree designed for health practitioners, clinicians, and administrators from a wide variety of disciplines. **The commonality exhibited by our students is one–three years of responsible health care administrative managerial or supervisory experience and/or the practice of a recognized health occupation that requires registration, certification, or licensure.** The successful applicant's health professional experience emphasizes the delivery of clinical services to individuals (e.g., physician assistant, physical therapist, dental hygienist, registered nurse, vascular sonographer, radiology technician, respiratory therapist, etc.). The successful applicant's health administrative experience includes individuals who act as professional administrators in a variety of health care settings.

Applicants who qualify under the clinical health professional pathway will document their eligibility through state and/or national registration, certification, or licensure in a clinical health field. Applicants who qualify under the health administration pathway will document their experience with an organizational chart showing their position in a health care organization and a letter of reference from a supervisor attesting to their experience and level of responsibility. Administrative applicants will submit a 500 to 1,000 word essay describing their personal and career goals.

The university reserves the right to modify any requirement on an individual basis as deemed necessary by the dean of the Dr. Pallavi Patel College of Health Care Sciences.

In order to be considered for admission, applicants must submit the following prior to matriculation:

- official transcripts of all coursework attempted at all colleges and universities must be forwarded, by institutions attended, to the Enrollment Processing Services, Master of Health Science Program

It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
M.H.Sc. Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

- completion of a bachelor's degree from a regionally accredited allied health program with a minimum cumulative grade point average of 2.75 or higher on a 4.0 point scale
- national professional certification or licensure (if applicable)

- current state license, registration, or certification (if applicable)
- two letters of evaluation from supervising physicians or managers (Additional letters of recommendation are encouraged.)

To be eligible for consideration for admission, applicants applying under the administrative pathway must have a minimum of three years of verifiable managerial experience in health care administration. This experience should be readily identifiable on the applicant's résumé. A letter of recommendation from the applicant's current supervisor detailing the applicant's length and level of managerial experience must be submitted with the application.

A personal interview with the committee on admissions may be required in some cases (phone interview may be substituted).

All interview expenses are the responsibility of the applicant.

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the Dr. Pallavi Patel College of Health Care Sciences.

The college reserves the right, and the student, by his or her act of matriculation, concedes to the college the right to require his or her withdrawal any time the college deems it necessary to safeguard its standards of scholarship, conduct, and compliance with regulations or for such other reasons as are deemed appropriate.

The dean and M.H.Sc. program director reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

### Tuition and Fees

Tuition for academic year 2018–2019 will be posted on our website ([healthsciences.nova.edu/healthsciences/mhs/tuition.html](http://healthsciences.nova.edu/healthsciences/mhs/tuition.html)). An NSU student services fee of \$1,350 is required annually. Tuition waivers and discounts for NSU students and staff and faculty members will be in accordance with published policy and administered through the dean of the Dr. Pallavi Patel College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice. Master of Health Law courses offered through the Shepard Broad College of Law cost \$545 per credit hour.

### Application Procedures

The M.H.Sc. program provides admission opportunities throughout the year. Applications may be submitted year round.

Once accepted, a start date will be assigned to the student after personal advisement. There are four start dates per year: January, April, July, and October. The student has a maximum of three years from the start date to complete the degree course of study and apply for the M.H.Sc. degree. Before the applicant can be reviewed for possible admission, the following must be submitted:

- a completed M.H.Sc. application form
- a \$50, nonrefundable application fee
- official transcripts of all coursework attempted at all colleges and universities must be forwarded, by institutions attended, to the Enrollment Processing Services, Master of Health Science Program Admissions.

It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

- a final official transcript, covering all of the applicant's work, must be forwarded to the Office of Admissions prior to matriculation
- two letters of evaluation from professional supervisors  
These evaluators, preferably supervising clinicians, should know the applicant's personal character and scholastic, clinical, and work abilities. (An applicant to the Health Care Leadership concentration must submit a letter from his or her supervisor documenting the applicant's level of experience/responsibility as a health care administrator/manager.)
- official copies of all professional certifications, registrations, licenses or relevant credentialing materials
- complete CV or résumé

All documents must be received at least one month prior to the anticipated start date and must be sent to the address below.

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences,  
M.H.Sc. Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

In special circumstances, a personal interview with members of the committee on admissions may be requested or required. A phone interview may be substituted. Upon the receipt of the completed application and required credentials, the Department of Health Science committee on admissions will recommend to the dean and the M.H.Sc. program director those applicants to be considered for acceptance into the program.

## Foreign Coursework

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

## Graduate Certificate Programs

The M.H.Sc. program offers graduate certificates in Clinical Research Associate and Clinical Trial Manager.

The criteria for admission to the graduate certificate programs is identical to those for the M.H.Sc. program found previously in this section.

### Graduate Certificate in Clinical Research Associate

The Graduate Certificate in Clinical Research Associate is designed for not only health care professionals seeking to enter or gain knowledge in the rapidly expanding field of health care clinical research, but also for those that have degrees in various disciplines in science that are seeking employment in the field of clinical research. It consists of the following courses, totaling 15 credit hours:

- MHS 5904—Research Ethics (3 credits)
- MHS 6002—Clinical Trial Process (3 credits)
- MHS 6003—Legal, Safety, and Regulatory Compliance and Best Practices (3 credits)
- MHS 6604—Reporting Clinical Trial Results in Different Media and Externship (3 credits)
- MHS 6605—Clinical Trial Conduct (3 credits)

### Graduate Certificate in Clinical Trial Manager

The Graduate Certificate in Clinical Trial Manager is designed for not only health care professionals seeking to enter or gain knowledge in the rapidly expanding field of health care clinical research, but also for those that have degrees in various disciplines in science that are seeking employment in the field of clinical trial management. It is meant for individuals who have completed the Clinical Research Associate Graduate Certificate and consists of the following courses, totaling 12 credit hours:

- MHS 5540—Enterprise Risk Management (3 credits)
- MHS 5541—Health Care Systems and Conflict (3 credits)
- MHS 5908—Applied Statistics (3 credits)
- MHS 6607—Clinical Trial Manager (3 credits)

## Nondegree-Seeking Application Procedures/Policy

A nondegree-seeking student is one who wishes to take one or more courses in the Master of Health Science program and, at the time of application, does not intend to seek the Master of Health Science degree.

Nondegree-seeking students must submit

1. a completed M.H.Sc. application form along with a \$50, nonrefundable application fee
2. official college, certificate, and/or diploma-based transcripts from all undergraduate institutions attended, sent directly from the institution to EPS (This includes official documentation of receiving a bachelor's degree from a regionally accredited college/university. A minimum GPA of 2.75 on a 4.0 grading scale is required in the applicant's bachelor's degree.)
3. one letter of recommendation from an individual (other than a relative or friend), such as a supervisor or a community associate.

Due to the limited number of seats available in the program, preference for admission and registration priority will be given to degree-seeking students. Nondegree-seeking students can take a maximum of 9 credits of M.H.Sc. coursework. Enrollment in these courses as a nondegree-seeking student does not guarantee acceptance into the M.H.Sc. program or any other NSU program.

If, after taking classes in the M.H.Sc. program, a nondegree-seeking student decides to pursue the M.H.Sc. degree, the student must resubmit an application as a degree-seeking student. The applicant must meet **ALL** of the admissions requirements for the M.H.Sc. degree program. A nondegree-seeking student who, after taking M.H.Sc. courses, decides to apply as a degree-seeking student, may request transfer credit for courses taken as a nondegree-seeking student, in accordance with the credit transfer policy of the M.H.Sc. program.

## Requirements for Graduation

To be eligible to receive the M.H.Sc. degree, students shall

- be of good moral character
- satisfactorily complete the program of 37 hours (minimum) of study required for the degree with an average grade of B or a GPA of 3.0 on a 4.0 scale
- successfully complete the M.H.Sc. practicum
- receive a recommendation by the M.H.Sc. program director to the dean of the Dr. Pallavi Patel College of Health Care Sciences

Graduation ceremony attendance is not a requirement for distance education students. It is, however, an option that the department encourages and that takes place once a year (in August).

Students with a cumulative GPA of 3.74 or higher are eligible to receive the degree with honors. Students with a cumulative GPA of 4.0 are eligible to receive the degree with high honors.

## Course of Study

The M.H.Sc. Program requires a minimum of 37 semester hours of study to be completed. This includes required core courses. All students are required to have individualized curriculum advisement upon acceptance.

Transfer of up to 6 credit hours of acceptable graduate study is permitted upon approval. These graduate courses must have a grade of B or better and must be approved by the M.H.Sc. program director and dean of the Dr. Pallavi Patel College of Health Care Sciences. The dean reserves the right to require, in special cases, more than the minimum of 37 semester hours. Transferred courses cannot have been credited toward a previous degree.

Classes are organized and based on accepted distance learning designs and formats.

## Continuous Enrollment

The program requires students to enroll in at least one course per semester for the duration of their M.H.Sc. studies. If a student needs to take a semester off during the academic year, a formal request for a leave of absence shall be submitted to the program director and will be subject to approval.

## Continuing Services

The program is designed to be completed in three years. Continuing services fees will be imposed after 36 months in the program. All students must finish the program within five years of the date of acceptance, or they will be dismissed. After the 36th month in the program, students will be enrolled in continuing services at a cost of \$990 per semester.

## Curriculum Outline—Master of Health Science Program

The curriculum involves completion of a minimum of 37 credit hours that must be completed in each of the two categories of courses (didactic and practical). There is some flexibility in curriculum design to accommodate students' overall interests, employment, and educational goals. Educational counseling and advisement is always available to assist in the planning and registration process.

### Generalist Curriculum Courses

Required Core Courses (18 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5530	Principles and Practice of Management in Health Care	3

<b>Elective Courses*</b> (9 credits—choose three courses)			Credits
MHS	5026	Human Trafficking for Health Care Professionals	3
MHS	5112	Bioterrorism and Weapons of Mass Destruction	3
MHS	5211	Contemporary Issues in Nutrition	3
MHS	5400	Directed Studies	1–9
MHS	5541	Health Care Systems and Conflict	3
MHS	5542	Health Care Education	3
MHS	5543	Educational Theories and Psychology	3
MHS	5544	Curriculum and Instruction in Health Care	3
MHS	5545	Assessment and Evaluation in Health Care	3
MHS	5546	Health Care Finance	3
MHS	5535	Issues in Health Care Leadership	3
MHS	5537	Health Care Leadership Quality Assurance/Risk Management	3
MHS	5538	Patient Safety Compliance in Health Care	3
MHS	5539	Health Care and Regulatory Compliance	3
MHS	5540	Enterprise Risk Management	3
MHS	5611	Firearms, Fingerprints, and Other Impression Evidence	3
MHS	5612	Forensic Analysis of Trace and Drug Evidence	3
MHS	5613	Crime Scene	3
MHS	5614	Technology That Revolutionized Criminal Investigations	3
MHS	5615	Overview of Crime Laboratory Management	3
MHS	5801	Applied Anatomy for Kinesiology	3
MHS	5802	Sports Injury Rehabilitation Principles	3
MHS	5810	Certified Strength and Conditioning Specialist Preparation	3
MHS	5904	Research Ethics	3
MHS	5906	Communication Skills for Academics	3
MHS	5908	Applied Statistics	3
MHS	5991	Quantitative Research Methods	3
MHS	5992	Qualitative Research Methods	3
<b>Practical Courses</b> (10 credits)			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

\*Any course that is not considered a core course in the generalist curriculum can be used as an elective, with the exception of Health Law Concentration courses.

## Concentrations in the Master of Health Science Program

The M.H.Sc program offers several concentrations: sports medicine; higher education; health law; forensic investigative technology; leadership in health care; health care risk management, patient safety, and compliance; and bioethics. The internship and practicum must be completed in the area of concentration. There are no electives in the concentrations.

### Sports Medicine Concentration Curriculum

Core Courses (15 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (12 credits)			Credits
MHS	5211	Contemporary Issues in Nutrition	3
MHS	5801	Applied Anatomy for Kinesiology	3
MHS	5802	Sports Injury Rehabilitation Principles	3
MHS	5810	Certified Strength and Conditioning Specialist Preparation	3

Practical Courses (10 credits)			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

### Higher Education Concentration Curriculum

Core Courses (15 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

<b>Concentration Courses (12 credits)</b>			Credits
MHS	5542	Health Care Education	3
MHS	5543	Educational Theories and Psychology	3
MHS	5544	Curriculum and Instruction in Health Care	3
MHS	5545	Assessment and Evaluation in Health Care	3

<b>Practical Courses (10 credits)</b>			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

### **Health Law Concentration Curriculum**

This concentration is offered through a partnership with the NSU Shepard Broad College of Law. **Students in this concentration should consider themselves in a locked-step schedule.**

<b>Core Courses (15 credits)</b>			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5530	Principles and Practice of Management in Health Care	3

<b>Concentration Courses</b> (18 credits offered through the Shepard Broad College of Law)			Credits
MHL	1045	Patients' Rights and Health Care Ethics	2
MLAW	1035	Professional Communication	2
MLAW	1036	Legal Foundations	3
MHL	2021	Pharmaceutical Law	2
MHL	2030	Law of Risk Management	2
MLAW	1020	Legal Research Methods and Reasoning	3
MHL	1090	Law of Accreditation and Licensing	2
MHL		Elective	2

<b>Practical Courses (10 credits)</b>			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

\*includes a 1-credit, on-campus institute

## Forensic Investigative Technology Concentration Curriculum

This concentration will provide specialization training in the burgeoning field of forensic investigation. Students will be exposed to investigative and analysis techniques used during criminal investigations. Completing this concentration requires 40 credits, as detailed below. **All courses are delivered and organized as distance learning.**

Core Courses (15 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (15 credits)*			Credits
MHS	5611	Firearms, Fingerprints, and Other Impression Evidence	3
MHS	5612	Forensic Analysis of Trace and Drug Evidence	3
MHS	5613	Crime Scene	3
MHS	5614	Technology That Revolutionized Criminal Investigations	3
MHS	5615	Overview of Crime Laboratory Management	3

\*Courses are cross-listed with Criminal Justice Institute courses CJI 6111, CJI 6112, CJI 6113, CJI 6114, and CJI 6115.

Practical Courses (10 credits)			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

## Concentration for Recognition

In order to gain recognition in the Forensic Investigative Technology concentration of the M.H.Sc. program, the student must complete all five concentration courses for 15 total hours. Those completing the concentration will be recognized with appropriate credentials. If you have any questions of how this may apply to your M.H.Sc. completion, contact the program or your academic adviser for assistance.

## Leadership in Health Care Concentration Curriculum

This concentration will provide specialization training to meet the increasing demand for qualified leaders in the health care industry's growing field of leadership in health care. Beginning in the winter of 2010, M.H.Sc. distance students will have the option of completing electives or a concentration in Leadership in Health Care. Completing this concentration requires 37 credits, as detailed below.

Core Courses (12 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3



MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (15 credits)			Credits
MHS	5530	Principles of Management in Health Care	3
MHS	5541	Health Care Systems and Conflict	3
MHS	5546	Health Care Finance	3
MHS	5535	Issues in Health Care Leadership	3
MHS	5537	Health Care Leadership QA/RM	3

Practical Courses (10 credits)			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

### Concentration for Recognition

In order to gain recognition in the Leadership in Health Care concentration of the M.H.Sc. program, the student must complete all five concentration courses for 15 total hours. Those completing the concentration will be recognized as such with appropriate credentials. If you have any questions of how this may apply to your M.H.Sc. completion, contact the program or your academic adviser for assistance.

### Health Care Risk Management, Patient Safety, and Compliance Concentration Curriculum

This concentration is designed for health care professionals seeking to enter, or be promoted in, the rapidly expanding field of health care risk management, patient safety, and compliance. The courses in this concentration will prepare graduates with the skills and background necessary to reduce medical errors, control adverse events, and implement a quality improvement and patient safety initiative. Completing this concentration requires 37 credits, as detailed below.

Core Courses (12 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5501	Epidemiology and Biostatistics	3

Concentration Courses (15 credits)			Credits
MHS	5530	Principles of Management in Health Care	3
MHS	5537	Health Care Leadership Quality Assurance/Risk Management	3
MHS	5538	Patient Safety Compliance in Health Care	3
MHS	5539	Health Care and Regulatory Compliance	3
MHS	5540	Enterprise Risk Management	3

<b>Practical Courses (10 credits)</b>			Credits
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

### **Concentration for Recognition**

In order to gain recognition in the Health Care Risk Management, Patient Safety, and Compliance concentration of the M.H.Sc. program, the student must complete all 5 concentration courses for 15 total hours. Those completing the concentration will be recognized as such with appropriate credentials. If you have any questions of how this may apply to your M.H.Sc. completion, contact the program or your academic adviser for assistance.

### **Clinical Research Concentration Curriculum**

This concentration is designed for health care professionals who are involved with clinical research or who desire to enter the field of clinical research. This concentration will also be of benefit to those graduate students who desire to go on to a Ph.D. program. The courses in this concentration will prepare graduates with the skills and background necessary to apply statistical data, apply the principles of qualitative or quantitative research, and present research findings through the thesis process. Students must complete all 39 credits, as detailed below.

<b>Core Courses (12 credits)</b>			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3

<b>Concentration Courses (15 credits)</b>			Credits
MHS	5904	Research Ethics	3
MHS	5906	Communication Skills for Academics	3
MHS	5908	Applied Statistics	3
MHS	5991	Quantitative Research Methods	3
MHS	5992	Qualitative Research Methods	3

<b>Practical Courses (12 credits)</b>			Credits
MHS	5995	Thesis I	3
MHS	5996	Thesis II	3
MHS	5997	Thesis III	3
MHS	5998	Thesis IV	3

### Concentration for Recognition

In order to gain recognition in the Clinical Research concentration of the M.H.Sc. program, the student must complete all five concentration courses for 15 total hours, as well as 12 hours of practical coursework. Those completing the concentration will be recognized as such with appropriate credentials. If you have any questions of how this may apply to your M.H.Sc. completion, contact the program or your academic adviser for assistance.

### Bioethics Concentration Curriculum

This concentration is designed for those allied health professionals who want to be prepared for full participation in medical-ethical decision making. The study of ethical theory and application is an important feature of professional development for the master's degree-prepared allied health professional. **Note:** All courses are delivered and organized as distance learning. Students must complete all 42 credits as detailed below.

Core Courses (12 credits)			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (20 credits)			Credits
MHS	5904	Research Ethics	3
MHS	5526	Advanced Topics in Health Care Ethics	3
MHS	5527	Neurobiology Issues in Medical Ethics	3
MHS	5528	Technological Advances in Medicine and the Impact on Ethics	3
DHS	8040	Professional and Health Care Ethics	4
DHS	8045	The Influence of Ethics and Culture on Global Health	4

Practical Courses (10 credits)			Credits
MHS	5309	U.S. Health Care Policy	5
MHS	5207	Practicum	5

### Concentration for Recognition

In order to gain recognition in the Bioethics concentration of the M.H.Sc. program, the student must complete all six concentration courses for a total of 20 total hours, as well as the four core courses (12 hours) and the 10 hours of practical coursework as outlined above. Those completing the concentration will be recognized as such with appropriate credentials. If you have any questions of how this may apply to your M.H.Sc. completion, contact the program or your academic adviser for assistance.

## Master of Health Science Course Descriptions

### Didactic Core Component Courses

#### Required Courses

#### MHS 5003—Current Trends and Cultural Issues in Health Care

This course serves to familiarize the student with current trends and cultural issues in health care that may impact the patient, the health care system, or the ability to deliver high-quality health care. Discussion and analysis of current and cultural topics facing those who work in health care will be explored. (3 credits)

#### MHS 5026—Human Trafficking for Health Care Professionals

Human trafficking involves sexual or labor exploitation of a person through force, fraud, and coercion for any type of gain. The World Health Organization (WHO) reported that human trafficking victims endure chronic physical, sexual, and emotional violence from their exploiters and experience communicable diseases from their living conditions, sexually transmitted diseases from their work conditions, and mental health issues from their exploitation. (WHO, 2014) In 2015, the American Public Health Association identified human trafficking as a public health problem in the United States. This course will raise awareness of human trafficking in the United States and internationally; increase the knowledge of the signs and symptoms of trafficked individuals; and provide action steps health care professionals can utilize when trafficked individuals are identified in hospitals, urgent care centers, community health centers, and mental health settings. (3 credits)

#### MHS 5203—Writing for Allied Health Professionals

This course entails the study and practice of the writing style used in allied health—scientific writing. Scientific writing is a different format than other kinds of writing used as an undergraduate. It is more precise and succinct, which is different from the way we speak to each other. Scientific writing is written for an audience, with the purpose of informing, or possibly persuading, the audience. American Psychological Association (APA) style and standard English formatting will be reviewed. The papers written in this course will give the student a foundation for all MHS courses. (3 credits)

#### MHS 5501—Epidemiology and Biostatistics

The ability to understand the conceptual and practical aspects of biostatistics and epidemiology in health care is critical to understanding research and analyzing population data about disease. This survey course will improve the ability of the student to understand and apply these concepts. (3 credits)

#### MHS 5510—Research Methods

This course is designed to enable participants to develop skills in reading and critically evaluating published research by using the scientific model. The advantages and disadvantages of quantitative and qualitative research methods will be compared and contrasted. Research articles will be collaboratively analyzed to develop an appreciation of potential methodological problems and their implications for evidence-based professional practice. (3 credits)

#### MHS 5521—Ethical Issues in Health Care

The student will examine the ethical issues that confront health care providers and patients. The medical scientific, moral, and socioeconomic bases of these issues and the decision-making processes that providers and patients engage in are analyzed. Topics will include informed and voluntary consent, the role of institutional review boards, euthanasia, the allocation of scarce resources. (3 credits)

#### MHS 5530—Principles and Practice of Management in Health Care

This course will discuss the various principles of management and its associated issues as they relate to the modern health care professional. The course will explore topics such as concepts of organizational management, decision making, strategic planning, resource management and allocation, conflict, and the concept of power. (3 credits)

#### MHS 6002—Clinical Trial Process

This course provides students with the crucial aspects of the overall clinical trial process. Students will become familiar with the rationale for clinical trials, key terminology and processes associated with clinical trials, the design of clinical trials, and key plans and documents used in the conduct of clinical trials. The course will draw upon historical examples and codes, declarations, and other sources of regulation and trial conduct guidance, along with practical examples of trial design and management documentation. (3 credits)

#### MHS 6003—Legal, Safety, Regulatory Compliance, and Best Practices

This course provides students with the foundational knowledge of legal and regulatory compliance and best practices for the conduct of a clinical trial. It will also introduce the role of quality assurance, quality management systems, and standard operating procedures (SOPs). The aim is to familiarize students with the various jurisdictional regulations, guidance required of a practitioner in the area of clinical trials, and checks and balances in place to ensure compliance. The course will include lecture, case studies, and use of online reading assignments. (3 credits)

**MHS 6004—Reporting Clinical Trial Results in Different Media and Externship**

This course provides students with the foundational knowledge and practice cases on medical writing regulatory submissions, general management, and communication skills required during the conducting of clinical trials. The course will include lecture; case studies; and student participation in presentations, role play assignments, and written reports. (3 credits)

**MHS 6005—Clinical Trial Conduct**

The course takes students through the conduction of a clinical trial. The ultimate goal of the course is to have students become knowledgeable with the functions performed by a clinical research associate (CRA) during a clinical trial. Students will comprehend the various segments of clinical trials and the multiple duties and responsibilities involved in each. The course will incorporate online delivery of lectures, selected case studies, and the utilization of online technological learning aides. (3 credits)

**MHS 6007—Clinical Trial Manager**

This course provides students who have completed the clinical research associate certificate program with additional knowledge and understanding of the role and skills required of a clinical trial manager. This course will include lecture; case studies; and student participation in presentations, role play assignments, and written reports. (3 credits)

**Elective Courses****MHS 5103—Principles of Advanced Life Support**

Introduction to the accepted principles of the advanced life support measures used in adult medical, traumatic, and pediatric emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the clinician in developing the skills required to stabilize patients with life-threatening conditions. (3 credits)

**MHS 5112—Bioterrorism and Weapons of Mass Destruction**

Students will review the effects of warfare and bioterrorism on populations, with emphasis on low-intensity conflict and dispersion of chemical and biological weapons in populated areas. Discussions will be devoted to the ecological, sociological, environmental, and general health effects. (3 credits)

**MHS 5211—Contemporary Issues in Nutrition**

Covers a variety of general concepts and contemporary discussions in the area of nutrition as it applies to personal health. Many of the concepts learned in this course can be applied to the patient counseling and advisement health care professionals are asked to perform. (3 credits)

**MHS 5400—Directed Studies**

This course provides the opportunity for students to explore a special topic of interest under the direction of a faculty member. Arrangements are made directly with the appropriate faculty member and the program director. Topic exploration is governed by the needs of the program and the educational goals of the student. Possible topics involve clinical and non-clinical aspects of the practice of medicine in the United States. (1–9 credits)

**MHS 5535—Issues in Health Care Leadership**

This course requires the student to solve a simulated problem facing a simulated health care organization, addressing its impact on all aspects of the health care institution. Students will describe their leadership philosophy based on recognized leadership theory and how this will play a role in achieving an effective solution to the proposed problem. The course will employ interactive technology to disseminate information on the weekly evolution of the simulated problem. The course culminates in a detailed analysis of the problem, which includes proposed solutions for corrective and preventive measures, potential intended and unintended consequences, and evidence of the student's leadership philosophy. (3 credits)

**MHS 5537—Health Care Leadership Quality Assurance/Risk Management**

The student will examine health care quality assurance and risk management in the United States and the methods that are utilized to achieve improvements in health care organizations. Upon completion of this course, the student will be prepared to implement continuous quality improvement and performance improvement in management and performance systems by interpreting and understanding of data available to devise, generate, and apply quality performance improvement programs. (3 credits)

**MHS 5541—Health Care Systems and Conflict**

This introductory course will assist learners to blend conflict-resolution theories, models, and skills into realistic strategies that can be used in a health care setting. The attitudes, knowledge, and skills from this course can be applied to those who deliver, receive, and manage health care. The strategies will be applicable to working with diverse populations, including people with different cultural backgrounds, genders, personalities, positions of power, and agendas. Types of negotiation strategies in order to move toward a collaborative situation will also be addressed. (3 credits)

**MHS 5542—Health Care Education**

This course explores the various theories and applications of adult education in the practice of training, preprofessional education, and postprofessional education of medical personnel. Critical analysis of the different methods of teaching and training health care professionals is accomplished through discussion, research, investigation, journal development, and assignments. (3 credits)

**MHS 5543—Educational Theories and Psychology**

This course explores the history and evolution of educational theories and their role in the development of curriculum and instruction related to health care education. (3 credits)

**MHS 5544—Curriculum and Instruction in Health Care**

Using the principles of curriculum development and related research, students will develop a plan for a unit of instruction for a health care course that includes a need assessment, use of resources, implementation specification, material development, and assessment of instructional effectiveness. (3 credits)

**MHS 5545—Assessment and Evaluation in Health Care**

This course provides an overview of student and program evaluation and assessment methods in health care education. This course will consider multiple assessment models used in clinical settings, from traditional written assessments to alternative assessment methods such as OSCEs, portfolios, and simulated patients. Students will develop an evaluation/assessment plan tailored to their professional situations. (3 credits)

**MHS 5546—Health Care Finance**

This course introduces the fundamental theory and concepts of health care finance, focusing on relevant applications to a wide variety of health care settings. Emphasis will be placed on the understanding of key issues in order to provide the tools necessary for clinicians to function within a health care environment. Concentration is on managerial, rather than production, accounting perspective. Major topics include principles of accounting, budgeting, analysis of financial statements, activity-based costing, responsibility accounting, and provider payment and reimbursement systems. The student will be required to prepare a formal paper on a health care finance topic. (3 credits)

**MHS 5801—Applied Anatomy for Kinesiology**

This course will address medical terminology and anatomy as they pertain to the kinesiology of each joint. The course lays the foundation for understanding the relevant anatomical and physical biomechanics of sports. (3 credits)

**MHS 5802—Sports Injury Rehabilitation Principles**

This course will use the knowledge of biomechanics to understand the nature of traumatic and overuse injuries in athletes. Rehabilitation concepts as well as specific programs for athletes will be covered. (3 credits)

**MHS 5810—Certified Strength and Conditioning Specialist Preparation**

This course is a review of the material and preparation necessary for this national certification examination. CPR required prior to registration. (3 credits)

**MHL 1020—Legal Research Methods and Reasoning**

The law is never static. Coupled with its ever-increasing role in the governance of health care institutions and health care practitioners, this truism means that health care practitioners and administrators may need to obtain, review, and apply newly issued laws or legal decisions in their day-to-day activities. This course will enable students to find the law, to read and understand legal statutes and regulations, and to understand the analytic process lawmakers and lawyers use. (4 credits, includes 1-credit, on-campus institute)

**MHL 1045—Law of Patients' Rights and Health Care Ethics**

Beginning with the development of the bedrock legal principles of informed consent, this course will examine the legal aspects of patients' rights movements and will trace the status of patients' legal abilities to control their treatment. Part of the course will be devoted to the existence of, substance of, and reasons for patients' rights statutes specific to hospital and nursing home settings. Additionally, this course examines how the law has affected health care ethics by exploring the principles of ethics for health care providers; the ways in which these ethical principles are reflected in the law; and the legal, ethical, and policy aspects of issues affecting health care providers. Students will analyze situations arising in the health care context and will consider issues relating to both individual and institutional health care providers' ethics. (2 credits)

**MHL 1090—Law Accreditation/Licensing**

This course provides a detailed examination of the legal aspects of two credentialing concepts—accreditation and licensure—in both the individual health care practitioner setting and the institutional setting. Students will examine the primary goal of these concepts (i.e., protecting the public), how accreditation differs from licensure, and how they interrelate. **Prerequisite:** MHL 1020 (2 credits)

**MLAW 1036—Legal Foundations**

This course will explore the legal foundations and structure of the United States court system and the modern administrative state. The course will also explore the legal structure of the federal government and the system of checks and balances that controls the distribution of power between the federal and state government. (3 credits)

**MLAW 1035—Professional Communication**

This course will cover a wide-range of professional communication issues presented in written, oral, and electronic format. Students will have the opportunity to develop interpersonal communication skills, presentation skills, and professional writing techniques. Communication skills are vital to career success; they serve as a platform for personal success and professional advancement. Students will learn the foundational techniques to communicate clearly, concisely, and effectively in the professional environment. (2 credits)

### **MHS 2021—Pharmaceutical Law**

This course is designed to provide an understanding of the pharmaceutical industry and the role of the various stakeholders involved. Topics will touch upon the legal, regulatory, policy, business, scientific, and ethical issues related to the industry. A selection of topics will be covered and may include the drug discovery process, drug promotion, drug distribution from manufacture through dispensing, insurance and reimbursement, controlled substances, negligence and malpractice, licensing and certification, health informatics, antitrust, and intellectual property rights. Government agencies including the FDA, CMS, DEA, and state licensing boards will be discussed throughout the course. (3 credits, includes 1-credit, on-campus institute)

### **MHS 5611—Firearms, Fingerprints, and Other Impression Evidence**

This course will provide students with a broad overview of the impression evidence discipline in forensic science. Topics discussed will include firearms and tool mark examination and microscopy, footwear and tire track examination, and latent fingerprints. Current courtroom challenges such as Daubert issues related to impression evidence will also be discussed. Students will be evaluated on the concepts learned based on practical exercises, tests, a final exam, and a research paper. (3 credits)

### **MHS 5612—Forensic Analysis of Trace and Drug Evidence**

This course will be divided into two sections: trace evidence and drugs. In the first segment, the course will cover the different drugs of abuse, the controlled substances act, dependency, and the forensic analysis of these samples. The trace evidence segment will include basic microscopy, fibers, paint, glass, fractures, hairs, explosives, and arson. Concepts will be solidified via case studies. (3 credits)

### **MHS 5613—Crime Scene**

This course will provide students with an in-depth understanding of the various steps to processing a crime scene. These will include scene documentation, evidence collection and preservation, and interpretation. In addition, scene safety and current courtroom challenges will be discussed. (3 credits)

### **MHS 5614—Technology That Revolutionized Criminal Investigations**

This course will provide students with a survey of the field of forensic genetics in an understandable manner. Topics will include presumptive testing, a history of serological analyses, and the beginning of the era of DNA technology including RFLP and AMPFLP analysis. Newer methods of typing such as Short Tandem Repeat (STR), Y-chromosome STR, SNP analysis, mitochondrial sequencing, and mini-STRs will be explored. Case studies and examples of these methods will be examined and

investigated empirically. This course is an invaluable tool for criminal investigators, attorneys, and those students planning to work in the forensic genetics field. (3 credits)

### **MHS 5615—Overview of Crime Laboratory Management**

A review of process management, work flow, and future growth will be discussed. This course will provide students with a survey of manpower, quality assurance, safety, and budgeting issues, as well as what job requirements are needed to perform various jobs from crime scene detective to DNA analyst. Accreditation, certification, and outside review of laboratory performance will be explored. The C.S.I. effect and its impact on the modern forensic laboratory will be examined. The competing interests of case analysis, prosecution, and investigation will be detailed. (3 credits)

### **MHS 5538—Patient Safety Compliance in Health Care**

This course will provide the framework for developing a patient safety program. Specific topics will include the link between patient safety and legal and regulatory compliance; the role of accreditation standard-setting organizations in patient safety; evidenced-based outcomes and standards of care; the creation and preservation of reports, data, and device evidence in medical error situations; and managing patient safety compliance through accountability-based credentialing for health care professionals. The student will be expected to complete a case study on the implementation of a patient safety initiative in a health care setting of his or her choice. (3 credits)

### **MHS 5539—Health Care and Regulatory Compliance**

This course will cover recent developments in compliance regulations resulting from federal and state laws governing health care in various settings including HIPPA and HITECH. Students will learn about the seven essential elements of an effective compliance program and how to implement them. Course topics include setting up and maintaining a compliance program, the role of the health care compliance officer, investigating, reporting, enforcement, and discipline. Students will have the opportunity to explore a case study on ethics in compliance and to develop sample compliance forms and policies that can be used in a variety of health care settings. (3 credits)

### **MHS 5540—Enterprise Risk Management**

This course provides a framework for the implementation of enterprise risk management as a means for implementation of a comprehensive risk management process and plan that encompasses the entire enterprise, crossing departmental barriers. Course topics include enterprise risk management and its evolution, risk financing methods, contract management, claims management,

environmental compliance, human research, peer review and credentialing, due diligence in business transactions, consent to treatment, advent of ediscovery rules, and the impact of the electronic health record. Students will be expected to complete case studies on the implementation of enterprise risk management in a health care setting of their choice. (3 credits)

#### **MHS 5908—Applied Statistics**

This course is an introduction to applied statistics and data analysis. Topics include collecting and exploring data, basic inference, simple and multiple linear regressions, analysis of variance, nonparametric methods, and statistical computing. (3 credits)

#### **MHS 5992—Qualitative Research Methods**

This course explores the development and application of qualitative research designs and methods. It considers a broad array of approaches, from exploratory narratives to focused comparison case studies, for investigating plausible alternative hypotheses. The focus is on analysis, not data collection. (3 credits)

#### **MHS 5991—Quantitative Research Methods**

This course develops logical, empirically based arguments using statistical techniques and analytical methods. Elementary statistics, probability, and other types of quantitative reasoning useful for description, estimation, comparison, and explanation are covered. Emphasis is on the use and limitations of analytical techniques in planning practice. (3 credits)

#### **MHS 5904—Research Ethics**

This seminar-based course explores techniques for recognizing, analyzing, and resolving ethical dilemmas facing health care professionals and biomedical researchers in today's highly regulated environment. Professional conduct topics include authorship, conflict of interest, data acquisition and management, and the protection of human subjects and animals involved in research programs. (3 credits)

#### **MHS 5906—Developmental Writing**

This course provides students with the opportunity to assimilate the skills required to communicate in academic settings both orally and in writing. The purpose of this course is twofold. First, the course will acquaint students with the guidelines that will assist them in creating well-crafted academic communication. Second, it will give students the opportunity to practice their communication skills and receive feedback from colleagues and instructors. The primary focus of the course is the thesis process. (3 credits)

#### **MHS 5526—Advanced Topics in Health Care Ethics**

A Hospital Ethics Committee (HEC) performs an important consult role in addressing the ethical issues presented in a clinical circumstance. This course describes

the makeup and role of the HEC in addressing ethical issues. Students will then participate in mock ethics committees, be presented with ethically challenging, hypothetical cases, debate the issues, and provide consults. Following each committee meeting, students will submit papers reflecting upon their role in the HEC, as well as provide an analysis of the ethical issues present in the cases. (3 credits)

#### **MHS 5527—Neurobiology Issues in Medical Ethics**

This course will provide an introduction to the neurosciences and their intersection with law and morality. The course will explore a number of areas, including the relationship between various brain deficiencies and their implications for individual behavioral responsibility; legal issues surrounding various brain states, including the adolescent brain, the injured brain, and brain death; legal and ethical issues related to memory, the emotions, and lie detection; and the neuroscience of legal decision-making. Additionally, the course will glimpse the neuroethics horizon, including a look at areas such as cognitive enhancement, the brain-machine interface, and artificial intelligence. (3 credits)

#### **MHS 5528—Technological Advances in Medicine and the Impact on Ethics**

The advancement of science and the invention of new medical technologies present new challenges for traditional bioethics. Scientific advances in cloning, stem cell research, genetic engineering, genetic testing, reproductive technologies, and genomics have profound impacts on the individual and society. In this course, students will explore controversies in bioethics arising from these new technologies, as well as have the opportunity to debate these issues, applying bioethical theories and principles. (3 credits)

### **Practical Components**

#### **MHS 5309—U.S. Health Policy**

This course will explore how U.S. health policy is made and the interests and roles of various stakeholders and state, local, and federal governments. Students will analyze health policies and discern what impact proposed and executed health policies will have on health care entities, groups, individuals, and health care practice. Students will gain the skills necessary to conduct a policy analysis that examines a health care or public health issue or concern. (5 credits)

#### **MHS 5207—Practicum**

The practicum is a cumulating experience for M.H.Sc. students. Under supervision of an M.H.Sc. faculty adviser, students will develop community-based health education or health promotion and disease prevention interventions with underserved and/or nontraditional populations. (5 credits)



## **Practical Components—Clinical Research Concentration Only**

### **MHS 5995—Thesis I**

This course is intended for students planning to conduct research in a variety of different settings. Its topics include case studies, interviews, documentary evidence, and participant observation and survey research. The primary goal of the course is to assist students in preparing their formal thesis proposal. The instructor must approve the proposal. (3 credits)

### **MHS 5996—Thesis II**

In this course, the student will carry out the proposed research (under the instructor's supervision) and conduct data analysis, which will culminate in a summary paper of the student's research findings. **Prerequisite:** MHS 5995 (3 credits)

### **MHS 5997—Thesis III**

This course is dedicated to the formal writing of the student's thesis under the professor's supervision. Once the instructor accepts the paper, two other faculty members on the student's thesis committee will review it. Once the thesis has been reviewed and accepted, the student may register for MHS 5998. **Prerequisites:** MHS 5996 and MHS 5995 (3 credits)

### **MHS 5998—Thesis IV**

In this course, the student prepares for oral defense of the thesis and revision of the thesis manuscript. **Prerequisites:** MHS 5995, MHS 5996, and MHS 5997 (3 credits)

## **Accelerated Dual-Degree M.H.Sc./D.H.Sc. Program**

This accelerated dual-degree program was designed for accomplished, motivated health care practitioners educated at the bachelor's degree level who desire a clinically applicable, postprofessional, interdisciplinary doctoral degree. The program is specifically appropriate for those practitioners who have a strong desire to teach within the health disciplines at the graduate level or assume advanced professional and institutional leadership roles within the health care delivery system.

The combined M.H.Sc./D.H.Sc. degree provides rigorous academic exposure to a wide range of topics pertinent to clinicians, health administrators, and health professions educators. These topics include epidemiology, health care finance, statistics and research methods, conflict resolution, leadership studies, professional writing, health policy, global health issues, evidence-based medicine, medical informatics, and medical quality assurance/risk management. Students have the opportunity to engage in capstone research experiences and internships within their home community.

Graduates are equipped with the knowledge, skills, and experience to expand their professional roles in both clinical and non-clinical arenas. Study is primarily nonresidential, and uses state-of-the-art online course platforms that permit synchronous and asynchronous learning experiences. Students are required to attend two one-week, on-campus institutes during the doctoral portion of their studies.

This accelerated track permits the motivated student to earn both a master's and a doctoral degree from our

respected, regionally accredited research institution. The 82 credits of course content earned can be completed with three–seven years of study.

### **M.H.Sc./D.H.Sc. Accelerated Program**

- total combined semester hours: 82
- 21 hours completed in the M.H.Sc. program
- 61 hours completed in the D.H.Sc. program
- M.H.Sc. degree awarded after completion of 44 credits (the 21 credits of the M.H.Sc. core courses, the D.H.Sc. ethics and research courses, a 4-credit D.H.Sc. course of the student's choice, the DHS internship/practicum preparation course, and the D.H.Sc. Internship and D.H.Sc. Practicum courses)
- M.H.Sc. courses all taught through distance learning
- D.H.Sc. courses taught through distance learning and at required on-campus summer institutes
- chat sessions and threaded discussions, a regular part of the program, promote student-professor and student-student interaction

### **Admissions Requirements**

Prior to matriculation, applicants must have completed a bachelor's degree from a regionally accredited college or university. Applicants should demonstrate a cumulative bachelor's degree GPA at or above a 3.0 on a 4.0 scale. Prior health care experience is required. The postprofessional M.H.Sc./D.H.Sc. dual-degree program is designed for

health practitioners and clinicians from a wide variety of disciplines. The successful administrative applicant will demonstrate at least five years of professional experience with increasing levels of responsibility in a health care setting. Professional experience will be documented by an organizational chart demonstrating the applicant's position within the organization and a letter of recommendation from a supervisor attesting to the applicant's level of responsibility within the organization. Health care administrators will also need to submit a statement concerning their career and professional goals within the health care environment. Fellowship or certification by a recognized health certifying body (e.g., FACHE) is desirable.

Beginning with the admission cycle for fall 2012, applicants will be required to take the GRE and submit their scores as part of the application process.

All applicants must show evidence of computer skills through coursework or self-study prior to the end of the first semester. Students may obtain instruction through the NSU microcomputer laboratory or other training facilities.

The university reserves the right to modify any requirement on an individual basis, as deemed necessary by the dean of the Dr. Pallavi Patel College of Health Care Sciences.

### Tuition and Fees

Tuition for M.H.Sc. courses for 2018–2019 will be posted on our website ([healthsciences.nova.edu/healthsciences/mhs/tuition.html](http://healthsciences.nova.edu/healthsciences/mhs/tuition.html)).

Tuition for D.H.Sc. courses for 2018–2019 will be posted on our website ([nova.edu/cah/healthsciences/dhs](http://nova.edu/cah/healthsciences/dhs)).

An NSU student services fee of \$1,350 is also required annually. All tuitions and fees are subject to change by the board of trustees without notice.

### Application Procedures

Applicants for admission must submit to EPS, or be responsible for submission of,

1. a completed application form, along with a \$50, nonrefundable application fee
2. two evaluation forms—supplied in the application package or by request—from supervisors or colleagues, clinical or nonclinical
3. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions
4. all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National

Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. complete résumé or curriculum vitae
6. copies of national and professional certifications or licenses by a recognized certifying body (if applicable)
7. official Graduate Record Examination (GRE) scores taken within five years of the date of matriculation

Complete applications and all admission documentation must be sent to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
M.H.Sc./D.H.Sc. Accelerated Track  
3301 College Avenue, PO Box 299000  
Fort Lauderdale, Florida 33329-9905

Phone: (954) 262-1101  
877-640-0218  
Fax: (954) 262-2282

### Computer Requirements

All students are required to have a computer with the following minimum specifications:

- Pentium or AMD at 1.00 GHZ or equivalent Macintosh processor
- 256 MB RAM
- video and monitor capable of 1024 X 768 resolution or better
- CD-ROM drive
- full duplex sound card and speakers

- Internet connection with Internet service provider (DSL, cable, or satellite highly recommended)
- Windows XP or NT or MAC OS or better
- Microsoft Office 2000 or newer with PowerPoint, Word, and Excel minimum
- printer capability

### Requirements for Graduation

To be eligible to receive the M.H.Sc. and D.H.Sc. degrees, students must

- be of good moral character
- satisfactorily complete the 21 credits in the M.H.Sc. and the 61 credits in the D.H.Sc. programs
- receive a recommendation by the M.H.Sc. and D.H.Sc. program directors to the dean of the Dr. Pallavi Patel College of Health Care Sciences

### Specific Requirements for Graduation for the M.H.Sc. in the Accelerated Dual-Degree M.H.Sc./D.H.Sc. Program for Students Matriculating on or After Fall 2018

Students are required to have 21 credits in the MHS core courses.

Courses			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5530	Principles of Management in Health Care	3
		MHS Elective Courses	9
<b>Total MHS Credits</b>			<b>21</b>

Students are required to have 23 credits in the DHS courses

Courses			Credits
DHS	8040	Professionalism and Health Care Ethics	4
DHS	8010	Statistics and Research Methods	4
		Student's choice of a DHS course	4
DHS	8125	Preparation for the Internship/Practicum	1
DHS	8130	Internship	5
DHS	8140	Practicum	5
<b>Total DHS Credits</b>			<b>23</b>
<b>Total Credits Applied to the Master of Health Science</b>			<b>44</b>

## Course of Study

M.H.Sc. Degree Curriculum Required MHS Courses			Credits
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5203	Writing for Allied Health Professionals	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5530	Principles and Practice of Management in Health Care	3
			<b>Total:</b> 12

MHS Elective Courses (choose three)			Credits
MHS	5026	Human Trafficking for Health Care Professionals	3
MHS	5211	Contemporary Issues in Nutrition	3
MHS	5541	Health Care Systems and Conflict	3
MHS	5543	Educational Theories and Psychology	3
MHS	5544	Curriculum and Instruction in Health Care Education	3
MHS	5545	Assessment and Evaluation in Health Care Education	3
MHS	5400	Directed Studies in Medical Science	3
MHS	5546	Health Care Finance	3
			<b>Total credits completed in the M.H.Sc. program:</b> 21

D.H.Sc. Degree Curriculum Required DHS Courses			Credits
DHS	8040	Professionalism and Health Care Ethics	4
DHS	8121	Scientific Writing	2
DHS	8190	Health Care Education	4
DHS course for internship/practicum preparation			13
			<b>Total:</b> 23

### Block 1 (three out of four required)

All four may be taken. If only three are chosen, one elective may substitute for the fourth required course.

			Credits
DHS	8000	Professional Competencies in the Clinical Care of Diverse and Special Populations	4
DHS	8030	Community Health Promotion and Disease Prevention	4
DHS	8090	Health Policy	4
DHS	8110	Community/Environmental Health	4
			<b>Total:</b> 12

Required Summer/Winter Residential Institutes			Credits
DHS	8010	Statistics and Research Methods	4
DHS	8080	Conflict Resolution	4
DHS	8170	Leadership in Health Care	4
			<b>Total:</b> 12

On-Campus Institutes—The summer institute is five days and affords the student the opportunity to take a course in the morning and the afternoon. The winter institute is three days and students can register and take only one course. There are three courses that students are required to take with the institute component. Completion of these three courses are a program requirement for all students.

### Block 2

One required, the others may be omitted or used as electives.

			Credits
DHS	8400	Global Health Studies	4
HSP	9006	Concepts in Evidence-Based Medical Practice	4
DHS	8750	Patient Safety Medical Error	4
DHS	8810	Epidemiology and Global Health	4
DHS	8800	Health Care Informatics	4
<b>Total:</b>			<b>4</b>

### Experiential

			Credits
DHS	8125	Preparation Forum	1
DHS	8130	Internship	5
DHS	8140	Practicum	5
<b>Total:</b>			<b>11</b>

### Required Capstone

This course must be completed in the last semester of coursework.

			Credits
DHS	8120	Doctoral Analysis	2
OR			
DHS	8121	Scientific Writing	2*
<b>Total:</b>			<b>2</b>

### Electives (Choose three)

Any courses from Block 1 and 2 not counted toward core requirements can also be used as electives.

			Credits
DHS	8100	Alternative and Complementary Medicine	4
DHS	8180	Medical Writing for the Health Professional	4
DHS	8200	Independent Study A	1–4
DHS	8250	Independent Study B	1–4
DHS	8700	Comparative International Health Systems	4
DHS	8775	Survey of Health Law	4
DHS	8045	The Influence of Ethics and Culture on Global Health	4
<b>Total:</b>			<b>12</b>

**Total credits completed in the D.H.Sc. program: 61**

Additional Core Block 1, Core Block 2, and electives are available; please see the curriculum section of the D.H.Sc. program. If you wish to take courses not listed above, please consult your academic adviser.

\*DHS 8121 Scientific Writing is required for all students entering as of spring 2018. Students who have matriculated before spring 2018 may take this course or DHS 8120 Doctoral Analysis for their capstone.

## Course Descriptions

### Master of Health Science

#### MHS 5003—Current Trends and Cultural Issues in Health Care

This course serves to familiarize the student with current trends and cultural issues in health care that may impact the patient, the health care system, or the ability to deliver high-quality health care. Discussion and analysis of current and cultural topics facing those who work in health care will be explored. (3 credits)

#### MHS 5026—Human Trafficking for Health Care Professionals

Human trafficking involves sexual or labor exploitation of a person through force, fraud, and coercion for any type of gain. The World Health Organization (WHO) reported that human trafficking victims endure chronic physical, sexual, and emotional violence from their exploiters and experience communicable diseases from their living conditions, sexually transmitted diseases from their work conditions, and mental health issues from their exploitation. (WHO, 2014) In 2015, the American Public Health Association identified human trafficking as a public health problem in the United States. This course will raise awareness of human trafficking in the United States and internationally; increase the knowledge of the signs and symptoms of trafficked individuals; and provide action steps health care professionals can utilize when trafficked individuals are identified in hospitals, urgent care centers, community health centers, and mental health settings. (3 credits)

#### MHS 5203—Writing for Allied Health Professionals

This course entails the study and practice of the writing style used in allied health—scientific writing. Scientific writing is a different format than other kinds of writing used as an undergraduate. It is more precise and succinct, which is different from the way we speak to each other. Scientific writing is written for an audience, with the purpose of informing, or possibly persuading, the audience. American Psychological Association (APA) style and standard English formatting will be reviewed. The papers written in this course will give the student a foundation for all MHS courses. (3 credits)

#### MHS 5211—Contemporary Issues in Nutrition

The course covers a variety of general concepts and contemporary discussions in the area of nutrition as it applies to personal health. Many of the concepts learned in this course can be applied to the patient counseling and advisement health care providers are asked to perform. (3 credits)

#### MHS 5400—Directed Studies in Medical Science

This course provides the opportunity for students to explore a special topic of interest under the direction of a faculty member. Arrangements are made directly with the appropriate faculty member and the program director. Topic exploration is governed by the needs of the program and the educational goals of the student. Possible topics involve clinical and non-clinical aspects of the practice of medicine in the United States. (3 credits)

#### MHS 5501—Epidemiology and Biostatistics

The ability to understand the conceptual and practical aspects of biostatistics and epidemiology in health care is critical to understanding research and analyzing population data about disease. This survey course will improve the ability of the student to understand and apply these concepts. (3 credits)

#### MHS 5530—Principles of Management in Health Care

This course will discuss the various principles of management and its associated issues as they relate to the modern health care professional. The course will explore topics such as concepts of organizational management, decision making, strategic planning, resource management and allocation, conflict, and the concept of power. (3 credits)

#### MHS 5541—Health Care Systems and Conflicts

This introductory course will assist learners to blend conflict resolution theories, models, and skills into realistic strategies that can be utilized in a health care setting. The attitudes, knowledge, and skills gained from this course can be applied to those who deliver, receive, and manage health care. The strategies will be applicable to working with diverse populations, including people of different cultural backgrounds, personalities, sex, positions of power, and agendas. Types of negotiation strategies to help move toward a collaborative situation will also be addressed. (3 credits)

#### MHS 5543—Educational Theories and Psychology

This course explores the history and evolution of educational theories and their role in the development of curriculum and instruction related to health care education. (3 credits)

#### MHS 5544—Curriculum and Instruction in Health Care Education

Using the principles of curriculum development and related research, students will develop a plan for a unit of instruction for a health care course that includes a needs assessment, use of resources, implementation specification, material development, and assessment of instructional effectiveness. (3 credits)

### **MHS 5545—Assessment and Evaluation in Health Care Education**

This course provides an overview of student and program evaluation and assessment methods in health care education. This course will consider multiple assessment models used in clinical settings, from traditional written assessments to alternative assessment methods such as OSCEs, portfolios, and simulated patients. Students will develop an evaluation/assessment plan tailored to their professional situation. **(3 credits)**

### **MHS 5546—Health Care Finance**

This course introduces the fundamental theory and concepts of health care finance focusing on relevant applications to a wide variety of health care settings. Emphasis will be placed on the understanding of key issues in order to provide the tools necessary for clinicians to function within a health care environment. Concentration is on managerial, rather than production, accounting perspective. Major topics include principles of accounting, budgeting, analysis of financial statements, activity-based costing, responsibility accounting, and provider payment and reimbursement systems. The student will be required to prepare a formal paper on a health care finance topic. **(3 credits)**

## **Doctor of Health Science**

### **DHS 8000—Health Care for Diverse Populations /Professional Competencies in the Clinical Care of Diverse and Special Populations**

This course focuses on issues and information relating to the general epidemiological concerns, health care disparities, and specific health and disease issues involved in the care of both culturally based diverse populations (African American, Native American, Asian and Asian sub-populations, and Latino-Hispanic populations), and other nonethnic special populations (homeless, uninsured, indigent, disabled, incarcerated, rural, inner city, GLBT, geriatric, pediatric, and others). **(4 credits)**

### **DHS 8010—Statistics and Research Methods**

This course allows the student to develop understanding through critical analysis of the basic research methods used in health care. Students will be taught how to critically analyze medical information and perform effective literature reviews. **(4 credits)**

### **DHS 8030—Community Health Promotion and Disease Prevention**

This course develops the knowledge and skills needed to work with communities to improve the health status of the community. Major topics will include health promotion and disease prevention. Special emphasis will be placed on the “Healthy People 2010” initiatives. **(4 credits)**

### **DHS 8040—Professionalism and Health Care Ethics**

This course is an in-depth study of the concepts of health care ethics. The course of study analyzes the differences between ethics and law and examines the core values and beliefs of medical professionalism. Methods of ethical analysis and a review of current case studies will be used in critical discussions of ethical dilemmas faced by health care personnel in areas such as cloning, organ transplantation, and the implications of the Human Genome Project. The student will explore the personal values, professional standards, and institutional guidelines that define the roles and responsibilities of the health care practitioner. **(4 credits)**

### **DHS 8045—The Influence of Ethics and Culture on Global Health**

Technology, research, and the advancement of health care interventions have produced impressive improvements in health outcomes for many. Unfortunately, these advancements have also led to inequalities in health status within and between countries, creating growing global ethical dilemmas. The world is faced with new challenges, such as the potential for pandemics, an aging population, a diminishing health care workforce, and the stresses of determining resource allocation. With these challenges comes a need to better understand the process of ethical reasoning and resolution, as this will be paramount for the development and maintenance of global health. Another dimension that must be considered in ethical decision making is the influencing factors of culture. Culture comprises the political, social, economic, religious, and ethnic norms and values of a society. Culture is instrumental in shaping bioethical policy worldwide, which necessitates its inclusion and consideration in all global ethical discussions. The purpose of this course is to provide an introduction to the principles and theories of ethics as applied to global health, and how culture influences ethical decision making. The course will examine some of the primary theories and principles in health care ethics including virtue, deontology, utilitarian, autonomy, justice, beneficence, and nonmaleficence. The course will explore many prominent global health issues and exemplify how greater knowledge and understanding of global ethics and culture is vital to effective and sound decision making. Topics that will be discussed in the course include ethical issues related to pandemic preparedness, end of life, human organ transplantation, clinical research in developing countries, human rights, resource allocation, and the effects of globalization on world health. It is anticipated that students will bring their own ethical dilemmas arising from their own experiences, cultures, and practices. **(4 credits)**

### **DHS 8080—Conflict Resolution in Health Care**

This course examines and analyzes the nature and dynamics of human conflict within civil societies. Emphasis is placed

upon conflicts within and among governments and public sector agencies and between the health provider, patients, and medical institutions. Students will be expected to take an active role in the course and develop their own strategies for dealing with conflict. A paper will be required that details and analyzes a conflict situation in the student's work or other environment and how the conflict was resolved. **(4 credits)**

#### **DHS 8090—Health Policy, Planning, and Management**

This course critically examines the dynamics of health care in the United States. The student is expected to analyze the health care industry and contrast nonprofit and for-profit health care delivery systems. A critical exploration of the ramifications of health care reform and the impact on institutions and individuals will be undertaken. The concepts of cost containment, and long-term care will be analyzed. **(4 credits)**

#### **DHS 8095—Global Health Policy**

Globalization affects all sectors, including health care, and understanding the key policy issues is essential in the study of global health. This course, taught from a clinical perspective, examines the health policy issues confronting international health organizations, governments, and specific populations. It reviews the processes that influence the development and implementation of policies and examines specific topics related to HIV/AIDS, poverty and nutrition, infectious disease, smoking, concerns of women and children, and other global major health concerns. **(4 credits)**

#### **DHS 8100—Alternative and Complementary Medicine**

This course examines and analyzes alternative and complementary medicine and their impact on the health care industry. The approach to the subject is to present selected alternative and complementary medicine fields in an informative, nonjudgmental format. **(4 credits)**

#### **DHS 8110—Community Environmental and Occupational Health**

Issues such as air and water quality and waste management will be examined. OSHA will be examined and analyzed for its impact on health and health care. Trends in environmental and occupational health legislation will be examined for their impact potential. **(4 credits)**

#### **DHS 8120—Doctoral Analysis**

In this faculty-supervised project, the capstone of the program, the student will develop a paper using the objectives from the core courses and one elective as guidelines and references to form the basis of the paper. This will require research into teaching and learning methods as well as online and in-class comparisons. The outcome or final product will be an in-depth analysis

of the information presented and the knowledge gained during the doctoral program. This paper will also include methods for improving the program of study in the D.H.Sc. department and detailed methods to be used to deliver the proposed changes. **(2 credits)**

#### **DHS 8121—Scientific Writing**

This course is designed to familiarize students with the writing competencies for writing papers in the Doctor of Health Science (D.H.Sc.) program. This course will cover the genre of scientific writing. Scientific writing is used in research and report writing. It is more precise and succinct, which is different from the way we speak to each other and other types of writing. Scientific writing is based upon scientific theory and evidence from the literature. Upon completion of the course, students will be given a foundation for all DHS courses. **(2 credits)**

#### **DHS 8125—Preparation Forum**

Students should enroll in this course within one to two semesters of matriculation into the D.H.Sc. program. This is a 1-credit course in which students work closely in a one-on-one fashion with the course instructor/mentor to develop appropriate learning objectives and experiential plans for the internship (DHS 8130) and a substantial developmental project for the practicum (DHS 8140). Together, the internship and practicum form the capstone of the program. Attention is also paid to appropriate preparation for the form and style of the written deliverables of the internship and practicum and appropriate timelines for completion. Successful completion of DHS 8125 will include the following: completion of APA-style quizzes, approval of topic for DHS 8130 at least one semester prior to enrollment, approval of topic for DHS 8140 one to two semesters prior to enrollment, and completion of an error-free proposal for DHS 8140 at least one to two semesters prior to enrollment. Students will be continuously enrolled in DHS 8125 until all three tasks are accomplished. **(1 credit)**

#### **DHS 8130—Internship**

This course is the capstone of the program. The student will perform an internship at a community health care institution, clinic, educational facility, etc., which is approved in the DHS 8125 course at least one semester prior to enrolling in DHS 8130. The student should spend a minimum of 80 clock hours learning skills from a mentor. Examples of acceptable internship experiences include teaching assistantships to learn on-site or online teaching skills, volunteering at nonprofit organizations to learn about particular topics in health promotion and disease prevention, or shadowing an executive to learn leadership and executive skills, among other experiences. Students on the global track must have an internship experience that has an international basis. The student



will write a report that describes the institution, defines the population served, and details the health promotion activities observed. A critical evaluation should be made that details strengths, weaknesses, opportunities, and threats to the institution in order to analyze if the skills delineated are able to be learned. **Prerequisite:** DHS 8125 (5 credits)

#### **DHS 8140—Practicum**

The practicum is a written project that is developmental in nature. The practicum project must be approved in the DHS 8125 course one to two semesters prior to enrolling in DHS 8140. Enrollment in the practicum course must be preceded by a proposal that contains the project idea and a preliminary literature review, which will be written in the DHS 8125 course at least one to two semesters prior to enrolling in DHS 8140. The student will be required to choose a health promotion topic and create a health promotion program or educational resource that can be used for a community education program. An implementation and evaluation plan must be included in the final product. Examples of appropriate educational resources include developing a presentation for a national conference, developing a presentation for an in-service, or developing a course curriculum. Students on the global track must have an international basis for the project. **Prerequisite:** DHS 8125 (5 credits)

#### **DHS 8150—Continuing Internship Services**

This course is a continuation of DHS 8130. It is used when the student is given an incomplete grade and needs to finish his or her internship. (0 credit)

#### **DHS 8160—Continuing Practicum Services**

This course is a continuation of DHS 8140. It is used when the student is given an incomplete grade and needs to finish his or her practicum. (0 credit)

#### **DHS 8170—Leadership in Health Care**

This course explores the various methods of leadership and management, both in and out of health care, and their impact on productivity, profitability, and employee satisfaction. Critical analysis of the different types of leadership and management theories is given and the need for developing a leadership plan is explored. The student is expected to gain knowledge of the various types of leaders and systems and will be required to research and develop a paper on a specific leadership topic. (4 credits)

#### **DHS 8180—Medical Writing for the Health Professional**

The demand for medical writing professionals is growing significantly. So, too, is the supply of individuals with advanced health science and professional degrees seeking careers both in and outside of academia. This course is designed to provide doctoral students with the foundational knowledge and skills needed for successful

publication of a professional journal article or clinical case review. Methods of document preparation, proper word and punctuation use, and the requirements for authors of biomedical journal articles will be discussed. This course is not designed for entry-level medical writing; rather it is designed for professionals with a strong biomedical and/or life sciences background to write for scientific audiences in peer-reviewed journals. This course encourages good writing skills through choosing better words; writing better sentences; and preparing tables, graphs, and photographs. All students are required to develop and submit a quality paper that meets the requirements for publication in a peer-reviewed professional or biomedical journal. The *Publication Manual of the American Psychological Association (APA) 6th Edition*, will be the required format for all formal assignments. (4 credits)

#### **DHS 8190—Health Care Education**

This course explores the various theories and applications of adult education in the practice of training, preprofessional education, and postprofessional education of medical personnel. Critical analysis of the different methods of teaching and training health care professionals is accomplished through discussion, research, investigation, journal development, and assignments. (4 credits)

#### **DHS 8200—Independent Study A**

This course is supervised by a faculty member and is a self-directed experience for the student. The student will be required to develop a proposal regarding the topic of study, a learning contract with specific objectives, and a plan of action to include methods of obtaining the information and the material produced to demonstrate an in-depth understanding of the subject areas. A faculty member will be assigned to the student for the supervised study and will follow the approved learning contract for successful completion of the course. The purpose of this course is to allow the student to explore an area of interest in the field of health care or health sciences. The secondary benefit of the course is to allow the student, with the assistance of the faculty, to develop and complete a doctoral-level course of study. Upon completion of the course, the student should be able to develop a proposal regarding a particular area of health sciences sufficient for doctoral level of study, develop a learning contract and self-directed course of study at the doctoral level, develop curriculum components for an educational program using self-directed study, describe information research during the completion of the objectives, and describe the methods of developing and successfully completing a self-directed course. (1–4 credits)

#### **DHS 8250—Independent Study B**

This course is supervised by a faculty member and is a self-directed experience for the student. The student will be required to develop a proposal regarding the topic of study, a learning contract with specific objectives, and a plan of

action to include methods of obtaining the information and the material produced to demonstrate an in-depth understanding of the subject areas. A faculty member will be assigned to the student for the supervised course. The purpose of this course is to allow the student to explore an area of interest in the field of health care or health sciences. The secondary benefit of the course is to allow the student, with the assistance of the faculty member, to develop and complete a doctoral level of study. Upon completion of the course, the student should be able to develop a proposal regarding a particular area of health sciences sufficient for doctoral level of study, develop a learning contract and self-directed course of study at the doctoral level, develop curriculum components for an educational program using self-directed study, describe information research during the completion of the objectives, and describe the methods of developing and successfully completing a self-directed course. **(1–4 credits)**

#### **DHS 8400—Global Health Issues**

Global health care is an emerging priority for health professional education programs and clinical practice. It is essential for all health care professionals to understand the impact of global health issues on health care and international economic stability. This course explores the many facets of global health to expose the student to the complexity of the concepts that impact health care in developing and developed countries. **(4 credits)**

#### **DHS 8700—Comparative International Health Systems**

The purpose of this course is to provide an introduction to the principles, structure, and function of international health systems through a comparative analysis of various countries' health care systems. The course will explore how national systems have evolved and how countries confront the emerging issues in health care. The course will explore and develop a systematic comparative analysis of the evolution, administrative structures, societal choices, financing, and provision of health care services in underdeveloped, developing, and developed countries. **(4 credits)**

#### **DHS 8750—Patient Safety Medical Error**

Leadership plays a key role in adopting practices to promote patient safety and leaders should have the skills necessary to be effective in the implementation of these practices. This course will focus on patient safety through a study of safety-oriented leadership, organizational culture, human factors, decision-making science, communication, and a systems approach to health care delivery. Current best practice models and the latest professional literature emphasizing patient safety will be featured. **(4 credits)**

#### **DHS 8775—Survey of Health Law**

This course is designed to introduce D.H.Sc. students to health law or law as it affects the professionals and institutions that deliver health care in the United States. The course focuses on the traditional areas of concern for courses on health law, including access to health care, the cost of health care, the quality of health care, and protection of the person of the patient. **(4 credits)**

#### **DHS 8800—Health Care Informatics**

This course will focus on available and future methodologies and technologies for the processing, archiving, analysis, and transmission of data, information, and knowledge in the medical and health care setting. **(4 credits)**

#### **DHS 8810—Epidemiology and Global Health**

This course emphasizes the underlying concepts of the epidemiologic approach as it relates to pertinent global health issues. The student will be introduced to principles and methods of epidemiologic research. These include study designs, measures of frequency, association, impact, and sources of error. Application to global health and public health strategies for disease prevention, surveillance, and controls are discussed. **(4 credits)**

#### **DHS 8900—Narrative Medicine**

There is great value in listening to patient narratives and reflecting upon what is communicated through these stories about health, illness, suffering, and recovery. In this course, students will explore written forms of patient narratives, as well as multimedia presentations, movies, music, song, and visual arts to improve their understanding of patient experiences. Students will learn how to enhance their own listening, self-reflection, and communication skills, and, in the process, they will develop narrative competencies that emphasize empathy, compassion, and other effective components of quality care. The course will explore ways in which a study of the medical humanities contributes to a deeper understanding of personal and social features that affect the quality of patient care. **(4 credits)**

#### **HSP 9006—Concepts in Evidence-Based Medical Practice**

This course provides a working knowledge of evidence-based medicine. Cases will be used as the backbone of this course to assist the student in analyzing data to justify the treatments used in clinical practice. Students will also learn how to critically appraise the literature, evaluate diagnostic test performance, design clinical pathways and standards of care, and implement evidenced-based medicine findings in their own clinical or administrative settings. **(4 credits)**

## Doctor of Health Science (D.H.Sc.) Program

The D.H.Sc. program offers a four concentration curriculum. Students can either complete the generalist, the global health, the education for the health professions, or the telehealth concentrations. The D.H.Sc. program requires completion of a minimum of 61 semester hours of coursework. This includes 48 semester hours of didactic coursework, 11 semester hours of practical coursework, and 2 semester hours for the Doctoral Objective Analysis or the Scientific writing course.

The D.H.Sc. program is designed for completion in a distance-learning format and requires only minimal on-campus time during two or three intensive, one-week, winter or summer institute seminar sessions. The residential sessions are held at the NSU Fort Lauderdale/Davie Campus.

The program curricula are designed to build upon the scientific and general knowledge of the health care professional while focusing on the overall health care picture. Leadership, policy, diversity, evidence-based medical practice, and alternative methods of treatment are but a few of the areas stressed in the generalist curriculum.

During the course of study, the student must complete a practicum and internship approved by the course director in an area of health care such as leadership, education, policy, or delivery. Students selecting a concentration in global health, education in the health care professions, or telehealth will focus their internship and practicum work in their chosen area of study. The internship is used to expose the student to an area of health care not commonly experienced in the student's normal area of practice. Though they are two separate portions of the curriculum, the internship may be used as an area of research in preparation for undertaking the practicum.

The coursework is professor-paced using state-of-the-art, web-based delivery. The curriculum and coursework follow a standard 12-week semester calendar in conjunction with resident on-campus programs. At the standard pace established by the program, the course of study can be completed in three years. It is required that all coursework be completed within seven years.

### Admissions Requirements

Prospective D.H.Sc. students are selected by the Committee on Admissions, which considers the overall qualities of applicants and their suitability for this course of study. Areas of consideration include application content, academic record, prior health care experience, letters of evaluation, and personal motivation. In special circumstances, a personal interview with members of the committee on admissions may be required.

1. Prior to matriculation, applicants must have completed a master's degree from a regionally accredited college or university.

2. Applicants should demonstrate a cumulative master's degree G.P.A. at or above a 3.0 on a 4.0 scale to be eligible for regular admission. The Committee on Admissions will make a recommendation to the dean of the college as to any remedial coursework necessary for an applicant to achieve full admission.

3. Prior health care experience is required and is strongly considered in the admissions process. The D.H.Sc. is a postprofessional degree designed for advanced health practitioners, public health professionals, and health care administrators from a wide variety of disciplines. The commonality exhibited by our students is the expert practice of a recognized health occupation at a professional level, or five years of administrative experience in a health care organization with progressively increasing responsibilities over that time frame. The successful applicant's health profession may emphasize delivery of services to individual clients (e.g., PA, PT, R.N., LCSW, etc.) or be population based (M.P.H., M.H.A.). An appropriate level of professional practice is generally recognized by health professions licensure (e.g., R.N., PT), a national certification or registration (e.g., PA-C, RVT, RRT, CRNA, FACHE), a recognized health professions academic credential (e.g., M.P.H., M.S.N., M.S.W., M.H.A., M.B.A.), or a combination of the above. All questions regarding the appropriateness of an applicant's qualifications for admission can be discussed with the department chair or program director on an informal basis, but the official recommendations are made by the Committee on Admissions to the dean of the Dr. Pallavi Patel College of Health Care Sciences. The dean makes the final determination. Successful past applicants and graduates have included physicians, dentists, nurses, nurse practitioners, nurse midwives, physician assistants, master's degree-level social workers, physical therapists, occupational therapists, dental hygienists, and athletic trainers.

We have recently expanded the program to include health care administrators, and our graduates now include a hospital CEO and an assistant surgeon general of the U.S. Public Health Service.

4. All applicants must show evidence of computer skills through coursework or self study prior to the end of the first term. Students may obtain instruction through the NSU Student Microcomputer Laboratory, the D.H.Sc. Orientation Center, or other training facilities.

## Application Procedures

All applicants for admissions must submit or be responsible for the submission of

1. a completed application form along with a \$50, nonrefundable application fee
2. two letters of evaluation from supervisors or colleagues, clinical or nonclinical (An administrative/nonclinical applicant must include a letter from his or her direct supervisor describing the applicant's position and responsibilities within the organization.)

The evaluation form is supplied in the application package.

3. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care  
Sciences Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Phone: (954) 262-1101  
877-640-0218  
Fax: (954) 262-2282

4. an evaluation for U.S. institutional equivalence for all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. a complete résumé or CV
6. copies of national and professional certifications or licenses by recognized certifying bodies

A writing sample may be required beginning in winter 2013.

Administrative/nonclinical applicants for admissions must also submit or be responsible for the submission of

- career and professional goal statement
- an organizational chart indicating the applicant's position and area of authority in the employment organization

Completed applications must be sent to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care  
Sciences Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The D.H.Sc. Office of Admissions works on a rolling admissions basis. Applications are accepted year round. To ensure that your application receives prompt consideration, you should apply early. All final documentation must be received by the EPS no later than one month prior to intended registration date.

The D.H.Sc. Committee on Admissions will not consider an application until all required fees, credentials, transcripts and test scores have been received by the EPS.

## Tuition and Fees

Tuition for D.H.Sc. courses for 2018–2019 will be posted on our website ([nova.edu/cah/healthsciences/dhs](http://nova.edu/cah/healthsciences/dhs)). Additional expenses and fees may be incurred. Examples include, but are not limited to, travel to and from campus, graduation fees, and books. An NSU student services fee of \$1,350 is required annually. All tuition and fees are subject to change by the board of trustees without notice.

## Requirements for Graduation

To be eligible to receive the D.H.Sc. degree, students shall

- be of good moral character
- satisfactorily complete the program of 61 semester hours (minimum) of study required for the degree.
- successfully complete the D.H.Sc. internship and practicum, and doctoral analysis
- receive a recommendation by the D.H.Sc. program director to the dean of the Dr. Pallavi Patel College of Health Care Sciences

## Curriculum Outline

Introductory Course (Required)			Credit Hours
DHS	8121	Scientific Writing	2*

### Core Courses

#### Core Block One—16 Credits

Four of the following courses are required. (Must include one policy and one ethics course.)

			Credit Hours
DHS	8000	Professional Competencies in the Clinical Care of Diverse Populations	4
DHS	8030	Community Health Promotion and Disease Prevention	4
DHS	8040	Professionalism and Health Care Ethics	4
DHS	8045	The Influence of Ethics and Culture on Global Health	4
DHS	8090	Health Policy, Planning, and Management	4
DHS	8095	Global Health Policy	4
DHS	8110	Community Environmental and Occupational Health	4
DHS	8196	Theories and Principles for Health Care Educators	4
DHS	8197	Traditional and Competency-Based Curriculum and Implementation	4

Students interested in a global health concentration should take DHS 8045 and DHS 8095, either as core courses or as electives. Students taking the education for health care professions concentration should take DHS 8196 and DHS 8197, either as core courses or electives.

#### Core Block Two—8 Credits

Two of the following courses are required.

			Credit Hours
DHS	8400	Global Health Issues	4
DHS	8750	Patient Safety Medical Error	4
DHS	8190	Health Care Education	4
DHS	8800	Health Care Informatics	4
DHS	8810	Epidemiology and Global Health	4
HSP	9006	Evidence-Based Medical Practice	4

Students interested in the global health concentration should take DHS 8400 and DHS 8810, either as core courses or electives.

<b>Experiential (required)—11 Credits</b>			Credit Hours
DHS	8125	Preparation Forum	1
DHS	8130	Internship	5
DHS	8140	Practicum	5

<b>Residential Institutes (required)—12 Credits</b>			Credit Hours
DHS	8010	Statistics and Research Methods	4
DHS	8080	Conflict Resolution in Health Care	4
DHS	8170	Leadership in Health Care	4

### **Electives—12 Credits**

Three of the following courses are required. Additional Core Block One or Two courses may be substituted.

			Credit Hours
DHS	8100	Alternative and Complementary Medicine	4
DHS	8165	Human Trafficking: Legal Issues, Public Health, and Advocacy for the Health Care Profession	4
DHS	8175	Strategic Organizational Development, Policy, and Executive Decision Making	4
DHS	8176	Moral, Diversity, Legal, and Budgetary Challenges Confronting Contemporary Leaders	4
DHS	8180	Medical Writing for the Health Professional	4
DHS	8195	Academic Health Program Development	4
DHS	8199	Interprofessional Health Care	4
DHS	8200	Independent Study A	4
DHS	8250	Independent Study B	4
DHS	8700	Comparative International Health Systems	4
DHS	8775	Survey of Health Law	4
DHS	8820	Telehealth Concepts, Applications, and Future Trends	4
DHS	8825	Technological Infrastructures of Telehealth	4
DHS	8830	Strategic Planning for Telehealth Programs and Services	4
DHS	8900	Narrative Medicine	4

Students interested in the global health concentration should take DHS 8400 and DHS 8810, either as core courses or electives. Students interested in the education in the health care professions concentration should take DHS 8195 as an elective. Students interested in the telehealth concentration should take DHS 8820, DHS 8825, and DHS 8830 as electives.

### Capstone (required)—2 Credits

This course must be completed in the last semester of coursework. Omit if DHS 8121 is taken. DHS 8121 is not part of the curriculum for students matriculating in the spring 2018 term or thereafter.

			Credit Hours
DHS	8120	Doctoral Analysis	2
OR			
DHS	8121	Scientific Writing	2*
			<b>Total 61</b>

On-campus institutes—These one-week, summer sessions are held either on the main campus or at one of the NSU regional campuses. Two such institutes are required to complete the program for the D.H.Sc. degree. These institutes are required for both the generalist concentration and the conflict resolution concentration.

\*DHS 8121 Scientific Writing is required for all students entering as of spring 2018. Students who have matriculated before spring 2018 may take this course or DHS 8120 Doctoral Analysis for their capstone.

## Doctor of Health Science Course Descriptions

### DHS 8000—Professional Competencies in the Clinical Care of Diverse Populations

This course focuses on issues and information relating to the general epidemiological concerns, health care disparities, and specific health and disease issues involved in the care of both culturally based diverse populations (African American, Native American, Asian and Asian sub-populations, and Latino-Hispanic populations) and other nonethnic special populations (homeless, uninsured, indigent, disabled, incarcerated, rural, inner city, GLBT, geriatric, pediatric, and others). (4 credits)

### DHS 8010—Statistics and Research Methods

This course allows the student to develop an understanding through critical analysis of the basic research methods used in health care. Students will be taught to critically analyze medical information and perform effective literature reviews. (4 credits)

### DHS 8030—Community Health Promotion and Disease Prevention

This course develops the knowledge and skills needed to work with communities to improve health status of the community. Major topics will include health promotion and disease prevention. Special emphasis will be placed on the Healthy People 2010 initiatives. (4 credits)

### DHS 8040—Professionalism and Health Care Ethics

This course is an in depth study of the concepts of health care ethics. The course of study analyzes the differences between ethics and law and examines the core values and beliefs of medical professionalism. Methods of ethical analysis and review of current case studies will be used in critical discussions of ethical dilemmas faced by health care personnel in areas such as cloning, organ transplantation, and the implications of the Human Genome Project. The student will explore the personal values, professional standards, and institutional guidelines that define the roles and responsibilities of the health care practitioner. (4 credits)

### DHS 8045—The Influence of Ethics and Culture on Global Health

Technology, research, and advancement of health care interventions have produced impressive improvements in health outcomes for many. Unfortunately, these advancements have also lead to inequalities in health status within and between countries, creating growing global ethical dilemmas. The world is faced with new challenges, such as the potential for pandemics, an aging population, a diminishing health care workforce, and the stresses of determining resource allocation. With these challenges comes a need to better understand the process of ethical reasoning and resolution, as this will

be paramount for the development and maintenance of global health. Another dimension that must be considered in ethical decision making is the influencing factors of culture. Culture comprises the political, social, economic, religious, and ethnic norms and values of a society. Culture is instrumental in shaping bioethical policy worldwide, which necessitates its inclusion and consideration in all global ethic discussions. The purpose of this course is to provide an introduction to the principles and theories of ethics as applied to global health and how culture influences ethical decision making. The course will examine some of the primary theories and principles in health care ethics including virtue, deontology, utilitarian, autonomy, justice, beneficence, and nonmaleficence. The course will explore many prominent global health issues and exemplify how greater knowledge and understanding of global ethics and culture is vital to effective and sound decision making. Topics that will be discussed in the course include ethical issues related to pandemic preparedness, end of life, human organ transplantation, clinical research in developing countries, human rights, resource allocation, and the effects of globalization on world health. It is anticipated that students will bring their own ethical dilemmas arising from their own experiences, cultures, and practices. (4 credits)

#### **DHS 8080—Conflict Resolution in Health Care**

This course examines and analyzes the nature and dynamics of human conflict within civil societies. Emphasis is placed on conflicts within and among governments and public sector agencies and between the health provider, patients, and medical institutions. Students will be expected to take an active role in the course and develop their own strategies for dealing with conflict. A paper will be required that details and analyzes a conflict situation in the student's work or other environment and how the conflict was resolved. (4 credits)

#### **DHS 8090—Health Policy, Planning, and Management**

This course critically examines the dynamics of health care in the United States. The student is expected to analyze the health care industry and contrast nonprofit and for-profit health care delivery systems. A critical exploration of the ramifications of health care reform and the impact on institutions and individuals will be undertaken. The concepts of cost containment and long-term care will be analyzed. (4 credits)

#### **DHS 8095—Global Health Policy**

Globalization affects all sectors, including health care, and understanding key policy issues is essential in the study of global health. This course, taught from a clinical perspective, examines the health policy issues confronting international health organizations, governments, and specific populations. It reviews the processes that influence

the development and implementation of policies and examines specific topics related to HIV/AIDS, poverty/nutrition, infectious disease, smoking, concerns of women and children, and other major global health concerns. (4 credits)

#### **DHS 8100—Alternative and Complementary Medicine**

This course examines and analyzes alternative and complementary medicine and their impact on the health care industry. The approach to the subject is to present selected alternative and complementary medicine fields in an informative, nonjudgmental format. (4 credits)

#### **DHS 8110—Community Environmental, and Occupational Health**

Issues such as air and water quality and waste management will be examined. OSHA will be examined and analyzed for its impact on health and health care. Trends in environmental and occupational health legislation will be examined for their impact potential. (4 credits)

#### **DHS 8120—Doctoral Analysis**

In this faculty member-supervised project, and the capstone of the program, the student will develop a paper using the objectives from the core courses and one elective as guidelines and references to form the basis of the paper. This will require research into teaching and learning methods, as well as online and in-class comparisons. The outcome or final product will be an in-depth analysis of the information presented and the knowledge gained during the doctoral program. This paper will also include methods for improving the program of study in the D.H.Sc. program and detailed methods to be used to deliver the proposed changes. (2 credits)

#### **DHS 8121—Scientific Writing**

This course is designed to familiarize students with the writing competencies for writing papers in the Doctor of Health Science (D.H.Sc.) program. This course will cover the genre of scientific writing. Scientific writing is used in research and report writing. It is more precise and succinct, which is different from the way we speak to each other and other types of writing. Scientific writing is based upon scientific theory and evidence from the literature. Upon completion of the course, students will be given a foundation for all DHS courses. (2 credits)

#### **DHS 8125—Preparation Forum**

Students should enroll in this course within one to two semesters of matriculation into the D.H.Sc. program. This is a 1-credit course where students work closely in a one-on-one fashion with their course instructor/mentor to develop appropriate learning objectives and experiential plans for the internship (8130) and a substantial developmental project for the practicum (8140). Together, the internship



and practicum form the capstone of the program. Attention is also paid to appropriate preparation for the form and style of the written deliverables of the internship and practicum and appropriate timelines for completion. Successful completion of this course will include completion of APA-style quizzes, approval of topic for DHS 8130 at least one semester prior to enrollment, approval of topic for DHS 8140 one to two semesters prior to enrollment, and completion of an error-free proposal for DHS 8140 at least one to two semesters prior to enrollment. Students will be continuously enrolled in DHS 8125 until all three tasks are accomplished. (1 credit)

#### **DHS 8130—Internship**

This course is the capstone of the program. The student will perform an internship at a community health care institution, clinic, educational facility, etc., which is approved in the DHS 8125 course at least one semester prior to enrolling in DHS 8130. The student should spend a minimum of 80 clock hours learning skills from a mentor. Examples of acceptable internship experiences include teaching assistantships to learn on-site or online teaching skills, volunteering at nonprofit organizations to learn about particular topics in health promotion and disease prevention, or shadowing an executive to learn leadership and executive skills, among other experiences. Students on the global track must have an internship experience that has an international basis. The student will write a report that describes the institution, defines the population served, and details the health promotion activities observed. A critical evaluation should be made that details strengths, weaknesses, opportunities, and threats to the institution in order to analyze if the skills delineated are able to be learned. **Prerequisite:** DHS 8125 (5 credits)

#### **DHS 8140—Practicum**

The practicum is a written project that is developmental in nature. The practicum project must be approved in the DHS 8125 course one to two semesters prior to enrolling in DHS 8140. Enrollment in the practicum course must be preceded by a proposal that contains the project idea and a preliminary literature review, which will be written in the DHS 8125 course at least one to two semesters prior to enrolling in DHS 8140. The student will be required to choose a health promotion topic and create a health promotion program or educational resource that can be used for a community education program. An implementation and evaluation plan must be included in the final product. Examples of appropriate educational resources include developing a presentation for a national conference, developing a presentation for an in-service, or developing a course curriculum. Students on the global track must have an international basis for the project. **Prerequisite:** DHS 8125 (5 credits)

#### **DHS 8150—Continuing Internship Services**

This course is a continuation of DHS 8130. It is used when the student is given an incomplete grade and needs to finish his or her internship. (2 credits)

#### **DHS 8160—Continuing Practicum Services**

This course is a continuation of DHS 8140. It is used when the student is given an incomplete grade and needs to finish his or her practicum. (2 credits)

#### **DHS 8165—Human Trafficking: Legal Issues, Public Health, and Advocacy for the Health Care Professional**

This course will examine the issue of human trafficking through a health care, policy, and public health lens. Through investigation of current resources in their communities, as well as researching primary resources (research articles, public policies and human trafficking laws, governmental and nongovernmental agencies reports), students will analyze the consequences of human trafficking at the individual and community levels. Students will identify gaps in research and/or policies and will formulate potential solutions. Building on this new knowledge, students will build a plan to influence change and advocate for victims locally, nationally, or internationally. (4 credits)

#### **DHS 8170—Leadership in Health Care**

This course explores the various methods of leadership and management, both in and out of health care, and their impact on productivity, profitability, and employee satisfaction. Critical analysis of the different types of leadership and management theories is given and the need for developing a leadership plan is explored. The student is expected to gain knowledge of the various types of leaders and systems and will be required to research and develop a paper on a specific leadership topic. (4 credits)

#### **DHS 8175—Strategic Organizational Development, Policy, and Executive Decision Making**

The course is designed to impart simple, but powerful lessons that will equip participants to more fully engage in strategic discussions, ask pertinent questions, facilitate critical decisions, and shape high-performing organizations. This course will expose the learner to the examination of strategic processes that influence and determine the direction of an organization. Students will analyze the organizational mission objectives, identify organizational strengths and environmental opportunities, examine the components of competitive advantage, and develop strategies and policies to achieve the organization's mission. Students will understand how to structure the decision-making process and use quantitative techniques such as decision trees and simulation, as well as qualitative techniques such as estimating probabilities, as part of executive decision-making. (4 credits)

### **DHS 8176—Moral, Diversity, Legal, and Budgetary Challenges Confronting Contemporary Leaders**

This course will focus on contemporary challenges of leadership. Students will acquire skills related to the preparation and management of budgets. Specific attention will be given to budgeting theories and sources and uses of financial support. The course will address challenges related to employee rights and responsibilities, client/student rights and responsibilities, and institutional and personal liability applicable to education and health organizations and institutions. Emphasis will be placed on scenarios and practical application to real-world situations. **(4 credits)**

### **DHS 8180—Medical Writing for the Health Professional**

The demand for medical writing professionals is growing significantly. So, too, is the supply of individuals with advanced health science and professional degrees seeking careers both in and outside of academia. This course is designed to provide doctoral students with the foundational knowledge and skills needed for successful publication of a professional journal article or clinical case review. Methods of document preparation, proper word and punctuation use, and the requirements for authors of biomedical journal articles will be discussed. This course is not designed for entry-level medical writing; rather it is designed for professionals with a strong biomedical and/or life sciences background to write for scientific audiences in peer-reviewed journals. This course encourages good writing skills through choosing better words; writing better sentences; and preparing tables, graphs, and photographs. All students are required to develop and submit a quality paper that meets the requirements for publication in a peer-reviewed professional or biomedical journal. The *Publication Manual of the American Psychological Association* (APA) 6th Edition, will be the required format for all formal assignments. **(4 credits)**

### **DHS 8190—Health Care Education**

This course explores the various theories and applications of adult education in the practice of training, preprofessional education, and postprofessional education of medical personnel. Critical analysis of the different methods of teaching and training health care professionals is accomplished through discussion, research, investigation, journal development, and assignments. **(4 credits)**

### **DHS 8195—Academic Health Program Development**

This course explores the major steps to be undertaken when considering the development of new academic health programs at a college or university. Special emphasis is given to the needs assessment and how to conduct the needs assessment. Budget will be discussed and developed; the course will highlight the development of faculty and the specific qualifications of faculty needed for a particular

program specialty. Emphasis will be placed on the resources needed and resources available in the targeted community. Through the completion of various projects, the student will be expected to demonstrate mastery of the subject matter via application of the material and information presented in the assigned readings, participation in the discussion board, and participation in the course activities. **(4 credits)**

### **DHS 8196—Theories and Principles for Health Care Educators**

This course explores some of the major learning theories that are utilized in health professions programs with emphasis on adult learning theory. The use of Bloom's Taxonomy in creating curriculum is explored. Students will be exposed to various methods of delivering material to be learned in their respective health discipline. The knowledge gained in this course will enhance the seasoned instructor and give invaluable insight and guidance to those transitioning from clinical practice to education in the health professions. **(4 credits)**

### **DHS 8197—Traditional and Competency-Based Curriculum and Implementation**

The course will expose students to the traditional tenets of curriculum development and the facets of curriculum development of the aspects of competency-based instruction. Students will gain knowledge in the area of instructional implementation in the education of health care professionals. Subject matter will include, but not be limited to, student assessment, utilization of technology in education, course development, writing test questions that accurately assess learning outcomes, incorporating simulation methods, and problem-based learning. **(4 credits)**

### **DHS 8199—Interprofessional Health Care**

The changing landscape of health care delivery systems will continue to be more challenging as patient care becomes more complex. The health care team involves multiple disciplines, whose providers form the health care team along with the patient and caregivers. Health care providers must be able to transition into clinical practice settings prepared to participate in relationship-centered interprofessional and intra-discipline teams. This course prepares the learner to gain experience in applying strategies that promote a collaborative-practice style that has the ultimate goal to improve the quality of an integrated and comprehensive, medical and oral, patient-care delivery system. Using a competency-learning approach to coursework, the student will acquire the skills of patient-centered care that is relationship focused, process oriented, and applicable across professions and practice settings. Students will develop a comprehensive health care plan that includes oral health considerations for a patient case study. **(4 credits)**

#### **DHS 8200—Independent Study A**

This course is a self-directed, faculty-supervised experience for the student. The student will be required to develop a proposal regarding the topic of study, a learning contract with specific objectives, and a plan of action that includes methods of obtaining the information and the material produced, thus demonstrating an in-depth understanding of the subject areas. A faculty member will be assigned to the student for the supervised study and will follow the approved learning contract for successful completion of the course. The purpose of this course is to allow the student to explore an area of interest in the field of health care or health sciences. The secondary benefit of the course is to allow the student, with the assistance of the faculty member, to develop and complete a doctoral-level course of study. Upon completion of the course, the student should be able to develop a proposal regarding a particular area of health sciences sufficient for doctoral level of study, develop a learning contract and self-directed course of study at the doctoral level, develop curriculum components for an educational program using self-directed study, describe information research during the completion of the objectives, and describe the methods of developing and successfully completing a self-directed course. **(4 credits)**

#### **DHS 8250—Independent Study B**

This course is a self-directed, faculty-supervised experience for the student. The student will be required to develop a proposal regarding the topic of study, a learning contract with specific objectives, and a plan of action that includes methods of obtaining the information and the material produced, thus demonstrating an in-depth understanding of the subject areas. A faculty member will be assigned to the student for the supervised course. The purpose of this course is to allow the student to explore an area of interest in the field of health care or health sciences. The secondary benefit of the course is to allow the student, with the assistance of the faculty member, to develop and complete a doctoral-level study. Upon completion of the course, the student should be able to develop a proposal regarding a particular area of health sciences sufficient for doctoral level of study, develop a learning contract and self-directed course of study at the doctoral level, develop curriculum components for an educational program using self-directed study, describe information research during the completion of the objectives, and describe the methods of developing and successfully completing a self-directed course. **(4 credits)**

#### **DHS 8400—Global Health Issues**

Global health care is an emerging priority for health professional education programs and clinical practice. It is essential for all health care professionals to understand the impact of global health issues on health care and

international economic stability. This course explores the many facets of global health to expose the student to the complexity of the concepts that impact health care in developing and developed countries. **(4 credits)**

#### **DHS 8700—Comparative International Health Systems**

The purpose of this course is to provide an introduction to the principles, structure, and function of international health systems through a comparative analysis of various countries' health care systems. The course will explore how national systems have evolved and how countries confront the emerging issues in health care. It will explore and develop a systematic comparative analysis of the evolution, administrative structures, societal choices, financing, and provision of health care services in underdeveloped, developing, and developed countries. **(4 credits)**

#### **DHS 8750—Patient Safety Medical Error**

Leadership plays a key role in adopting practices to promote patient safety, and leaders should have the skills necessary to be effective in the implementation of these practices. This course will focus on patient safety through a study of safety-oriented leadership, organizational culture, human factors, decision-making science, communication, and a systems approach to health care delivery. Current best practice models and the latest professional literature emphasizing patient safety will be featured. **(4 credits)**

#### **DHS 8775—Survey of Health Law**

This course is designed to introduce D.H.Sc. students to health law, or law as it affects the professionals and institutions that deliver health care in the United States. The course focuses on the traditional areas of concern for courses on health law, including: 1) access to health care; 2) the cost of health care; 3) the quality of health care; and 4) protection of the patient. **(4 credits)**

#### **DHS 8800—Health Care Informatics**

This course will focus on available and future methodologies and technologies for the processing, archiving, analysis, and transmission of data, information, and knowledge in the medical and health care setting. **(4 credits)**

#### **DHS 8810—Epidemiology and Global Health**

This course emphasizes the underlying concepts of the epidemiologic approach as it relates to pertinent global health issues. The student will be introduced to principles and methods of epidemiologic research. These include study designs, measures of frequency association, impact, and sources of error. Application to global health and public health strategies for disease prevention, surveillance, and control are discussed. **(4 credits)**

### **DHS 8820—Telehealth Concepts, Applications, and Future Trends**

Telehealth involves any technology-medical communication that facilitates health services, such as the exchange of information in coordinating patient care. This course explores the foundational concepts that support telehealth within a health care environment, including information privacy and security standards that support health information systems and technologies. Students will examine the current applications of telehealth and propose recommendations that resolve common issues within clinical settings. The course has an emphasis on the legal and ethical considerations with implementing telehealth programs. Furthermore, students will appraise future trends by reviewing current telehealth products and anticipating upcoming innovations or practices. **(4 credits)**

### **DHS 8825—Technological Infrastructures of Telehealth**

The health industry's technology has been rapidly evolving—with telehealth placed as an area of value and growth potential. Telehealth, which involves the use of any technology in providing clinical services, requires health professionals to develop strong skills in information systems and technologies. This course introduces aspects of technology management relevant to telehealth practices. Students will discover ways in which data is captured, transmitted, stored, and retrieved. Students will learn how to uphold information security and privacy through contemporary approaches in technology management. The course presents technical concepts from a leadership perspective; learners will be able to determine the types of skills used by technology experts in the management of telehealth services or programs. Upon successful completion of the course, students will be able to apply telehealth approaches across various areas of medicine and different health care organizations. **(4 credits)**

### **DHS 8830—Strategic Planning for Telehealth Programs and Services**

Telehealth services utilize health information technologies and systems to facilitate health care operations, clinical procedures, and the exchange of health information. Health care organizations have found it necessary to coordinate the rapid growth of telehealth/telemedicine services by building partnerships, exploring business ventures, and launching comprehensive programs. This course examines telehealth strategies and initiatives through case-study analysis and class discussions. Students will practice hands-on management of telehealth technologies, systems, and operations. Throughout the course, students will engage in a comprehensive strategic planning process—honing professional communication, teamwork, and customer service skills. **(4 credits)**

### **DHS 8900—Narrative Medicine**

There is great value in listening to patient narratives and reflecting upon what is communicated through these stories about health, illness, suffering, and recovery. In this course, students will explore written forms of patient narratives, as well as multimedia presentations, movies, music, song, and visual arts to improve their understanding of patient experiences. Students will learn how to enhance their own listening, self-reflection, and communication skills, and, in the process, they will develop narrative competencies that emphasize empathy, compassion, and other effective components of quality care. The course will explore ways in which a study of the medical humanities contributes to a deeper understanding of personal and social features that affect the quality of patient care. **(4 credits)**

### **HSP 9006—Concepts in Evidence-Based Medical Practice**

This course provides a working knowledge of evidence-based medicine. Cases will be used as the backbone of this course to assist the student in analyzing data to justify the treatments used in clinical practice. Students will also learn how to critically appraise the literature, evaluate diagnostic test performance, design clinical pathways and standards of care, and implement evidenced-based medicine findings in their own clinical or administrative settings. **(4 credits)**

### **Capstone Course**

(Omit if DHS 8121 is taken. DHS 8121 is not part of the curriculum for students matriculating in the spring 2018 term, or thereafter.)

### **DHS 8120—Doctoral Analysis**

In this faculty-supervised project, the capstone of the program, the student will develop a paper using the objectives from the core courses and one elective as guidelines and references to form the basis of the paper. This will require research into teaching and learning methods as well as online and in-class comparisons. The outcome or final product will be an in-depth analysis of the information presented and the knowledge gained during the doctoral program. This paper will also include methods for improving the program of study in the D.H.Sc. department and detailed methods to be used to deliver the proposed changes. **(2 credits)**

## Doctor of Philosophy (Ph.D.) in Health Science Program

The Doctor of Philosophy (Ph.D.) in Health Science is a postprofessional, distance-based, research doctoral program designed for master's degree-prepared clinical health professionals, public health practitioners, and senior-level health care administrators. The focus of the Ph.D. in Health Science is to educate and graduate research practitioners with the skills and knowledge to conduct research in a complex society and environment, while focusing globally within the framework of health policy. The Ph.D. in Health Science requires 75 credits for completion. Students take courses through online delivery, with on-campus institutes. Successful completion of comprehensive exams is required before moving to the dissertation stage. The dissertation is 12 credits, with an on-campus oral defense. Students have up to seven years to complete the program.

The Doctor of Philosophy in Health Science is designed to provide a means of Ph.D. completion for working health care professionals currently at the master's degree level, increasing opportunities for health practitioners to earn a terminal degree in the field of health science with a core focus in research. It will prepare graduates to function both independently and interdependently within the clinical and non-clinical research environment and for advanced development of new knowledge in their fields of expertise. The Ph.D. in Health Science program challenges the student to examine the current state of health care; apply sophisticated knowledge of research design, biostatistics, and epidemiology to the literature of their core discipline; and initiate the design and follow up mechanisms for research in health care. Its professor-driven, student-centered online course delivery is coupled with a research practicum; a minimum of two one-week, on-campus institutes; a comprehensive examination, and a dissertation with oral defense.

### Admissions Requirements

The Ph.D. program will admit health care professionals with diverse graduate education, professional level health care work history, and life experiences who have demonstrated capacity to pursue a rigorous course of graduate study and increasingly responsible positions in health care. Applicants interested in the Ph.D. in Health Science program will apply directly to the program. The Ph.D. Committee on Admissions will recommend prospective students for admission by considering the overall qualities of the applicant through Graduate Record Examination (GRE) scores, statement of intent, writing samples, letters of recommendation, and the personal interview.

1. All applicants must hold a master's degree or a professional doctorate (for example, Au.D., D.P.T., O.T.D., D.S.W., Dr.P.H., D.M.D., SLP.D., D.C.) from a regionally

accredited college or university, prior to matriculation in the program.

2. Applicants must have a minimum cumulative master's degree or a professional doctoral GPA of 3.0 or better on a 4.0 scale.

3. It is recommended that applicants have official Graduate Record Examination (GRE) scores of 150 (verbal), 149 (quantitative), and 4 (analytical writing). GRE scores must be less than five years old at the time of matriculation into the Ph.D. program.

4. Prior health care or health research experience is required and is strongly considered in the admissions process. Applicants must submit a copy of their current state license and/or professional certification or verifiable documentation regarding this experience to the Office of Admissions.

The Ph.D. is a postprofessional degree designed for health practitioners, public health professionals, and health care administrators from a wide variety of disciplines. Students in this program must demonstrate expert practice of a recognized health occupation at a professional level, or have five years of administrative experience in a health care organization, with progressively increasing responsibilities during that time.

The successful applicant's health profession may emphasize delivery of services to individual clients (e.g., Au.D., PA, PT, OT, R.N., LCSW) or be population based (e.g., M.P.H., M.H.A.). An appropriate level of professional practice is generally recognized by health professions licensure (e.g., Au.D., R.N., PT, OT, RDH), a national certification or registration (e.g., PA-C, RVT, RRT, CRNA, FACHE), a recognized academic credential (e.g., M.P.H., M.S.N., M.S.W., M.H.A., M.B.A., J.D., M.A. or M.S. in Audiology, D.P.T., O.T.D.), or a combination of the above. The successful administrative or health care education applicant will demonstrate at least five years of professional experience with increasing levels of responsibility in a health care or health care education setting. Professional experience will be documented by an organizational chart demonstrating the applicant's position within the organization and a letter of recommendation from a supervisor attesting to the applicant's level of responsibility within the organization. Health care administrators or health care educators will also need to submit a statement concerning their career and professional goals within the health care environment. Fellowship or certification by a recognized health certifying body (e.g., FACHE, FNSCA, CISSN) is desirable.

All questions regarding the appropriateness of an applicant's qualifications for admission can be discussed

with the department chair or program director on an informal basis, but the official recommendations are made by the Committee on Admissions to the dean of the Dr. Pallavi Patel College of Health Care Sciences, who makes the final determination.

5. Applicant must have a personal interview with the Ph.D. Interview Committee (telephonic or Skype interview is accepted, based on the applicant's needs).

Applicants must also provide

- two letters of recommendation supporting the applicant's aptitude and determination to complete this course of study (The letters should originate from professional colleagues/supervisors or from course instructors at the last school attended.)
- one writing sample that reflects master's or doctoral degree-level original work
- a written statement describing his or her interest in pursuing a Ph.D. in Health Science, past research experiences, dissertation research interests, and career goals
- a résumé or curriculum vitae
- a completed application for admission along with official transcripts from all graduate study
- evidence of computer skills through coursework or self-study prior to the end of the first semester (Students may obtain instruction through the NSU Student Microcomputer Laboratory, the Health Science Online Orientation, or other training facilities.)

## Application Procedures

**The Ph.D. Office of Admissions admits for the fall and winter semesters. Applications are accepted year-round. All final documentation must be received at least 30 days prior to tentative enrollment.**

Before the applicant can be reviewed for possible admission, the following must be submitted:

1. a completed application form along with a \$50, nonrefundable application fee
2. official GRE scores, sent directly from the Educational Testing Service (ETS)
3. official transcripts sent directly from all previously attended professional and graduate institutions

Send all official documents (including GRE scores and transcripts) to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care  
Sciences Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

4. an evaluation for U.S. institutional equivalence for all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
Old Chelsea Station  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 (fax) • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University's Enrollment Processing Services at the address listed here.

5. a complete résumé or CV
6. copies of state, national, and professional certifications or licenses recognized by certifying bodies
7. two letters of recommendation stating that the applicant possesses the aptitude and determination to complete this course of study (The letters should originate from professional colleagues/supervisors or from course instructors at the last school attended.)
8. one writing sample that reflects master's or doctoral degree-level original work
9. a written statement describing the applicant's interest in pursuing a Ph.D. in Health Science, past research experiences, dissertation research interests, and career goals

Applicant must also have a personal interview with the Ph.D. Interview Committee. (A telephonic or Skype interview is accepted, based on the applicant's needs.)

Nonclinical applicants (health administrators and health educators) must also submit a letter of recommendation from a supervisor describing their position in the organization and the scope and duration of their responsibility, a personal statement describing their career goals, and an organizational chart. (This is not required for clinically licensed, registered, or certified applicants or for public health practitioners with an M.P.H.). Clinically qualified applicants should submit a copy of their registration, certification, and/or licensure.

**Important Note:** You must be accepted to the program no later than 21 days prior to the start of a semester in order to register for classes in that particular semester. If not, you will be placed on the accepted student list, but will not be able to start courses in that particular semester. In any case, you must register for your courses no later than 14 days prior to the start of the course in any semester.

The Ph.D. Committee on Admissions will not consider an application until all required fees, credentials, exam scores, transcripts, and documents, are received by the Office of Admissions.

### Transfer of Credits

Students matriculated in the Ph.D. program may petition for a transfer of credits into the program. These credits can be transferred from doctoral courses taken at regionally accredited colleges or universities. All courses to be transferred must be substantially equivalent to courses taught in the program, as determined by the program director and appropriate faculty members. A student who wishes to have a course taken at another institution reviewed for transfer credit must submit a copy of the course syllabus to the program office. Each petition for transfer credit will be reviewed on an individual basis.

### Tuition and Fees

Tuition for Ph.D. courses for 2018–2019 will be posted on our website ([healthsciences.nova.edu/healthsciences/phd/tuition-fees.html](http://healthsciences.nova.edu/healthsciences/phd/tuition-fees.html)). Additional expenses and fees may be incurred. Examples include, but are not limited to, travel to and from campus, graduation fees, and books. Students are responsible for purchasing any required textbooks and/or classroom materials. An NSU student services fee of \$1,350 is required annually. Additionally, students must pay a registration fee of \$25, or a deferment fee of \$75 if a payment plan is selected, each semester. All tuition and fees are subject to change by the board of trustees without notice.

### Requirements for Graduation

To be eligible to receive the Ph.D. in Health Science degree, students must

- be of good moral character
- complete the minimum required coursework of 68 semester hours
- complete the research practicum
- pass all three questions on the comprehensive exam
- complete a dissertation based on original research in an area of the student's expertise or concentration, as approved by the program director and dissertation committee
- defend the dissertation, as determined by the dissertation committee, with verification of presentation or publication

### Computer Requirements

It is highly recommended that the student have access to a desktop or laptop consistent with the following:

- a recent generation of Microsoft Windows (7 or 8) or Apple OS (10.8 or above)
- Microsoft Office software to include Word, PowerPoint, and Excel
- headphones, microphone, camera, and video conferencing capabilities
- Internet broadband access
- surge protection and appropriate back-up options (recommended)

Tablets and smartphones, while very useful, may not be sufficient for all program uses.

## Curriculum Outline

DHS Core Courses—24 Credits			Credit Hours
DHS	8030	Community Health Promotion and Disease Prevention	4
DHS	8090	Health Policy, Planning, and Management	4
DHS	8110	Community, Environmental, and Occupational Health	4
DHS	8080	Conflict Resolution in Health Care*	4

DHS	8170	Leadership in Health Care*	4
HSP	9006	Evidence-Based Medical Practice	4

\* DHS 8080 and DHS 8170 are required summer institute courses.

<b>HPD Research Core Courses—18 Credits</b>			Credit Hours
HPH	7300	Biostatistics I	3
HPH	7310	Biostatistics II	3
HPH	7400	Research Design	3
HPH	7410	Qualitative Research Design	3
HPH	7500	Philosophy of Science	3
OR HPH	7600	Grant Writing and Publication	3
HPH	7700	Test and Measurements	3

<b>Health Science Research Courses—25 Credits</b>			Credit Hours
HSP	9001	Behavior Theories in Health Science	3
HSP	9002	Survey Methodology	3
HPH	7220	Research Ethics	3
HSP	9007	Research Practicum*	4
HSP	9010	Research Practicum Continued	2**

\*HSP 9007 is a required winter institute course.

<b>Comprehensive Exam—1 Credit</b>			Credit Hours
HSP	9008	Comprehensive Exam	1

<b>Dissertation—12 Credits</b>			Credit Hours
HSP	9011	Dissertation	12
HSP	9012	Dissertation	
HSP	9013	Dissertation	
HSP	9014	Dissertation	
HSP	9015	Dissertation	
HSP	9016	Dissertation	
HSP	9017	Dissertation Continuation	2**

\*\*There is a continuing service charge for this course.



## Doctor of Philosophy in Health Science Course Descriptions

### DHS 8030—Community Health Promotion and Disease Prevention

This course develops the knowledge and skills needed to work with communities to improve the health status of that community. Major topics will include health promotion and disease prevention. Special emphasis will be placed on the Healthy People 2010 initiatives. Students will be required to complete a paper of at least 20 pages based on an intervention strategy from Healthy People 2010. The paper will include an introduction, review of the literature, discussion, and conclusion in chapter form. Discussion boards are a required part of this course. (3 credits)

### DHS 8080—Conflict Resolution in Health Care

This course examines and analyzes the nature and dynamics of human conflict within civil societies. Emphasis is placed on conflicts within and among governments and public sector agencies and between the health provider, patients, and medical institutions. Students will be expected to take an active role in the course and develop their own strategies for dealing with conflict. A paper will be required that details and analyzes a conflict situation in the student's work or other environment and how the conflict was resolved. (3 credits, on-campus institute)

### DHS 8090—Health Policy, Planning, and Management

This course critically examines the dynamics of health care in the United States. The student is expected to analyze the health care industry and contrast non-profit and for-profit health care delivery systems. A critical exploration of the ramifications of health care reform and the impact on institutions and individuals will be undertaken. The concepts of cost containment and long-term care will be analyzed. The student will be expected to write a paper on health care reform and managed care that is at least 10 pages in length and provides an informed opinion on future directions of health care reform. The paper should address the question of what new directions managed care may take and what is the future of health care reform. (3 credits)

### DHS 8170—Leadership in Health Care

This course explores the various methods of leadership and management, both in and out of health care, and their impact on productivity, profitability, and employee satisfaction. Critical analysis of the different types of leadership and management theories is given and the need for developing a leadership plan is explored. The student is expected to gain knowledge of the various types of leaders and systems and will be required to research and develop a paper on a specific leadership theory. (3 credits)

### DHS 8810—Epidemiology and Global Health

This course emphasizes the underlying concepts of the epidemiologic approach as it relates to pertinent global health issues. The student will be introduced to principles and methods of epidemiologic research. These include study designs, measures of frequency, association, impact, and sources of error. Application to global health and public health strategies for disease prevention, surveillance, and control are discussed. (3 credits)

### HSP 9006—Concepts in Evidence-Based Medical Practice

This course provides a working knowledge of evidence-based medicine. Cases will be used as the backbone of this course to assist the student in analyzing data to justify the treatments used in clinical practice. Students will also learn how to critically appraise the literature, evaluate diagnostic test performance, design clinical pathways and standards of care, and implement evidenced-based medicine findings in their own clinical or administrative settings. (3 credits)

### HPH 7300—Biostatistics I

The application of quantitative techniques has expanded rapidly in medical decision making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with the knowledge of quantitative techniques. The course will cover descriptive statistics, parametric group comparison statistics, and basic nonparametric statistics and provide an introduction to linear modeling. (3 credits)

### HPH 7310—Biostatistics II

The aim of this course is to enable students to appreciate the richness of statistical science and to invite them to the concept of probabilistic thinking. Statistics is the science of the future. Any technique that students are going to learn will help them to understand the unknown better, and in turn, will increase their success in other courses and in future professional careers.

Principles of statistical inference build upon the course Fundamentals of Biostatistics. The goals of this course are threefold: (1) introduce the basic concepts of probability as well as methods for calculating the probability of an event; (2) assist students in developing an understanding of probability theory and sampling distributions; and (3) familiarize students about inferences involving one or two populations, ANOVA, regression analysis, and chi-square tests. (3 credits)

### **HPH 7400—Research Design**

This course will provide students with a fundamental understanding of the basic methods and approaches used in health care research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretation of research findings. It will prepare students to critically evaluate published literature, and to design sound research studies. The course will be both theoretical and applied. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design a study to address a health-related issue of their choice. (3 credits)

### **HPH 7410—Qualitative Research Design**

This course will focus primarily on the knowledge and skill competencies needed to conduct qualitative research successfully. In this pursuit, students will immerse themselves in the epistemological, theoretical, ethical, methodological, and procedural understanding of qualitative research; apply this knowledge to the conceptualization and conduct of qualitative research; report the findings of the research in the form of a research article; and appraise the quality of such qualitative research products. Upon completion of the course, students will demonstrate that they have mastered the basic competencies needed to create, plan, and complete a qualitative research dissertation. (3 credits)

### **HPH 7500—Philosophy of Science**

This course will address classical issues in the philosophy of science including demarcation; the distinction between what science is and is not; hypothesis development, confirmation, and falsification; causation; and explanation. The course will also explore the ontological, epistemological, methodological, and axiological foundation of the major paradigms within which inquiry in the human services professions are located. Issues of congruence between research question selection and paradigm selection will also be addressed. (3 credits)

### **HPH 7600—Grant Writing**

This course is designed to provide writing experiences that prepare the learner for manuscript and grant proposal submissions. This introductory experience into the grant process from proposal to funding to management will include project management, funding sources, and funding challenges. Other course requirements include a research proposal (manuscript) that is ready for submission for publication and development of a dissertation proposal. (3 credits)

### **HPH 7700—Test and Measurements**

This course provides a foundation in the basic principles of measurement with a focus on how to assess and control for error through research design methods and statistical analysis. Students will explore test construction and parsimonious data analysis methods to develop an understanding for designing instruments and assessment tools. A focus on issues specific to measurement error in the medical sciences will also be examined throughout the course. (3 credits)

### **HSP 9001—Behavior Theories in Health Science**

The purpose of this course is to understand health behavior theories to make decisions on appropriate theories that will guide dissertation research questions and methodology, data analysis, and interpretation. This course presents behavior theories commonly used in the analysis of health care sciences research data. Emphasis is on understanding and applying these concepts and techniques to a dissertation and other research data through writing in APA style. (3 credits)

### **HSP 9002—Survey Methodology**

This course introduces students to a set of principles of survey methodology that are the basis of standard practices in the field. The course provides guidelines for developing survey objectives, designing survey studies, sampling respondents, and administering surveys. Emphasis is on the skills and resources needed to design and conduct a survey. (3 credits)

### **HPH 7220—Research Ethics**

This course introduces students to ethics concepts as they apply to questions and challenges in conducting research with human subjects. The aim is to increase students' awareness of, and ability to reason through, ethical issues that arise in human subjects research. The course will draw upon historical examples, codes, declarations, and other sources of ethical guidance, including discussions of contemporary controversies in human subjects research. (3 credits)

### **HSP 9007—Research Practicum**

Research Practicum requires students to conduct a research activity under faculty member supervision. Objectives include developing the ability to critically review literature, abstract salient points from literature and present them cogently, summarize conceptual and methodological issues in the literature, formulate a research problem derived from the literature, derive research hypotheses from research questions, develop a research methodology, test stated hypotheses, implement research methodology, analyze and interpret data, and write research in APA style. (4 credits)

### **HSP 9010—Research Practicum Continued**

Students who do not complete HSP 9007 in the required 16 weeks must enroll in HSP 9010. A charge of 2 credits for continuing service will be made to maintain the student's full-time status in the Ph.D. program. Students' progress through Research Practicum Continued will increase their total number of degree credits beyond the required 68. (2 credits, continuing service charge)

### **HSP 9008—Comprehensive Exam**

The comprehensive examination is a written examination that students take after the completion of all the required Ph.D. in Health Science coursework and before beginning the dissertation phase of the Ph.D. program. It is designed to evaluate a student's ability to demonstrate that he or she is a suitable candidate for a Ph.D. degree. Successful completion of the comprehensive examination is required for students to move to advanced standing and begin dissertation research.

The comprehensive examination is given two times per academic year, during the summer and winter semesters, and takes place on the Fort Lauderdale/Davie Campus. Students must take the comprehensive examination within one year of completion of all academic coursework. Failure to complete the requirements within the time frame may result in dismissal from the program. Students who register for the comprehensive examination certify by this action that they are prepared to take the exam. However, participating in the comprehensive examination center does not mean that students will pass the comprehensive examination.

Students can withdraw from the comprehensive examination without a reason up to 10 days before the exam. Once this time has passed, students with circumstances beyond their control (such as sickness, car accident, family illness or other extenuating circumstances), must notify the Ph.D. program director at the earliest possible time and provide documentation to support their need to withdraw from the exam. Students who have obtained approval from the Ph.D. program director to withdraw from the comprehensive examination will be allowed to take the comprehensive examination at the next scheduled offering. Students who registered for the comprehensive examination and who fail to take the exam, or students who do not contact the program director requesting to be excused from the examination, will automatically fail the comprehensive examination. Students who have failed the comprehensive examination are referred to the Committee on Student Progress (CSP). The CSP will examine the student's individual case and will make appropriate recommendations to the department chair or designee. See the procedures for the Committee on Student Progress and Student Appeals in the *Dr. Pallavi Patel College of Health Care Sciences Student Handbook*.

The grading of the comprehensive examination is on a Pass/Fail basis. Students are notified of their results on the comprehensive examination by certified mail and copies of the letters are sent to students' NSU email accounts. Following the successful completion of the comprehensive examination, students can register for dissertation credits and begin the dissertation process.

Students are only allowed to take the complete comprehensive exam once and must pass all three categories to move forward to the dissertation phase of the Ph.D. program.

Students who fail one or two of the three categories on the comprehensive examination have failed the exam and are referred to the CSP. The CSP will examine the student's individual case and may recommend that the student be allowed to retake a failed category or categories at the next scheduled institute. Students who do not pass all three exam questions and are given permission to retake one or two questions at the next exam offering will be required to enroll in an additional 1-credit continuation course. If students are allowed to retake a failed category, they have one opportunity to pass all failed categories. Failure of one or two categories on retake results in the student's second failure of the comprehensive exam. Students who fail the comprehensive examination on retake are referred to the CSP for possible dismissal from the Ph.D. program.

Students who wish to dispute their grades must contact the Ph.D. program director, as there is no direct communication between graders and students. Grade disputes must be submitted in writing within five business days of notification of the comprehensive examination results. The program director will interact directly with the faculty member who graded the exams and inform the student of the grader's comments. The grade dispute ends at the program director.

All college-wide policies regarding academic honesty, the student progress committee, and appeals apply to the comprehensive exam.

Students are required to familiarize themselves with the academic standards and the academic honesty policy and procedure as described in the *Dr. Pallavi Patel College of Health Care Sciences Student Handbook*. (1 credit)

### **HSP 9011, 9012, 9013, 9014, 9015, and 9016—Dissertation**

The dissertation is scheduled as six courses over two years. This includes the dissertation preparation seminar, proposal, dissertation, and oral defense. Students will conduct original research in an area of the student's expertise or concentration, as approved by the program chair and dissertation committee, with verification of presentation or publication. The dissertation will culminate with an oral final defense, which will occur in person at

the summer or winter institute, or on the Fort Lauderdale/Davie Campus. The oral defense must be arranged at least 45 days in advance. Process and requirements are detailed in the *Health Professions Division Dr. Pallavi Patel College of Health Care Sciences Dissertation Guide*. (12 credits)

#### **HSP 9017— Dissertation Continuation**

For any additional semester after the initial six courses, students will register for a dissertation continuation course with a continuing service charge to maintain the students' full-time enrollment. At the end of each semester, students who demonstrate forward progress on their dissertation will earn a *PR* (in progress) grade. Students who do not demonstrate forward progress will earn an *NPR* (not in

progress) grade. Students who earn an *NPR* grade in any dissertation course may register for the next semester, although they may not be eligible for federal funds. Students' progress through dissertation continuation may increase their total number of degree credits beyond the required 67. (2 credits, continuing service charge)

#### **On-Campus Institutes**

These one-week sessions are located either at the Fort Lauderdale/Davie Campus or the Tampa Campus. A minimum of three institutes are required to complete the Ph.D. degree. DHS 8080 and DHS 8170 will be offered as summer institutes. HSP 9007 will be offered as a fall or winter institute.

## **Department of Occupational Therapy**

### **Master of Occupational Therapy Program Overview**

Occupational therapists provide services to enhance participation and function in daily occupations, including self care, work, and leisure. Occupational therapists frequently work with individuals when performance has been interrupted or jeopardized by disease, injury, disability, life stress, or other factors. Therapy consists of clients' planned involvement in occupation—purposeful and meaningful activities—that positively influences their life adaptation. This involvement in occupation may be facilitated by supportive training, specialized equipment, environmental modification and/or problem solving to accomplish life tasks. The therapeutic process is founded upon the belief that individuals are the principal agents of their own adaptation, and through active involvement in occupation, can have a significant impact on their health status, and well-being.

The occupational therapist must be an expert in the knowledge of occupation, its role in health and adaptation, and its use in therapy. Occupational therapy practice requires the therapist to exercise increasingly complex, autonomous decision-making and problem-solving skills in multifactorial situations. The therapist must, therefore, be a critical thinker, capable of evaluating and synthesizing information from a variety of sources about a wide range of phenomena. Finally, the therapist should be a reflective practitioner able to evaluate his or her own clinical reasoning.

The NSU Department of Occupational Therapy offers an entry-level Master of Occupational Therapy (M.O.T.)

degree, an entry-level Doctor of Occupational Therapy (O.T.D.), and two postprofessional degrees: a Doctor of Occupational Therapy (Dr.O.T.), and a Doctor of Philosophy (Ph.D.). The M.O.T. program is a full-time, campus-based entry-level program. The M.O.T. is designed so that a student may enter after completing an undergraduate or graduate degree from a regionally accredited college or university. The Dr.O.T. and Ph.D. are postprofessional OT degrees offered through distance education.

#### **Master of Occupational Therapy Accreditation**

The entry-level Master of Occupational Therapy is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200, Bethesda, Maryland 20814-3449. ACOTE's telephone number, care of AOTA, is (301) 652-AOTA. Graduates of the program will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT certification examination. Note that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

## Master of Occupational Therapy Admissions Requirements

The Master of Occupational Therapy Program selects students based on grade point average (GPA), Graduate Record Examination (GRE) scores, a written essay, letters of evaluation, and an interview. Strong candidates will also demonstrate concern for people of diverse backgrounds, as well as the ability to use judgment, insight, and reasoning.

All applicants, including Occupational Therapy Assistant (OTA) applicants as described below, must

- complete a minimum of 40 volunteer hours with at least two different populations
- complete an undergraduate degree from a regionally accredited college or university
- have a minimum GPA of 3.0 on a 4.0 scale for the last two years of undergraduate study
- have social science and humanities prerequisite GPAs of 3.0 or better
- have a natural science prerequisite GPA of 2.75 or better

OTA applicants completing 60 upper-division credits in the NSU online Bachelor of Health Science program must

- earn an average of 3.0 or better in the Bachelor of Health Science upper-division courses

All applicants, including OTA applicants, must

- have a grade of 2.0 or better in all prerequisite courses
- submit GRE scores that are less than five years old for all three areas of the general test (quantitative, verbal, and analytic writing)

Preference will be given to applicants with a GRE verbal score of 143, a quantitative score of 141, and an analytical writing score of at least 3.5.

### Prerequisite Courses

Course Title	Semester Hours
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#### Natural Sciences

Biology with lab (introduction, general, or principles of) .....	3-4
Anatomy (human) and physiology (including lab) .....	4
OR Anatomy (human) with lab.....	4
AND Physiology with lab.....	3-4
Physics with lab (general, college) .....	3-4
OR Kinesiology.....	3-4

#### Social Sciences

Psychology.....	6
Human growth and development or developmental psychology (must cover infancy through aging) .....	3

Other social sciences (e.g. ethnic studies, anthropology, sociology, or ethics) .....	3
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#### Humanities

English composition.....	6
OR	
English composition.....	3
AND a writing-intensive course.....	3
AND a 4.0 on the writing section of the GRE	
Other humanities (e.g., art, communications, literature, foreign language, history, philosophy, logic, or humanities) .....	9

#### Math

Statistics.....	3
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#### Other

Medical terminology (college) .....	1 (minimum)
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Applicants must demonstrate computer and word processing competency.

NOTE: None of the science courses can be applied science courses.

### Recommended Courses

The following additional courses will also help in the occupational therapy curriculum.

Course Title	Semester Hours
Ethics.....	3
Public speaking .....	3
Theories of personality .....	3
Logic/philosophy.....	3

## Master of Occupational Therapy Application Procedures

The entry-level Master of Occupational Therapy (M.O.T.) program begins annually in May.

Candidates for admission to the M.O.T. program are responsible for the submission of an application via the Occupational Therapy Centralized Application Service (OTCAS). The OTCAS application deadline is January 2. Priority will be given to individuals whose applications have been verified in OTCAS by February 1. Applications are processed on a rolling or periodic basis. It is in the best interest of prospective students to complete their applications early because of the limited number of positions in the class. Applications received after the deadline date will be considered subject to space availability in the entering class.

Details and fees associated with OTCAS are available on the OTCAS website at [otcas.org](http://otcas.org). After the Office of Admissions has been notified of completed application

processing by OTCAS, students will be asked to submit a required, separate NSU M.O.T. application form by the deadline of March 1 for further consideration, along with a \$50, nonrefundable application fee. Details on application procedures are available at [https://healthsciences.nova.edu/ot/mot/application\\_procedures.html](https://healthsciences.nova.edu/ot/mot/application_procedures.html).

Official Graduate Record Examination (GRE) scores are required from within the last five years in all three areas of the general test: verbal, quantitative, and analytical writing.

The NSU institution code is 5522 and the department code is 0618.

GRE scores should be submitted through the OTCAS system with the M.O.T. application.

Three letters of reference on NSU Master of Occupational Therapy forms from individuals (other than relatives) such as academic instructors and professors, health professionals, volunteer or work supervisors are required. One reference must be from an occupational therapist. Evaluations should be submitted on forms within the OTCAS system.

All applicants, except Occupational Therapy Assistants, must complete a minimum of 40 volunteer hours with at least two different populations. Documentation of volunteer hours must be submitted within the OTCAS system.

Upon receipt of all materials from OTCAS, the NSU application, test scores, and applicable fees, the Committee on Admissions will select applicants to complete a video essay. Those selected will be notified in writing of the expectations and instructions for recording and submitting the video essay. An invitation to complete a video essay should not be construed by the applicant as evidence of acceptance.

If accepted, it is the responsibility of the applicant to ensure arrangements are made for final official transcripts from all undergraduate (including advanced, placement test scores), professional, and graduate institutions attended to be sent directly from each institution. All final transcripts, covering all of the applicants work, must be forwarded to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Occupational Therapy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### **Undergraduate/Occupational Therapy Department Dual Admission Program**

Nova Southeastern University's Health Professions Division has established a dual admission program with the university's Office of Undergraduate Admissions for a select number of highly motivated, qualified students

interested in pursuing both undergraduate and professional studies in occupational therapy.

Candidates must maintain minimum cumulative NSU and science (all BIOL, CHEM, and PHYS courses) GPAs of 3.0 at all times throughout the program. Students will spend four years in an undergraduate school and will be awarded a bachelor's degree from that college. Students who successfully meet all of the application requirements, including a video essay, will be offered the opportunity to transition to the first year of education at Nova Southeastern University's Dr. Pallavi Patel College of Health Care Sciences. Students will receive the Master of Occupational Therapy degree after completion of the M.O.T. program.

For more information and requirements, contact the NSU Office of Undergraduate Admissions, 3301 College Avenue, Fort Lauderdale, Florida 33314-7796.

Occupational Therapy Assistants are eligible to apply to the Master of Occupational Therapy (M.O.T.) program after completing a bachelor's degree from a regionally accredited college or university or from the online Bachelor of Health Science program at NSU. For more information about the B.H.Sc. online degree completion program, visit [healthsciences.nova.edu/healthsciences/bhs](https://healthsciences.nova.edu/healthsciences/bhs) or email [bhsinfo@nova.edu](mailto:bhsinfo@nova.edu).

### **Tuition and Fees**

Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/ot](https://nova.edu/ot)).

A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 also is required annually.

**Acceptance and Preregistration Fee—\$1,000.** This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within four weeks of an applicant's acceptance or by April 15, whichever comes first.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their education at NSU is important because of the limited number of positions available in each class. Applicants should have specific plans for financing two-and-a-half years of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is required that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

### Master of Occupational Therapy Course of Study

The academic discipline of occupational therapy draws upon and integrates a wide range of interdisciplinary topics. Theories that illuminate the understanding of occupation in human life, the role of occupation in health and adaptation, and the art and science of using activities as therapeutic agents create the foundation for the discipline.

As part of the regular curriculum, occupational therapy students are placed in fieldwork sites that require all students to be fingerprinted and subjected to a background check in accordance with regulations of the Child Care, Licensing and Enforcement Section, Bureau of Children's Services and Broward County, Florida. Additionally, some placement facilities may require criminal background checks and/or drug testing.

Students may, under supervision, provide occupational therapy services to patients seen in the university clinics as part of the regular course of study.

A felony conviction may affect a student's ability to be placed in fieldwork sites and a graduate's ability to sit for the National Board for Certification in Occupational Therapy, Inc. (NBCOT) certification examination or attain state licensure. For further information, applicants may visit [nbcot.org/early-determination](http://nbcot.org/early-determination) and request an Early Determination Review of their background.

### Requirements for Graduation

In order to be eligible for the M.O.T. degree, students shall

- be of good moral character
- have satisfactorily completed the program of study required for the degree (99 semester hours) with a minimum grade of 78 percent in each OCT course; 70 percent in anatomy, physiology, and neuroanatomy; and a minimum cumulative GPA of 2.3
- have satisfactorily met all financial and library obligations to the university
- successfully complete Level II fieldwork within 24 months of completion of didactic courses

## Master of Occupational Therapy Program Curriculum Outline

First Year—Summer Semester			Credits
OCT	5014	Introduction to Occupational Therapy	2
OCT	5963	Foundations for Professional Practice	1
ANA	5420	Anatomy	5
OCT	5400	Physiology	3
<b>Total Credits</b>			<b>11</b>

First Year—Fall Semester			Credits
OCT	5800	Applied Kinesiology for Occupational Therapy	3
OCT	5800L	Kinesiology for OT Lab	1
OCT	5101	Theoretical Foundations of Occupational Therapy Practice	2
OCT	5013	Occupational Analysis	2
OCT	5121	Effects of Chronic Illness, Injury, and Human Disorders on Occupational Performance I	4
<b>Total Credits</b>			<b>12</b>

<b>First Year—Winter Semester</b>			Credits
ANA	5533	Neuroanatomy	3
OCT	5011	Occupational Performance and Participation Throughout the Life Span	3
OCT	5123	Effects of Chronic Illness, Injury, and Human Disorders on Occupational Performance II	4
OCT	5130	Human Interactions	2
OCT	5174	Research Methods	4
<b>Total Credits</b>			<b>16</b>

<b>Second Year—Summer Semester</b>			Credits
OCT	5015	Impact of Context and Environment on Occupational Performance	2
OCT	5015L	Impact of Context and Environment Lab	1
OCT	6106	OT Practice for Mental Health and Wellness	4
OCT	6106L	OT Practice for Mental Health and Wellness Lab	1
OCT	6206	OT Practice for Mental Health and Wellness Practicum	1
<b>Total Credits</b>			<b>9</b>

<b>Second Year—Fall Semester</b>			Credits
OCT	6107	OT Practice with Children and Adolescents or Adults and Older Adults	8
OCT	6207	OT Practice Practicum	1
OCT	6175	Research Development Seminar	2
OCT	6150	Professionalism and Management	3
<b>Total Credits</b>			<b>14</b>

<b>Second Year—Winter Semester</b>			Credits
OCT	6108	OT Practice with Children and Adolescents or Adults and Older Adults	8
OCT	6208	OT Practice Practicum	1
OCT	6176	Research Practicum	2
OCT	6980	Fieldwork and Professional Practice Seminar	1
OCT	6350	Professionalism and Leadership	2
<b>Total Credits</b>			<b>14</b>



Third Year—Summer/Fall Semester			Credits
OCT	6981	Fieldwork Experience I (40 hours/week for 12 weeks)	12
OCT	6982	Fieldwork Experience II (40 hours/week for 12 weeks)	12
<b>Total Credits</b>			<b>24</b>
<b>Total Hours</b>			<b>98</b>

## Entry-Level Doctor of Occupational Therapy Program—Tampa

### Accreditation

The Doctor of Occupational Therapy Entry-Level Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE®) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number, c/o AOTA, is (301) 652-AOTA.

Graduates of the program will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of the exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT certification. Note that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Through its innovative curricular design and delivery model, the entry-level Doctor of Occupational Therapy (O.T.D.) program prepares qualified students to become successful occupational therapy practitioners, managers, and leaders who are generalists with beginning specialization in a selected practice area. The program prepares students with knowledge and skills for competent entry-level, occupation-based practice; professional leadership; and the drive to remain contemporary in a variety of contexts for an ever-changing world—armed with a doctoral level of expertise and clinical reasoning applied to clinical specialization, research, theory explorations, leadership, program and policy development, administration, advocacy, and/or education. The entry-level O.T.D. program has a responsibility to the public to assure that its graduates can become fully competent and caring occupational therapists who are capable of providing benefit and doing no harm. Individuals admitted and retained in the O.T.D. program must possess the intelligence, integrity, compassion, humanitarian

concerns, physical and emotional capacity, cognitive and communication skills, and professionalism necessary to practice occupational therapy. To this end, all entry-level O.T.D. students must meet the requirements outlined in the O.T.D. program's Essential Functions Policy for Admission, Retention, and Graduation. To view the Essential Functions document, visit <https://healthsciences.nova.edu/ot/orientation/forms/otd-essential-functions-policy.pdf>.

As part of our vision, our departmental mission will seek to lead the profession and community through its contributions in educational leadership, community and professional service, lifelong learning, and scholarly endeavors.

### Entry-Level Doctor of Occupational Therapy Admissions Requirements

The entry-level Doctor of Occupational Therapy (O.T.D.) program selects students based on grade point average (GPA), Graduate Record Examination (GRE) scores, written essays, letters of evaluation, and an interview. Strong candidates will also demonstrate concern for people of diverse backgrounds, as well as the ability to use judgment, insight, and reasoning.

All applicants, including Certified Occupational Therapy Assistants (COTAs), as applicable, must

- complete an undergraduate or graduate degree from a regionally accredited college or university
- have a cumulative GPA of 3.0 or better on a 4.0 scale for each of the last two years of study
- have a prerequisite GPA of 3.0 or better on a 4.0 scale for each of the last two years of study
- have a grade of 2.0 or better in all prerequisite courses
- submit minimum GRE scores that are less than five years old for all three areas of the general test (verbal, quantitative, and analytical writing)

- complete a minimum of 40 volunteer hours in at least two different occupational therapy settings that provide services related to children and youth, work and industry, rehabilitation, health and wellness, mental health, productive aging, or another specified facility (or graduation from an accredited occupational therapy assistant program—volunteer hours do not apply to COTAs)
- demonstrate computer and word processing competency to include, but not limited to, World Wide web navigation, software and learning management system (e.g., BlackBoard) utilization, ecorrespondence, database explorations, etc.
- have completed a Test of English as a Foreign Language (TOEFL) or a Pearson Test of English—Academic (PTE-Academic), if applicable

### Prerequisite Courses

Course Title	Semester Hours
<b>Natural Sciences</b>	
Biology with lab (introduction, general, or principles of) .....	3-4
Anatomy (human) and physiology including lab .....	4
OR Anatomy (human) with lab.....	4
AND Physiology with lab.....	3-4
Physics with lab (general, college) .....	3-4
OR Kinesiology.....	3-4
<b>Social Sciences</b>	
Psychology (must include 3 credits of Introduction to Psychology and 3 credits of an upper-level psychology course—abnormal psychology, social psychology, substance abuse, etc.).....	6
Human growth and development or developmental psychology (must cover infancy through aging) .....	3
Other social sciences (e.g., ethnic studies, anthropology, sociology, or ethics) .....	3
<b>Humanities</b>	
English Composition (3 of the 6 credits required should be for an advanced writing course).....	6
Other humanities (e.g., art, communications, literature, foreign language, history, philosophy, logic, or humanities).....	9
<b>Math</b>	
Statistics.....	3
<b>Other</b>	
Medical terminology (college) .....	1 (minimum)

NOTE: Applicants must demonstrate computer and word processing competency.

### Recommended Courses

The following additional courses will also help in the occupational therapy curriculum.

Course Title	Semester Hours
Ethics.....	3
Public speaking .....	3
Theories of personality .....	3
Logic/philosophy.....	3
Intensive writing course.....	3

### Entry-Level Doctor of Occupational Therapy Application Procedures

Candidates for admission to the O.T.D. program are responsible for the submission of an application via the Occupational Therapy Centralized Application Service (OTCAS). The OTCAS application deadline is April. Applications are processed on a rolling or periodic basis. It is in the best interest of prospective students to complete their applications early because of the limited number of positions in the class. Applications received after the deadline date will be considered subject to space availability in the entering class. The application cycle for the entry-level Doctor of Occupational Therapy (O.T.D.) program begins annually in July.

Details and fees associated with OTCAS are available on the OTCAS website at [otcas.org](http://otcas.org). After the Office of Admissions has been notified of completed application processing by OTCAS, students will be asked to submit a required, separate supplemental NSU O.T.D. application form for further consideration along with a \$50, nonrefundable application fee by March 1.

Official Graduate Record Examination (GRE) scores are required from within the last five years in all three areas of the general test (verbal, quantitative, and analytical writing).

The NSU institution code is 5522 and the department code is 0618.

GRE scores should be sent directly to the Office of Admissions.

Three letters of reference on NSU entry-level Doctor of Occupational Therapy forms from individuals (other than relatives) such as academic instructors and professors, health professionals, or volunteer or work supervisors are required. One reference must be from an occupational therapist (not an occupational therapy assistant). Evaluations should be submitted on forms within the OTCAS system.

All applicants, except for Certified Occupational Therapy Assistants (COTAs), as applicable, must complete a minimum of 40 volunteer hours in at least two different OT practice areas. Some of these environments include hospitals, clinics, and private practices with a variety of populations. Forms for submission will be available within the OTCAS system. In the case of an occupational therapy assistant, graduation from an accredited occupational therapy assistant program can qualify for the 40 volunteer hours.

Upon receipt of all materials from OTCAS, the supplemental application, test scores, and applicable fees, the Committee on Admissions will invite selected applicants to submit a video essay. An invitation to submit a video essay should not be construed by the applicant as evidence of acceptance.

If accepted, it is the responsibility of the applicant to ensure arrangements are made for final official transcripts from all undergraduate (including advanced placement test scores), professional, and graduate institutions attended be sent directly from each institution. All final transcripts, covering all of the applicants work, must be forwarded to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Occupational Therapy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Matriculating students should be aware that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

### **Undergraduate/Occupational Therapy Department Dual Admission Program**

Nova Southeastern University's Health Professions Division has established a dual admission program with the university's Office of Undergraduate Admissions for a select number of highly motivated, qualified students interested in pursuing both undergraduate and professional studies in occupational therapy.

Candidates must have a cumulative grade point average of 3.0 on a 4.0 scale. Students will spend four years in an undergraduate school and will be awarded a bachelor's degree from that college. Students will then transition to the first year of education at Nova Southeastern University's Dr. Pallavi Patel College of Health Care Sciences, Occupational Therapy Department—Tampa. Students will receive the Doctor of Occupational Therapy degree after completion of the entry-level Doctor of Occupational Therapy program.

For more information and requirements, contact the NSU Office of Undergraduate Admissions, 3301 College Avenue, Fort Lauderdale, Florida 33314-7796.

Occupational Therapy Assistants are eligible to apply to the entry-level Doctor of Occupational Therapy (O.T.D.) program after completing a bachelor's degree from a regionally accredited college or university or from the online Bachelor of Health Science program at NSU.

For more information about the B.H.Sc. online degree completion program, visit [healthsciences.nova.edu/healthsciences/bhs/index.html](http://healthsciences.nova.edu/healthsciences/bhs/index.html).

### **Tuition and Fees**

Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/chcs/ot/otd/index.html](http://nova.edu/chcs/ot/otd/index.html)).

A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 also is required annually.

Eligible applicants must request in-state tuition on their applications. For tuition purposes, a student's Florida residency status (in-state or out-of-state) will be determined at initial matriculation and will remain the same throughout the entire enrollment of the student at NSU. Accordingly, tuition will not be adjusted as a result of any change in residency status after initial enrollment registration.

**Acceptance Fee—\$400.** This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.

**Preregistration Fee—\$600.** This is due eight weeks after acceptance or by April 15, whichever comes first, under the same terms as the Acceptance Fee.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their education at NSU is important because of the limited number of positions available in each class. Applicants should have specific plans for financing three-and-a-half years of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is required that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

## Entry-Level Doctor of Occupational Therapy Course of Study

The academic discipline of occupational therapy draws upon and integrates a wide range of interdisciplinary topics. Theories that illuminate the understanding of occupation in human life, the role of occupation in health and adaptation, and the art and science of using activities as therapeutic agents create the foundation for the discipline.

As part of the regular curriculum, occupational therapy students are placed in fieldwork sites that require all students to be fingerprinted and subjected to a background check in accordance with regulations of the Child Care, Licensing and Enforcement Section, Bureau of Children's Services and Broward and Hillsborough Counties, Florida. Additionally, some placement facilities may require criminal background checks and/or drug testing.

Students may, under supervision, provide occupational therapy services to patients seen in the university clinics as part of the regular course of study.

A felony conviction may affect a graduate's ability to sit for the National Board for Certification in Occupational Therapy, Inc. (NBCOT) certification examination or attain state licensure.

## Requirements for Graduation

In order to be eligible for the O.T.D. degree, students shall

- be of good moral character
- have satisfactorily completed the program of study required for the degree (122 semester hours) with a minimum grade of 75 percent in each occupational therapy course
- successfully complete clinical internships and residency within 24 months of completion of didactic courses
- fulfill all financial and library obligations to the university
- attend in person the commencement program in the year that the diploma will be conferred

## Entry-Level Doctor of Occupational Therapy Program Curriculum Outline

First Year—Summer Semester (12 weeks)			Credits
ANAT	5420	Anatomy	5
OTD	8101	Introduction to Didactic, Clinical, and Research Experiences	3
OTD	8102	Foundations of Occupational Therapy	3
<b>Total Credits</b>			<b>11</b>

First Year—Fall Semester (16 weeks)			Credits
OTD	8103	Kinesiology in Occupations	3
OTD	8141	Development of Occupation Across the Life Span	3
OTD	8142	Occupational and Contextual Analysis	3
OTD	8151	Human Conditions and Occupations I	3
<b>Total Credits</b>			<b>12</b>

<b>First Year—Winter Semester (16 weeks)</b>			Credits
ANAT	5423	Neuroanatomy	3
OTD	8152	Human Conditions and Occupations II	3
OTD	8143	Therapeutic Use of Self	3
OTD	8161	Evidence in Occupational Therapy Practice/Qualitative Design	3
<b>Total Credits</b>			<b>12</b>

<b>Second Year—Summer Semester (12 weeks)</b>			Credits
OTD	8262	Research Design, Quantitative Methods, Proposal/IRB	2
OTD	8271	Occupational Therapy Interventions I—Psychosocial and Community	6
OTD	8291	Level I Fieldwork Experience: Occupational Therapy Interventions I—Psychosocial and Community	2
OTD	8244	Innovations and Technology in Occupational Therapy	3
<b>Total Credits</b>			<b>13</b>

<b>Second Year—Fall Semester (16 weeks)</b>			Credits
OTD	8272	Occupational Therapy Interventions II—Children and Youth	8
OTD	8281	Business of Practice and Management	3
OTD	8292	Level I Fieldwork Experience: Occupational Therapy Interventions II—Children and Youth	2
OTD	8262L	Research Design Lab/IRB	2
<b>Total Credits</b>			<b>15</b>

<b>Second Year—Winter Semester (16 weeks)</b>			Credits
OTD	8273	Occupational Therapy Interventions III—Physical Disabilities	8
OTD	8292	Level I Fieldwork Experience: Occupational Therapy Interventions III—Physical Disabilities	2
OTD	8263	Research Project—Implementation	1
OCT	8282	Professional Leadership	3
<b>Total Credits</b>			<b>14</b>

<b>Third Year—Summer Semester (12 weeks)</b>			Credits
OTD	8391	Level II Fieldwork Experience	9
<b>Total Credits</b>			<b>9</b>

<b>Third Year—Fall Semester (16 weeks)</b>			Credits
OTD	8392	Doctoral Certification and Introduction to Residency Program	2
OTD	8311	Doctoral Seminar: Occupational Science	3
OR			
OTD	8312	Doctoral Seminar: Wellness in Occupational Therapy	3
OTD	8363L	Research Project Lab—Data Analysis and Interpretation	1
<b>Total Credits</b>			<b>6</b>

<b>Third Year—Winter Semester (16 weeks)</b>			Credits
OTD	8363L	Research Project I Lab	1
OTD	8313	Doctoral Seminar: Applying Measurement Theory to Evaluation	3
OR			
OTD	8370	Specialized Course—Sensory Processing Basis of Occupational Performance	3
<b>Total Credits</b>			<b>4</b>

<b>Fourth Year—Summer Semester (12 weeks)</b>			Credits
OTD	8493	Level II Fieldwork Experience	9
<b>Total Credits</b>			<b>9</b>

<b>Fourth Year—Fall Semester (16 weeks)</b>			Credits
OTD	8494	Doctoral Residency	12
OTD	8464	Dissemination, Reflections, and Exit Colloquium	2
<b>Total Credits</b>			<b>14</b>

Note: Students will have time allotted for administrative purposes (bursar, financial aid, etc.) during on-campus time each semester

**Total Credit Hours to Graduation: 119**

Level I FWE: 360 Hours

Level II FWE: 960 Hours

Residency: 640 Hours

**Total Clinical Education Hours: 1,960 Hours**

## Postprofessional Doctoral Programs in Occupational Therapy

The Department of Occupational Therapy at NSU offers two postprofessional doctoral degrees: the postprofessional advanced practice doctorate—the Doctor of Occupational Therapy (Dr.O.T.), and the research doctorate—the Doctor of Philosophy (Ph.D.). Both of these doctoral programs are taught primarily by distance education with some on-campus time requirements. Applicants with master’s degrees are eligible for admission to the Dr.O.T. program or the Ph.D. program. All applicants must have completed an occupational therapy entry-level program and be eligible to practice as an occupational therapist within one year of initiating the program. Graduates of Nova Southeastern University’s M.O.T. Program with a GPA above 3.5 are assured consideration for admission to the Dr.O.T. program.

### Doctor of Occupational Therapy (Dr.O.T.)

The postprofessional Doctor of Occupational Therapy (Dr.O.T.) degree prepares occupational therapists to become leaders in the advanced practice of occupational therapy, health policy, and program development. Graduates incorporate evidence-based practice, client-centered approaches, occupation-based practice, and best practice to meet society’s occupational needs.

Students are required to complete 39 credits of coursework.

### Admissions Requirements

1. An applicant must have a bachelor’s or master’s degree in occupational therapy from regionally accredited or internationally recognized universities or colleges and be eligible to practice as an occupational therapist within one year of initiating the program. If applicant’s bachelor’s degree is in occupational therapy, applicant must also have 30 graduate credits, although a master’s degree (in any field) is preferred.

Foreign applicants must present the equivalent of a bachelor’s degree and evidence of successful completion of an OT educational program approved by WFOT. All foreign coursework must be evaluated by World Education Services, Inc. ([wes.org](http://wes.org)), Josef Silny & Associates, Inc. ([jsilny.com](http://jsilny.com)), or Educational Credential Evaluators, Inc. ([ece.org](http://ece.org)).

2. A minimum GPA of 3.0 on a 4.0 scale is required for admission.

3. An applicant must demonstrate writing proficiency, as determined by the program director.

4. Foreign applicants must also have a Test of English as a Foreign Language (TOEFL) score of 550 or higher for the written test or 213 or higher for the computer-based test, an International English Language Testing System (IELTS)

score of 6.0, or a Pearson Test of English—Academic (PTE-Academic) score of 54.

The dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

The following courses are required to complete the program:

- Writing for Occupational Therapy—a credit/no-credit, approximately four-week, online course taken prior to the beginning of the first fall semester
- OCT 7005—Evidence-Based Practice and Critical Thinking in OT (3 credits)
- OCT 7010—Theory Development for Models of Practice (3 credits)
- OCT 7103—Occupation-Centered Practice (3 credits)
- OCT 7133—Advanced Policy Issues (3 credits)
- OCT 7302—Contextual Aspects of Occupational Performance (3 credits)
- OCT 7860—Leadership Development in Multiple Contexts (3 credits)
- OCT 7767—Community Program Development
- OCT 7791—Grant Practicum
- OCT 7909—Program Evaluation and Outcome Measurement (3 credits)
- OCT 7910—Capstone I
- OCT 7920—Capstone II
- OCT 7921—Capstone III

### Doctoral Tuition and Fees (Dr.O.T.)

1. Tuition for academic year 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/ot](http://nova.edu/ot)).
2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

The first term’s tuition and fees are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing their professional

education. This should include provision for tuition, living expenses, books and equipment, computer, travel, and miscellaneous expenses.

It is required that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

### **Requirements for Graduation (Dr.O.T.)**

In order to be eligible for the Dr.O.T. degree, students shall

- complete 39 credits of coursework including all program core course requirements within six years
- have satisfactorily completed the program of study with a minimum overall GPA of 3.0, and a minimum grade of B in all coursework
- have successfully completed the capstone paper and residency
- have satisfactorily met all financial and library obligations

### **Doctor of Philosophy (Ph.D.)**

The Doctor of Philosophy (Ph.D.) in Occupational Therapy is conferred in recognition of a demonstrated ability to master a specific field of knowledge and to conduct significant independent research. A minimum of 61 credits of graduate work beyond the master's degree level is required, including a research residency and a dissertation. A majority of the coursework can be completed by distance format except for Summer Research Institutes and four-day weekends in most semesters.

Admissions requirements include a GPA of 3.5 on a 4.0 scale. Graduate-level research methods and introductory statistics are prerequisite courses.

### **Course of Study**

The following courses are required to complete the program:

- Writing for Occupational Therapy—a credit/no-credit, approximately five-week, online course taken prior to the beginning of the first fall semester
- HPH 7300—Fundamentals of Biostatistics (3 credits)
- HPH 7310—Principles of Statistical Inference (3 credits)
- HPH 7400—Research Design (3 credits)
- OCT 7420—Mixed Methods Research (3 credits)
- HPH 7410—Qualitative Research (3 credits)
- HPH 7600—Grant Writing and Publication (3 credits)

- OCT 7010—Theory Development for Models of Practice (3 credits)
- OCT 7101—The Health Professional as Academic Educator (3 credits)
- OCT 7104—Occupational Science (3 credits)
- OCT 7302—Contextual Aspects of Occupational Performance (3 credits)
- OCT 7820—Applying Measurement Theory to Evaluation (3 credits)
- OCT 7860—Leadership Development in Multiple Contexts (3 credits)
- OCT 8945—Studies for the Qualifying Examination (1 credit)
- OCT 7870—Dissertation Seminar (3 credits)
- OCT 8950—Research Residency (3 credits)
- OCT 8970—Doctoral Dissertation (9 credits)
- Electives—(9 credits)

### **Requirements for Graduation (Ph.D.)**

In order to be eligible for the Ph.D. degree, students shall

- complete a minimum of 61 credits of graduate coursework that meets NSU doctoral program requirements within seven years of beginning the program
- complete the program of study required for the degree with a minimum overall GPA of 3.0, and a minimum grade of B in all required coursework
- successfully complete candidacy (or qualifying) examination within one year of completion of academic coursework
- complete dissertation proposal and proposal defense
- obtain IRB approval to conduct dissertation study
- complete research residency
- complete dissertation report
- successfully defend the dissertation, in person, within four years of passing the qualifying examination
- submit documented evidence that dissertation research will be, or has been, presented or published in a peer-reviewed venue at the national or international level
- present dissertation research and findings at pregraduation symposium or professional conference or meeting
- submit dissertation to the University of Michigan's Dissertation Abstracts International (ProQuest/UMI)
- satisfactorily meet all financial and library obligations



## Admissions Requirements

1. Applicants must have a bachelor's or master's degree in occupational therapy from a regionally accredited university or college and be eligible to practice as an occupational therapist within one year of initiating the program. If the applicant's bachelor's degree is in occupational therapy, then the applicant's master's degree may be in any field. International applicants must present the equivalent of a bachelor's degree and evidence of successful completion of an OT educational program approved by WFOT.

2. Applicants must meet the minimum requirements listed below.

- GPA of 3.5 on a 4.0 scale
- graduate-level research methods course
- introductory statistics course
- master's degree

3. Applicants must demonstrate writing proficiency, as determined by the program director.

4. International applicants also must have a Test of English as a Foreign Language (TOEFL) score of 550 or higher for the written test or 213 or higher for the computer-based test, an International English Language Testing System (IELTS) score of 6.0, or a Pearson Test of English—Academic (PTE-Academic) score of 54.

5. All students will be required to have a computer that meets the recommended minimum specifications.

The dean is empowered to evaluate the total qualifications of every applicant and to modify requirements in unusual circumstances.

## Doctoral Tuition and Fees (Ph.D.)

1. Tuition for academic year 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([nova.edu/ot](http://nova.edu/ot)).

2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

The first term's tuition and fees are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing their professional education. This should include provision for tuition, living expenses, books and equipment, computer, travel, and miscellaneous expenses.

It is required that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

## Application Procedures—Dr.O.T. and Ph.D.

Candidates for admission must submit or be responsible for submission of

1. a completed application form along with a \$50, nonrefundable application fee
2. three recommendations from those who can evaluate the applicant's capability for doctoral study
3. a letter of application stating goals and reasons for wanting to pursue doctoral work
4. a scholarly writing sample
5. TOEFL, IELTS, or PTE—A scores (international students, if appropriate)
6. official college transcripts from all undergraduate and graduate institutions attended, sent directly to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Occupational Therapy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

All foreign coursework must be evaluated by World Education Services, Inc. ([wes.org](http://wes.org)), Josef Silny & Associates, Inc. ([jsilny.com](http://jsilny.com)), or Educational Credential Evaluators, Inc. ([ece.org](http://ece.org)).

7. confirmation of initial certification by the National Board for Certification in Occupational Therapy

Foreign students who intend to do their dissertation research abroad may petition to be released from this requirement. Upon receipt of the completed application and required credentials, the committee on admissions will notify, in writing, applicants who are selected for interview. No applicant will be admitted to the Occupational Therapy Department without an interview, but an invitation to appear for an interview should not be construed by the applicant as evidence of acceptance. Notice of acceptance or other action by the committee on admissions will be on a "rolling" or periodic schedule. Early completion of the application is therefore in the best interest of the student.

## Postprofessional O.T.D. Bridge to Ph.D. Program

This program offers another point of entry into the Ph.D. in Occupational Therapy program for occupational therapists who have earned a postprofessional O.T.D. degree. Students may transfer up to two core courses (6 credits) and up to two elective courses (6 credits) for a total of 12 credits. The decision to accept transfer courses and credits is made by the Ph.D. program director and

one other Ph.D. committee member through transcript and syllabus review from the completed O.T.D. program.

Admission requirements, application procedures, course of study, program tuition and fees, and requirements for graduation completion are equivalent to those listed for the Ph.D. in Occupational Therapy program.

## Occupational Therapy Course Descriptions

### ANA 5420—Anatomy

Details human anatomy. Laboratory activities consist of student teams studying prosected cadavers, sections, bone sets, videotapes, radiographs, and models. (5 credits)

### ANA 5423—Neuroanatomy

This course offers a study of the gross structure of the brain and spinal cord and the functional relationship among their parts. It emphasizes major motor and sensory pathways and integrative mechanisms of the central nervous systems. (3 credits)

### ANA 5533—Neuroanatomy

Anatomy of central and peripheral nervous systems. Laboratory activities consist of student teams studying prosected cadavers, sections, radiographs, and models. (3 credits)

### PHO 5400—Physiology

The course is intended to provide students in the occupational therapy program with an understanding of the basic physiochemical concepts and physiological principles underlying the development, maintenance, and propagation of human life. It provides an examination of the physiological processes essential for students in the Dr. Pallavi Patel College of Health Care Sciences, including discussion of clinical applications where appropriate. Topics covered include basic examinations of cellular processes, membrane mechanisms, muscle physiology, the cardiovascular system, the nervous system, renal physiology, the respiratory system, endocrinology, reproductive physiology, and gastrointestinal physiology. (3 credits)

## Computer Requirements

All students must have updated and relevant computer program skills and equipment to successfully participate in the curriculum.

## Nonmatriculating Students

Nonmatriculating students may take up to two courses (6 credits). An application for nonmatriculating students and relevant transcripts are required as well as approval by an occupational therapy doctoral program director.

### OCT 5011—Occupational Performance and Participation Throughout the Life Span

This course explores the development of occupational performance skills throughout the life span by considering the interactions between contexts and environments, personal factors, and engagement in occupations. Through exploration of the meaning and development of their own occupations, as well as observation and interactions in the community, students prepare to analyze occupational performance of future patients and clients. (3 credits)

### OCT 5013—Occupational Analysis

This course focuses on analyzing occupations and occupational performance. Through engagement in selected projects, students learn to analyze occupational demands. The meaning and significance of challenge, success, and competence in occupations are explored. Students learn to structure, adapt, plan, present, and assess occupations for therapeutic use. (2 credits)

### OCT 5014—Introduction to Occupation

This course introduces concepts of human occupation and the framework for practice in occupational therapy. In addition, the course examines the history of occupational therapy's evolution and the associated influences of the social, political, and economic environment throughout the life span of the profession. (2 credits)

### OCT 5015—Impact of Context and Environment on Occupational Performance

This course focuses on the impacts of environments and contexts, including products and technology; natural environments; support and relationships; attitudes; and services, systems, and policies on occupational performance. Experiences in application of models and

frames of reference to assessment of, and intervention with, environments and contexts are provided to prepare students for client-centered and evidence-based practice. (3 credits)

**OCT 5015L—Impact of Context and Environment on Occupational Performance Lab**

This is the lab course for OCT 5015. It provides students with experiences to apply models and frames of reference to the assessment of, and intervention with, environments and contexts in preparation for client-centered and evidence-based practice. (1 credit)

**OCT 5101—Theoretical Foundations of Occupational Therapy Practice**

This course is an examination of occupational therapy's philosophical and theoretical underpinnings. Emphasis is on understanding various theories, models, and frames of reference and their influence on practice and thinking. (2 credits)

**OCT 5121—Effects of Chronic Illness, Injury, and Human Disorders on Occupational Performance I**

This course expands upon, and integrates information from, anatomy, medical terminology, and introduction to occupations. Students learn about intrinsic human factors affected by pathophysiological conditions and begin to make the link between these factors and occupational performance. (4 credits)

**OCT 5123—Effects of Chronic Illness, Injury, and Human Disorders on Occupational Performance II**

This course expands and builds on the understanding of pathophysiological processes and conditions learned in OCT 5121. This course provides opportunity to apply concepts learned in context relative to the lives of individuals who are living with disorders/injuries to the immune, cardiopulmonary, urinary, gastrointestinal, endocrine, nervous, musculoskeletal, or neurocognitive systems. (4 credits)

**OCT 5130—Human Interactions**

This course focuses on development of therapeutic use of self when interacting with individuals, groups, and treatment teams. Through hands on experiences, the student will learn how to design, participate in, and run occupation-based groups, as well as work within a treatment team. (2 credits)

**OCT 5174—Research Methods**

Students will learn about quantitative and qualitative research methodologies and analyses used in occupational therapy. This course will provide students with fundamental knowledge to become critical consumers of research literature and participants of the research process. (4 credits)

**OCT 5800—Applied Kinesiology for Occupational Therapy**

This course focuses on principles of biomechanics, joint kinematics, joint kinetics, and muscle function to enhance understanding of normal human motion. This course provides opportunity to develop skills in analysis and assessment of muscle strength, joint range of motion, and movement in context of occupational performance. (3 credits)

**OCT 5800L—Applied Kinesiology for OT**

This is the lab course associated with OCT 5800. It provides opportunities to practice and develop skills in assessment of muscle strength, joint range of motion, and movement in the context of occupational performance. (1 credit)

**OCT 5963—Foundations for Professional Practice**

This course is designed to address fieldwork placement policies, professional behaviors, and relationship to curriculum design. Requirements to participate in level I and level II fieldwork placements will be covered. (1 credit)

**OCT 6106—Occupational Therapy Practice for Mental Health and Wellness**

This course focuses on the practice of occupational therapy for mental health and wellness in various settings across the continuum of care. Course content emphasizes occupation-based, client-centered assessment and interventions that empower client participation in context. Didactic, interactive, and fieldwork learning experiences are incorporated. (5 credits)

**OCT 6106L—Occupational Therapy Practice for Mental Health and Wellness Lab**

This is the lab course associated with OCT 6106. It provides opportunities for application of practice principles for mental health and wellness in various settings across the continuum of care. (1 credit)

**OCT 6107—Occupational Therapy Practice with Children and Adolescents**

This course focuses on the practice of occupational therapy for children and adolescents in various settings across the continuum of care. Course content emphasizes occupation-based, client-centered assessment and interventions that empower client participation in context. Didactic, interactive, and fieldwork learning experiences are incorporated. (8 credits)

**OCT 6108—Occupational Therapy Practice with Adults and Older Adults**

This course focuses on the practice of occupational therapy for adults and older adults in various settings across the continuum of care. Course content emphasizes occupation-

based, client-centered assessment and interventions that empower client participation in context. Didactic, interactive, and fieldwork learning experiences are incorporated. (8 credits)

#### **OCT 6150—Professionalism and Management**

Students will learn about the changing face of the U.S. health care delivery system and the regulatory and reimbursement mechanisms that affect delivery of OT services throughout the continuum of care. Particular emphasis will be placed on preparing students to assume varied roles within the U.S. health care system including manager/program director and supervisor. Students will develop the ability to recognize and respond to ethical and legal issues related to occupational therapy practice. (3 credits)

#### **OCT 6175—Research Development Seminar**

Student research teams will work with faculty mentors to develop a faculty-led research proposal that will include formulation of research questions, an analysis and synthesis of the supporting literature, selection of methodology and procedures, plan for design, data collection and analysis, and completion of a protocol to the Institutional Review Board. (2 credits)

#### **OCT 6176—Research Practicum**

This final MOT research course culminates in implementing an approved study. This course fulfills the requirement for students to implement one or more aspects of research methodology, which may include one or more of the following: designing research instruments, collecting data, and analyzing or synthesizing data. The course will include practical experience in disseminating research information through written research reports or preparing a manuscript for publication, then presentation of the research information. (2 credits)

#### **OCT 6206—Occupational Therapy Practice for Mental Health and Wellness Practicum**

This course, linked to OCT 6106—Occupational Therapy Practice for Mental Health and Wellness, provides experiences that enrich didactic coursework through supervised observation and participation in parts of the occupational therapy process with clients in hospitals, clinics, and/or community-based settings. Critical thinking and critical reasoning skills are emphasized. **Corequisite:** OCT 6106 (1 credit)

#### **OCT 6207—Occupational Therapy Practice with Children and Adolescents Practicum**

This course consists of Level I fieldwork related to practice in settings serving children and youth in educational, medical, and community settings. It provides students with opportunities to apply knowledge and skills from the classroom to contemporary settings. **Corequisite:** OCT 6107 (1 credit)

#### **OCT 6208—Occupational Therapy Practice with Adults and Older Adults Practicum**

This course consists of Level I fieldwork related to practice in settings serving adults and older adults in medical and community settings. It provides students with opportunities to apply knowledge and skills from the classroom to contemporary settings. **Corequisite:** OCT 6108 (1 credit)

#### **OCT 6350—Professionalism and Leadership**

This course will expose students to career leadership opportunities and responsibilities. Leadership theories, models, and other topics will be discussed and applied as they relate to the various roles that students may assume throughout their careers as occupational therapy practitioners. This course includes a one-week, Level 1 fieldwork with opportunity for exposure to varied professional leadership roles. (2 credits)

#### **OCT 6980—Fieldwork and Professional Practice Seminar**

This course continues to emphasize the development of professionalism for fieldwork and eventual practice. Students reflect on their previous clinical experiences as they prepare for more advanced involvement in sites with adult patients. Mandatory training continues, as well as policy and procedure reinforcement. (1 credit)

#### **OCT 6981—Fieldwork Experience II**

Twelve-week supervised internship in approved practice setting. **Prerequisite:** Completion of M.O.T. formal coursework (12 credits)

#### **OCT 6982—Fieldwork Experience II**

Twelve-week supervised internship in approved practice setting. **Prerequisite:** Completion of M.O.T. coursework (12 credits)

#### **OCT 7004—Continuing Capstone Residency**

A student will only enroll in this course if more time is required to complete his or her capstone or residency requirements following completion of 3 credits of OCT 7930—Capstone III. (1–3 credits)

#### **OCT 7005—Evidence-Based Practice and Critical Thinking in OT**

This doctoral-level course is designed to provide students with the knowledge and skills to be consumers of evidence, so they can become evidence-based practitioners. Through readings and activities, students will learn the process of evidence-based practice. They will formulate a question of clinical relevance, search for current best evidence, critically assess the evidence, discuss how to implement the findings into practice, and have an opportunity to disseminate the findings by submitting the CAP assignment to the American Occupational Therapy Association. The course is intended to facilitate the development of skills in critical thinking, analysis, and synthesis of the literature. (3 credits)

**OCT 7010—Theory Development for Models of Practice**

Presents occupational therapy frames of reference, models of practice, their theoretical development, research, and application. Includes study of historical antecedents, sociopolitical context, and key theorists, researchers, and developers. (3 credits)

**OCT 7101—The Health Professional as Academic Educator**

This course examines the role of health professionals as academic educators in an entry-level occupational therapy program from the perspectives of faculty, higher education institutions, and professional organizations. **Required for Ph.D. students (3 credits)**

**OCT 7104—Occupational Science**

This course, required for Ph.D. students, presents an overview of conceptual frameworks, literature, taxonomies, and research strategies of occupational science. Topics will be examined from multidisciplinary perspectives on work, play, leisure, occupation, and contexts for occupation. Students will select an area for in-depth study. (3 credits)

**OCT 7133—Advanced Policy Issues**

In this course, students will analyze the effect public policy has on the practice of occupational therapy and consumers of occupational therapy services. Students will examine the various ways in which the occupational therapy professional can influence federal, state, and local policy throughout the various stages of policy development and implementation. Students will assume an advocacy role by meeting with state and/or federal elected representatives to increase and maintain the viability of the profession, promote the relevance of the profession, and/or assure consumer access to occupational therapy practitioners. (3 credits)

**OCT 7160—Special Topics in Occupational Therapy**

This seminar for doctoral students only investigates timely topics of critical interest to health care providers. (3 credits) Elective

**OCT 7180—Neurosciences Foundations of Occupational Performance**

Focuses on the link between neuroscience and human occupational behavior. Current neuroscience research and hypotheses are compared and contrasted with current theoretical work in occupational therapy. Presents material from the clinical practice viewpoint so students learn to use the knowledge gained to enhance their clinical reasoning and occupation-centered practice. (3 credits) Elective

**OCT 7211—Sensory Processing Basis of Occupational Performance**

This course includes an examination of the theory and practice of sensory processing in occupational therapy

in seminal literature, current research in neuroscience, and current practice-related research across the life span. Students will apply this knowledge in developing a project related to a specific age, diagnosis, or population. Prior knowledge and experience in this area of practice is helpful. (3 credits) Elective

**OCT 7241—Infant and Child Mental Health**

The course will provide framework for understanding the complex processes involved in mental health for infants and children, and how this relates to occupational performance. Clinical application of theoretical approaches and contextual influences will be considered for specific diagnostic classifications. (3 credits) Elective

**OCT 7242—Occupational Therapy Practice with Autistic Spectrum Disorders**

This course focuses on current findings regarding autistic spectrum disorders and how they affect occupational performance. Includes a review of relevant research and readings from multiple related fields. Specific programs for working with children and adolescents with autism will be examined. (3 credits) Elective

**OCT 7244 —Low Vision Across the Life Span**

The course focuses on vision deficits throughout the life span and their impact on the occupations of individuals and caregivers. Students will review relevant anatomy, neuroanatomy, and various visual disorders. They will then explore and learn about evaluation of vision deficits and treatment implications through current practice and research findings. (3 credits) Elective

**OCT 7302—Contextual Aspects of Occupational Performance**

This course is a study of contexts as related to occupational performance for advanced practitioners. Concepts and theories related to the use of context as an enabler of participation are explored. Specifically, cultural, personal, temporal, virtual, physical, and social contexts are examined. (3 credits)

**OCT 7420—Mixed Methods Research**

This course provides an overview of mixed methods research. Students must have completed an overview of qualitative and quantitative research methods courses (see prerequisites). Students are first introduced to the nature and foundations of mixed methods. From these theoretical and philosophical perspectives, various mixed methods designs are discussed. Understanding of mixed design is accomplished by reading and evaluation of prior studies and completing analysis of existing qualitative and quantitative data. The course uses an applied perspective with weekly discussions focused on the identification of research problems or opportunities; the development of purpose and research questions; and the choice, design, and implementation of an appropriate methodological

approach. The course concludes with consideration given to mixing qualitative and quantitative data during analysis and/or interpretation and reporting and presentation of results and conclusions. **Prerequisites:** HPH 7300 and HPH 7310 (3 credits)

#### **OCT 7767—Community Program Development**

Evaluation and application of community organization and development theories to create occupational therapy interventions with underserved and/or nontraditional populations. Emphasizes outcome evaluation of both theory and practice. (3 credits)

#### **OCT 7791—Grant Practicum**

In this course, students will acquire skills necessary to develop a grant proposal and acquire funding for new and innovative programs, research, or education/training projects related to occupational therapy. Using an applied approach, students will learn to locate both online and conventional sources of funding at federal, foundational, and corporate levels in order to produce a finished proposal worthy of submission. (3 credits)

#### **OCT 7792—Wellness and Health Promotion**

This course examines occupational therapy's role in wellness and health promotion, disability postponement, and prevention in general. Students critically examine various practice models with a view toward developing and refining their own roles in these practice areas. (3 credits) Elective

#### **OCT 7820—Applying Measurement Theory to Evaluation**

Provides students with a general background in measurement theory and assists students to actively apply this information to the evaluation process in occupational therapy. The application component of the course addresses evaluation at both the individual and program levels. At the completion of this course, students can critically examine and select the most appropriate evaluation tools for various practice situations using the theory and principles of measurements. (3 credits)

#### **OCT 7860—Leadership Development in Multiple Contexts**

Course examines leadership as a critical component to one's future as an occupational therapy practitioner in a global, ever-changing environment. Students look at areas of need in the profession as well as leadership opportunities in their own careers. (3 credits)

#### **OCT 7870—Dissertation Seminar**

This core course for Ph.D. doctoral students provides an overview of the dissertation process and reviews strategies to successfully complete a dissertation study. Students are first introduced to effective scholarly writing techniques, followed by a project to critically review

their own writing style to produce a scholarly writing sample. Understanding of the overall dissertation process, an acceptable dissertation topic, selecting dissertation committee, proposal writing, dissertation defense, and dissemination of dissertation results are all reviewed during the semester. (3 credits)

#### **OCT 7890—Independent Study**

Individualized study under the supervision of assigned instructor. Requires permission of a doctoral program director. (1–3 credits) Elective

#### **OCT 7909—Program Evaluation and Outcome Measurement**

In this course, students will learn the process for evaluating the effectiveness of an intervention or a program. Students will develop an evaluation plan for an intervention or program of interest including identification of relevant outcomes and methods for systematically collecting, analyzing, and interpreting quantitative and/or qualitative information to inform decision making about the program or intervention. (3 credits)

#### **OCT 7910—Capstone I**

In the first course of a three-course capstone sequence, students will explore capstone ideas related to their professional interests. They will explore the literature to develop and articulate the background and need for the capstone project. They will identify a faculty mentor for the capstone project and develop the plan for the residency experience. (3 credits)

#### **OCT 7911—Chronicity, Occupation, and Health**

Explores the relationships among chronic disease and disability, occupational performance, occupational satisfaction, and personal wellness when living with a disability from the standpoints of the individual and of society. Students examine clinical, ethical and advocate roles in the context of occupational therapy theory and professional practice standards. (3 credits) Elective

#### **OCT 7920—Capstone II**

In this second of the three-course capstone sequence, students will develop the capstone proposal with a faculty mentor, prepare the IRB protocol as applicable, and begin the residency experience to facilitate the development and implementation of the capstone project. (3 credits)

#### **OCT 7921—Capstone III**

During the third and final course of the capstone sequence, students will complete the residency experience and implement the capstone project. At the end of the semester, students will submit a final capstone paper, which is the culminating assignment in this course and the Dr.O.T. curriculum. In addition, students will develop a plan for dissemination and/or publication of the capstone project. (3 credits)

**OCT 8945—Studies for the Qualifying Examination**  
For Ph.D. students who are preparing for, and taking, the Ph.D. qualification exam. (1 credit)

**OCT 8950—Research Residency**  
Supervised research activity in a setting approved by the student's dissertation committee. **Prerequisite:** admission to candidacy (3 credits)

**OCT 8951—Continuing Service for Residency**  
Students will only enroll in this course following completion of 3 credits of OCT 8950 Residency, if more time is required to complete all residency requirements. (0 credit)

**OCT 8970—Doctoral Dissertation**  
Supervised original study of occupational therapy evaluation and intervention. **Prerequisite:** admission to candidacy (3 credits)

**OCT 8971—Continuing Dissertation**  
This course requires the approval from the Ph.D. program director and fulfills the requirement for continuous enrollment while the student is working on the dissertation. (1–3 credits)

**OTD 8101—Introduction to Didactic, Clinical, and Capstone Experiences**  
This course introduces concepts of human occupation and the framework for active participation in learning about evidence-based practice of occupational therapy. It formally introduces the student to the delivery model of the curriculum including the concept, the student's responsibilities during distance and face-to-face sessions, self directedness, and independence. The course also serves as a preservice training on safety and health precautions as well as fieldwork placement policies, professional behaviors, and relationship to curriculum design. Requirements to participate in Level I and Level II fieldwork placements and residency requirements are covered. (1 credit)

**OTD 8102—Foundations of Occupational Therapy**  
This course traces the historical, philosophical, and theoretical underpinnings of occupational therapy as it evolved into contemporary practice. The student applies theories, models, and frames of reference in understanding how social, political, and economic factors continually influence current and future practice. Attention is given to interdisciplinary practice. (3 credits)

**OTD 8103—Kinesiology of Occupations**  
This course promotes the understanding of normal human motion through skills learned in applying the principles of biomechanics, joint kinematics, joint kinetics, and muscle function. Experiences in the analysis and assessment of movement, muscle strength, and joint range of motion provide the student with opportunities to articulate

the connection between kinesiology and occupational performance. (4 credits)

**OTD 8141—Development of Occupations across the Life Span**  
This course provides opportunities not only to learn the continuum of human development that influences health and independence across the life span, but also to refine observation, analysis, reflection, and communication skills. The course encourages the student to explore how culture, environment, spirituality, sex, and age influence human occupation. It includes field trips to selected facilities. (3 credits)

**OTD 8142—Occupational and Contextual Analysis**  
This course focuses on analyzing occupations and occupational performance in different contexts, including applications of technology. The course provides opportunities for students to engage in and analyze the projects according to their occupational demands, as well as to learn the meaning of, and avenues for, success and occupational competence. Students not only learn to structure, adapt, plan, present, and assess occupations for therapeutic use, but also to articulate concepts and theories that influence engagement and participation, especially within cultural, personal, temporal, virtual, physical, and social contexts of occupational performance. (3 credits)

**OTD 8143—Therapeutic Use of Self**  
This course provides hands-on experiences in applying the therapeutic use of self when interacting with individuals, groups, and treatment teams. Through the course, the student designs, participates in, and runs occupation-based groups, as well as works within a treatment team. (3 credits)

**OTD 8151—Human Conditions and Occupation I**  
This course focuses on how pathophysiological conditions affect intrinsic human factors so that students can make the link between the factors and occupational performance. This course integrates information from Anatomy; Medical Terminology; and Introduction to Didactic, Clinical, and Capstone Experiences. (3 credits)

**OTD 8152—Human Conditions and Occupation II**  
Building on the understanding of pathophysiological conditions learned in OTD 8151, this course expands the application of occupational concepts to people with disorders or injuries to the immune, cardiopulmonary, urinary, gastrointestinal, endocrine, nervous, musculoskeletal, and neurocognitive systems. (3 credits)

**OTD 8161—Evidence and Occupational Therapy Practice**  
This is the first course in a six-course series on research. It provides students with fundamental knowledge that will help them to become critical consumers of research evidence.

This course focuses on topics of relatedness of research and occupational therapy practice, critical appraisal of research evidence, and research critique of both quantitative and qualitative research. It will address basic ideas behind methodologies, data collection, description, analysis, and interpretation in qualitative research. (3 credits)

**OTD 8244—Innovations and Technology in Contemporary Occupational Therapy**

Students will take a critical look at day-to-day occupations and state-of-the-art technology such as video games, computer-assisted interventions, nanotechnology, documentation, triangulation, thematic analyses and other software, robotics, etc. Within the light of person, environmental, occupation, and professional factors, the student identifies applications for a future-oriented innovative practice at any level of intervention within different contexts. (3 credits)

**OTD 8262—Research Design, Quantitative Methods, Proposal/IRB**

This course is a continuation of OTD 8161 Evidence and Occupational Therapy Practice, Qualitative Design and the second of six in a series of evidence-based practice and research with a focus on quantitative methods. It will prepare the student to understand and apply quantitative research methodology, including design, data collection, statistical analysis, and interpretation of results. At the end of the semester, students will complete a research proposal to use in developing an IRB submission. (2 credits)

**OTD 8262L—Research Design Lab/IRB**

This course is the third of six in a series of evidence-based practice and research methods. Students develop a viable research proposal. By the end of the semester, students will complete a research proposal approved by the NSU Institutional Review Board. (1 credit)

**OTD 8271—Occupational Therapy Interventions I: Psychosocial and Community**

This course focuses on the application of the person-environment-occupation-performance (PEOP) model for occupational therapy evaluation and treatment with emphasis on wellness, prevention, and community-based therapy practice. It includes a Level I Fieldwork Experience. (6 credits)

**OTD 8291—Level I Fieldwork Experience: Occupational Therapy Interventions I—Psychosocial and Community**

This course comprises fieldwork seminars during on-campus institutes throughout the semester and three weeks of supervised Level I fieldwork experience at an approved setting. This is the clinical education component of OTD 8271 Occupational Therapy Interventions I—Psychosocial and Community, “to introduce students to

the fieldwork experience, and develop a basic comfort level with, and understanding of, the needs of clients.” These experiences are designed to enrich didactic coursework through observation and directed participation in selected aspects of the occupational therapy process. (2 credits)

**OTD 8272—Occupational Therapy Interventions II: Children and Youth**

Students apply the PEOP model in identifying barriers and supports for participation and engagement of children and youth with multiple conditions within the context of diverse environments. This course includes a Level I Fieldwork Experience. (8 credits)

**OTD 8292—Level I Fieldwork Experience: Occupational Therapy Interventions II—Children and Youth**

This course comprises fieldwork seminars during on-campus institutes throughout the semester and three weeks of supervised Level I fieldwork experience at an approved setting. This is the clinical education component of OTD 8272: Occupational Therapy Interventions II—Children and Youth, “to introduce students to the fieldwork experience, and develop a basic comfort level with and understanding of the needs of clients.” These experiences are designed to enrich didactic coursework through observation and directed participation in selected aspects of the occupational therapy process. (2 credits)

**OTD 8273—Occupational Therapy Interventions III: Physical Disabilities**

This course is the final occupational therapy interventions course. It addresses evaluation and treatment of adult and older adult occupational performance in various environments. It includes a Level I Fieldwork Experience. (8 credits)

**OTD 8293—Level I Fieldwork Experiences: Occupational Therapy Interventions III—Physical Disabilities**

This course comprises fieldwork seminars during on-campus institutes throughout the semester and three weeks of supervised Level I fieldwork experience at an approved setting. This is the clinical education component of OTD 8273: Occupational Therapy Interventions III—Physical Disabilities, “to introduce students to the fieldwork experience, and develop a basic comfort level with and understanding of the needs of clients.” These experiences are designed to enrich didactic coursework through observation and directed participation in selected aspects of the occupational therapy process. (2 credits)

**OTD 8281—Business of Practice and Management**

This course allows students to view occupational therapy from a business perspective, preparing them for different roles in the U.S. health care system, including manager/



program director, supervisor, and entrepreneur. Students will articulate responses to ethical and legal issues related to the profession using information they learn about delivery systems, regulatory systems, and reimbursement mechanisms that affect service delivery from referral to discharge. (3 credits)

#### **OTD 8282—Professional Leadership**

This course will introduce the student to the leadership responsibilities and opportunities inherent in becoming a member of a profession. Students will explore basic leadership theories and examine their own leadership strengths and opportunities to expand or improve upon, as well as apply applicable leadership theories and leadership self-analysis to the practical, contextual, and ethical dimensions that exist within the occupational therapy profession and contemporary practice. Emphasis will be placed on the occupational therapist's role in professional advocacy, professional associations, interprofessional collaboration, and role-emerging and nontraditional practice settings. (3 credits)

#### **OTD 8263—Research Project I**

This is the third in the series of six didactic courses on evidence-based practice and research methods. In this course, the student implements an approved study or gains research experiences in faculty research projects or simulated research. The course includes practical experiences in preparing reports of presentations for disseminating research information. There is also an option of preparing a manuscript for publication. This course fulfills the requirement for students to implement one or more aspects of research methodology, possibly including designing research instruments, collecting data, and analyzing or synthesizing data. (2 credits)

#### **OTD 8363L—Research Project I Lab**

This course is the fifth in a series of six courses on evidence-based practice and research methods. In this course, the student implements an approved study or gains research experiences in faculty member research projects or simulated research. The course includes practical experiences in preparing reports of presentations for disseminating research information. There is also an option of preparing a manuscript for publication. This course fulfills the requirement for students to implement one or more aspects of research methodology, possibly including designing research instruments, collecting data, and analyzing or synthesizing data. (1 credit)

#### **OTD 8391—Level II Fieldwork Experience**

This course is a 12-week, supervised internship in an approved practice setting. **Prerequisite:** completion of formal predoctoral certification courses (9 credits)

#### **OTD 8392—Doctoral Certification and Introduction to Residency Program**

Upon completion of all formal predoctoral certification and Level II Fieldwork Experiences, the student must pass a competency-based examination. After successfully passing the examination, the student has the opportunity, through this course, to reflect on the academic and clinical components of the curriculum, including planning for the culmination of the capstone project, and receives an introduction to the doctoral experiential component. **Prerequisite:** successful completion of 12 credits of Level II Fieldwork Experiences (2 credits)

#### **OTD 8464—Research Project II: Dissemination, Reflections, and Exit Colloquium**

This is the final course of the six-course series of research methods and culminates with the opportunity for the student to prepare presentation of a research project to the community and to reflect on the entire experience leading to an O.T.D. degree. **Prerequisite:** completion of doctoral residency and research project (2 credits)

#### **OTD 8493—Level II Fieldwork Experience**

This course is a 12-week, supervised internship in an approved practice setting. **Prerequisite:** completion of formal predoctoral certification courses and OTD 8391. (12 credits)

#### **OTD 8494—Doctoral Residency**

This 16-week doctoral experiential component provides the student with the opportunity to develop advanced skills, e.g., beyond a generalist level in an approved specialization area for clinical practice skills. Other options include in-depth experience in one or more of the following research skills: administration, leadership, program and policy development, advocacy, education, or theory development. **Prerequisite:** doctoral certification (12 credits)

#### **Doctoral Seminars**

Doctoral seminars provide in-depth exploration, study, and training, occurring after returning from the first Level II Experience. The following four courses provide the student with the opportunity to select two courses of 3 credits each from the four seminar courses listed below. The fifth course, OTD 8315 Topics in Contemporary and Emergent Practice, provides focused training in one of four tracks. (3 credits)

#### **OTD 8311—Doctoral Seminar: Occupational Science**

This course presents an overview of conceptual frameworks, literature, taxonomies, and research strategies of occupational science. Topics will be examined from multidisciplinary perspectives on work, play, leisure, occupation, and contexts for occupation. Students will select an area for in-depth study.

### **OTD 8312—Doctoral Seminar: Wellness in Occupational Therapy**

This course examines occupational therapy's role in wellness and health promotion, disability postponement, and prevention in general. Students critically examine various practice models with a view toward developing and refining their own roles in these practice areas.

### **OTD 8313—Doctoral Seminar: Applying Measurement Theory to Evaluation**

Provides students with a general background in measurement theory and assists students in actively applying this information to the evaluation process in occupational therapy. The application component of the course addresses evaluation at both the individual and program levels. At the completion of this course, students can critically examine and select the most appropriate tools for practice situations using the theory and principles of measurements.

### **OTD 8314—Doctoral Seminar: Sensory Processing Basis of Occupational Performance**

This course provides examination of the theory and practice of sensory processing in occupational therapy through the original literature and current information from neuroscience and evidence-based practice found in articles and through interaction with classmates. Students will apply this knowledge to a specific group of individuals or to a curriculum plan. This is an advanced-level course. It is anticipated that students in this course will have some prior knowledge and experience in this area of practice.

### **OTD 8315—Topics in Contemporary and Emergent Practice**

This course provides focused training in one of four learning tracks that addresses occupation-based contemporary and emerging practice areas, advanced skills, and/or professional development. The four learning tracks are 1) skills, 2) mental health, 3) children and youth, and 4) physical disabilities. Each track will contain no more than four modules, including, but not limited to, 1) skills: physical agent modalities, anatomy, neuroanatomy, and kinesiology; 2) mental health: addictions, trauma-induced care, Post-Traumatic Stress Disorder, violence, and abuse; 3) children and youth: NDT, NICU, school system, and behavioral interventions; and 4) physical disabilities: oncology, work programs/ergonomics, splinting, and hands specialty. (3 credits)

### **HPH 7200—Research Ethics**

Health care professionals are required to act morally and ethically. This course is designed to expand the student's basic understanding of ethics to promote ethical awareness and enable students to derive better health care decisions that reduce risk of potential ethical consequence. By

exposing students to bioethics and controversial ethical issues typically encountered in current health care practice, students practice making difficult decisions. Students will synthesize and implement strategies for applying morals, values, and ethics systematically in the various settings in which health care is delivered. Considering the perspectives of all stakeholders and the role of the health care provider, patient advocate, professional, and consumer of medical care, students will gain workable knowledge of contemporary ethical issues and appreciate that ethics permeate the majority of decisions made in health care. (3 credits)

### **HPH 7300—Fundamentals of Biostatistics**

The application of quantitative techniques has expanded rapidly in medical decision making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with the knowledge of quantitative techniques. The course will cover descriptive statistics, parametric group comparison statistics, and basic nonparametric statistics, as well as provide an introduction to linear modeling. (3 credits)

### **HPH 7310—Principles of Statistical Inference**

The focus of this course is on advanced and multivariate statistical methods. Topics include multiple regression, multivariate analysis of variance and covariance, factor analysis, discriminate analysis, cluster and canonical analysis, and related statistical procedures. Emphasis is on understanding and applying statistical concepts and techniques to research data as well as developing the ability to critically analyze research methods used in the scientific literature. Emphasis is on understanding and applying statistical concepts and techniques to research data within the health sciences. (3 credits)

### **HPH 7400—Research Design**

This course will provide students with an understanding of the methods and approaches used in quantitative, health-related research. It will prepare students to be both consumers and producers of quantitative research. A major emphasis of the course will be on the conceptualization and design of research studies. Moreover, the course will cover ethics, formulation of research questions, research designs, reliability, validity, sampling, and measurement. It will also prepare students to critically evaluate published research articles. (3 credits)

### **HPH 7500—Philosophy of Science**

This course will address classical issues in the philosophy of science, including demarcation, the distinction between what science is and is not, hypothesis development, confirmation and falsification, causation, and

explanation. The course will also explore the ontological, epistemological, methodological, and axiological foundations of the major paradigms within which inquiry in the human services professions are located. Issues of congruence between research question selection and paradigm selection will also be addressed. (3 credits)

### **HPH 7600—Grant Writing and Publication**

This course is designed to provide writing experiences which prepare the learner for manuscript and grant proposal submissions. This introductory experience into the grant process from proposal to funding to management will include project management, funding sources, and funding challenges. Other course requirements include a research proposal (manuscript) that is ready for submission for publication and development of a dissertation proposal. (3 credits)

## **Department of Physical Therapy**

### **Physical Therapy Overview**

Physical therapists are health care professionals who diagnose and treat movement dysfunction that results in physical impairment and disability. In addition to providing direct patient care services, physical therapists serve as administrators of physical therapy services, educators, and consultants. They screen people for potential risk for movement dysfunction in order to prevent impairment and disability and engage in critical inquiry to conduct and review research.

Physical therapists work in a range of settings including acute and subacute care hospitals, rehabilitation centers, outpatient clinics, home health, skilled nursing facilities, school systems, and industrial settings. Physical therapists work as employees of health care systems, may independently contract their services, or own and manage a private practice. In any setting, for every patient, physical therapists perform a history and physical examination; conduct assessments to determine a diagnosis; select, perform, and supervise appropriate physical therapy interventions; and monitor the effectiveness of treatment.

Physical therapists are licensed in all states and may practice without physician referral in most of them. They are integral members of health care teams in a variety of service systems who serve to improve and maintain the quality of life for millions of people.

Nova Southeastern University's Department of Physical Therapy prepares professional and postprofessional physical therapists with the skills, knowledge, and values to effectively practice, educate, lead, and conduct physical therapy education and research in interprofessional environments. The curricula foster clinical inquiry and

reasoning, professionalism, and evidence-based practice. The programs facilitate accessibility to physical therapist education through innovative instructional delivery models and promote intellectual curiosity, reflection, and lifelong learning skills. Faculty members, students, and alumni actively participate in the profession through scholarship, service, collaboration, mentoring, and serving those in need of PT services locally, nationally, and globally.

### **Professional Doctor of Physical Therapy (D.P.T.)**

#### **Course of Study**

The Professional Doctor of Physical Therapy (D.P.T.) Program at Nova Southeastern University is offered in two distinct formats: A traditional, campus-based D.P.T. program located on our Fort Lauderdale/Davie Campus and a blended (hybrid) program on our Tampa Campus. The traditional program in Fort Lauderdale is completed in three years, while the hybrid program in Tampa is completed over four years to accommodate those who need flexibility to work or for personal/geographical reasons.

#### **Delivery Methods**

1. Fort Lauderdale: Campus-based, using a combination of interactive classroom and online instruction, clinical lab skills training, and clinical education
2. Tampa: Blend of online and face-to-face instruction so that students have three weeks of engaging, online, asynchronous instruction and four days per month (Thursday–Sunday) focusing on hands-on practice, intensive review, and application of information learned

online. Face-to-face instruction times are created four years in advance, because this time on-campus is mandatory.

Students in both the full-time and the hybrid programs are admitted once annually, in the summer semester. The Fort Lauderdale program includes 40 weeks of full-time clinical education. In the Tampa hybrid program, clinical education is integrated into the classroom during on-campus institutes in the second and third years and occurs full time for 36 weeks in the fourth year of the program.

### Accreditation Status

The Professional Doctor of Physical Therapy Program at Nova Southeastern University is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: [accreditation@apta.org](mailto:accreditation@apta.org); website: [capteonline.org](http://capteonline.org).

Nova Southeastern University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate's, baccalaureate, master's, educational specialist, doctorate, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Nova Southeastern University.

### Admissions Requirements

The Professional Doctor of Physical Therapy Program selects students based on prior academic performance, education, work experience, references, interview score, written application, and letters of evaluation. Selection is also based on the following factors:

1. A bachelor's degree from a regionally accredited college or university is required.
2. Applicants must achieve a minimum 3.0 cumulative, prerequisite, and science GPA on a 4.0 scale.
3. Students must complete all of the following prerequisite courses with a grade of C or better:
  - Introduction to Statistics—one semester
  - English composition or writing—one semester

Sciences (must be taken in their respective departments; cannot be “applied” courses)

- biology—one semester
- anatomy and physiology—two semesters (combined or separate)
- physics with laboratory—two semesters
- chemistry with laboratory—two semesters

- psychology/sociology—two semesters (one general psychology and an additional psychology or sociology)

4. All prerequisite courses must be completed before the first day of classes. No exceptions will be made.

Applicants must demonstrate evidence of computer skills. Upon review of a student's individual record, the committee on admissions may require additional coursework and testing as a condition of acceptance.

The dean is empowered to evaluate the total qualification of every applicant and to modify requirements in unusual circumstances.

### Background Checks

Level I and Level II background checks are required for clinical practicum and internship placement. Some citations on the background checks may prevent a student from being assigned to, or result in the student being denied placement at, clinical sites. A student who cannot be placed at required clinical sites due to information of concern on his or her background check(s) may not be able to complete the program.

### Computer Requirements

#### D.P.T. Program—Fort Lauderdale Campus

#### System Requirements

- laptop computer with native camera
- <https://www.nova.edu/publications/it-standards>

#### Word Processing and Presentation Software

- Microsoft Office Suite or Apple iWork (pages, keynote, numbers)

#### NSU Student Technology Support

- The Office of Innovation and Information Technology (OIIT) offers a wide variety of technological resources to support NSU's students.
- [nova.edu/oit](http://nova.edu/oit)

#### Hardware Discounts/Free Software

- Personal computer discount pricing is available for NSU students through NSU.
- Free software is also available for download for our students.
- If you have problems with any of the programs available through the website, please contact the NSU Help Desk at (954) 262-HELP (4357).

## D.P.T. Program—Tampa Campus

### System Requirements

- <https://www.nova.edu/publications/it-standards>
- laptop computer
- additional video card requirements: 3D hardware accelerated graphics card, minimum DirectX 9 (PC) or Open GL 2.0 (Mac)

### High Speed Internet Connection

- Broadband connection: At least 10–15 mbps

### Word Processing and Presentation Software

- Microsoft Office Suite or Apple iWork (pages, keynote, numbers)

### Photo Capability

- camera device with the ability to produce still photos and a photo file; acceptable file formats are jpg (Note: many cell phones are capable of this, and are acceptable as long as the photo quality is adequate.)
- photo editing software may be necessary to edit or format photos for assignments; acceptable software to use can be
  - Windows Photo Gallery (PC): free download at [support.microsoft.com/en-us/help/18614/windows-essentials](http://support.microsoft.com/en-us/help/18614/windows-essentials)
  - iPhoto and Preview for Mac (both free or included with operating system)

### Video Capability

- video camera device with ability to record video and produce a video file; acceptable file formats are wmv, mp4, and mov (Note: many photo cameras and cell phones have this capability. Either is acceptable, as long as the video quality is adequate.)
- webcam for the purposes of web-based communication with classmates or faculty members (Note: many laptops come with integrated webcams, which are acceptable.)
- video editing software may be necessary to edit or format videos for assignments
  - free examples for PC
    - YouTube Editor ([youtube.com/yt/creators](http://youtube.com/yt/creators))
  - iMovie for Mac (included with operating system)
    - Mpeg Streamclip for Mac converts iMovie files to mp4 ([squared5.com](http://squared5.com))
- video player software
  - Windows Media Player, QuickTime, Real Player

### Audio Capability

- A quality external microphone is required. This can be a headset or microphone-only model. (Note: many laptops come with integrated microphones; these often offer **inadequate** sound quality.)

## NSU Student Technology Support

- The Office of Innovation and Information Technology (OIIT) offers a wide variety of technological resources to support NSU's students.
- [nova.edu/oit](http://nova.edu/oit)

## Hardware Discounts/Free Software

- Personal computer discount pricing is available for NSU students through NSU.
- Free software is also available for download for our students.
- If you have problems with any of the programs available through the website, please contact the NSU Help Desk at (954) 262-HELP (4357).

## Technical Standards/Essential Functions of the D.P.T Student

The professional PT programs have a responsibility to the public to assure that graduates can become fully competent and caring physical therapists who are capable of providing benefit and doing no harm. Individuals admitted and retained in these programs must possess the intelligence, integrity, compassion, humanitarian concerns, physical and emotional capacity, communication skills, and professionalism necessary to practice physical therapy. To this end, all entry-level D.P.T. students must meet the requirements outlined in the Technical Standards/Essential Functions of the D.P.T. Student document on admission and while matriculating through the programs. To view the form, visit <http://healthsciences.nova.edu/ptessentials>.

## Application Procedures

Both Professional Doctor of Physical Therapy programs participate in the Physical Therapist Centralized Application Service (PTCAS). The PTCAS may take up to six weeks verifying supporting documents. Therefore, early application is highly recommended. The D.P.T. programs also participate in the PTCAS Early Decision program. Please contact PTCAS for further information.

## Applicants must

- Fort Lauderdale: go to [ptcas.org](http://ptcas.org) and complete the online PTCAS application between July 15 and December 15
- Those applying for Early Decision through PTCAS must apply by August 15.
- The deadline for completion of the supplemental application is January 31.
- Tampa: go to [ptcas.org](http://ptcas.org) and complete the online PTCAS application between July 15 and November 15

- Those applying for Early Decision through PTCAS must apply by August 15.
- The deadline for completion of the supplemental application is January 15.
- send the following supporting documents directly to PTCAS at the address below:
  - an official transcript from the registrars of all colleges and universities attended (mailed directly to PTCAS by the college or university)

Applicants with international transcripts must have their credentials evaluated by World Education Services, Inc. Go to [wes.org](http://wes.org) or call (212) 966-6311. This is the ONLY agency that is approved by PTCAS.

- Fort Lauderdale: three completed evaluations, on the required forms, from individuals (other than relatives) such as academic instructors or professors, health professionals, work supervisors, or volunteer supervisors (At least one completed evaluation form must be from a physical therapist.)
- Tampa: three completed evaluations, on the required forms, from individuals (other than relatives) such as academic instructors or professors, health professionals, or work supervisors (At least one completed evaluation form must be from a work supervisor from within the past five years.)
- Official Graduate Record Exam (GRE) scores (less than five years old)

PTCAS  
P.O. Box 9112  
Watertown, MA 02471

Email: [ptcasinfo@ptcas.org](mailto:ptcasinfo@ptcas.org)  
Phone: (617) 612-2040

Once the PTCAS application has been received by Nova Southeastern University, a supplemental online application will be made available to applicants. There are separate applications for the Fort Lauderdale and Tampa programs. Students who want to be considered for both programs must apply to each program separately.

Once NSU receives the supplemental application and the \$50 fee, the applicant's file will be reviewed by the admissions counselor. The applicant's file will not be reviewed until all of the requirements have been met.

Please note that PTCAS may take up to six weeks to verify supporting documents. The university does not receive the application from PTCAS until the verification has been completed. Once received by the university, the application is processed in a timely manner, but there may be a lag time of three–four months between the time the application is submitted and the time the student receives a decision from the admissions committee.

## Interviews

Fort Lauderdale: Applicants to the Fort Lauderdale program may be interviewed on a case-by-case basis.

Tampa: Selected applicants to the Tampa Professional D.P.T. program will be invited to a face-to-face interview on the NSU Tampa Campus in February or September (PTCAS Early Decision). Interviews should not be construed by the applicant as evidence of acceptance. Students are admitted to the Tampa program at one of two times: Early Decision (deadline in PTCAS August 15) with decision made in October and General Decision (deadline in PTCAS November 15) with decision made by March..

## Undergraduate/Professional Doctor of Physical Therapy Dual Admission Program

Nova Southeastern University Health Professions Division has established a dual admission program with Nova Southeastern University's Halmos College of Natural Sciences and Oceanography for a select number of highly motivated, qualified students seeking to pursue both an undergraduate degree and professional studies in physical therapy. Candidates must maintain a specified GPA and achieve acceptable scores on the Graduate Record Examination (GRE).

Students will be awarded a bachelor's degree from the Halmos College upon completion of degree requirements. Students will receive a Doctor of Physical Therapy degree upon completion of the three-year D.P.T. curriculum.

For complete information and requirements, contact the Office of Admissions, Halmos College of Natural Sciences and Oceanography, Nova Southeastern University, 3301 College Avenue, Fort Lauderdale, Florida 33314-7796.

## Tuition and Fees

Tuition and fees are equivalent for the Fort Lauderdale and Tampa programs; however the three-year tuition is prorated over four years for the Tampa program. Tuition for 2018–2019 will be posted on our website ([nova.edu/pt/dpt](http://nova.edu/pt/dpt)). All tuition and fees are subject to change by the board of trustees without notice.

- Acceptance Fee is \$1,000. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is nonrefundable in the event of a withdrawal. For students accepted on or before December 16, the acceptance fee is due January 2. For those accepted after January 2, the acceptance fee is due within 10 business days.
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.

All tuition charges and fees are subject to change by the board of trustees without notice. The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before the appropriate registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

The financial ability of applicants to complete their training is important because of the limited number of positions available in each class. Applicants should have specific plans for financing three years of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is required that each student carry adequate personal medical and hospital insurance throughout the program. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

### **Requirements for Graduation**

Professional Doctor of Physical Therapy—Fort Lauderdale

- maintain student APTE membership throughout the program
- successfully complete the required credits of didactic and clinical coursework
- successfully pass a comprehensive examination
- successfully complete professional D.P.T. student portfolio
- perform all required hours of service learning
- demonstrate professional behavior consistent with the APTA core values
- attend all required professional meetings

Professional Doctor of Physical Therapy—Tampa

- maintain student APTE membership throughout the program
- successfully complete the required credits of didactic and clinical coursework
- successfully pass a comprehensive examination
- complete, present, and pass the values portfolio
- complete, present, and pass the evidence-based capstone project
- perform all required hours of service learning
- demonstrate professional behavior consistent with the APTA Core Values
- attend all required professional meetings

### **Physical Therapy Student Organizations**

#### **Student Government Association**

The Physical Therapy Student Council is the official voice of all students. The organization is open to all students and welcomes proposals and participation from the entire student body. Its responsibilities include collecting and expressing student opinion, dispensing funds for student activities, acting as liaison for the student body, promoting physical therapy, supporting club and class activities, and working to improve the quality of life for physical therapy students.

#### **Other Student Organizations**

Many student organizations addressing various professional interests are open for student membership, including

- American Physical Therapy Association
- The Student Assembly of the American Physical Therapy Association
- The Student Special Interest Group of the Florida Physical Therapy Association
- campus-based student clubs

## Fort Lauderdale Professional Doctor of Physical Therapy Curriculum Outline

First Year—Summer Semester			Credits
PHY	5400	Physiology	3
ANA	5420	Anatomy	5
PHT	5611	Introduction to Physical Therapy	3
PHT	5610	Clinical Anatomy for Physical Therapists	2
<b>Total</b>			<b>13</b>

First Year—Fall Semester			Credits
PHT	6710	Clinical Skills I	4
PHT	6715	Essentials of Biomechanics and Kinesiology	3
PHT	6705	Essentials of Exercise Physiology	3
PHT	6717	Systems Management I: Medical Pathology and Pharmacology	3
PHT	6722	Integumentary	2
<b>Total</b>			<b>15</b>

First Year—Winter Semester			Credits
PHT	6707	Gerontology	1
PHT	6720	Clinical Skills II	3
PHT	6725	Cardiovascular and Pulmonary PT	4
ANA	5423	Neuroanatomy	3
PHT	6700	Introduction to Research Methods and Data Analysis	3
PHT	6721	The Health Care Educator	1
PHT	6814	Clinical Practicum I	3
<b>Total</b>			<b>18</b>

Second Year—Summer Semester			Credits
PHT	6807	Systems Management II	3
PHT	6810	Musculoskeletal I	2
PHT	6810L	Musculoskeletal I Lab	2
PHT	6815	Physical Agents	2
PHT	6817	Pediatrics I	1
<b>Total</b>			<b>10</b>



<b>Second Year—Fall Semester</b>			Credits
PHT	6820	Musculoskeletal II	3
PHT	6820L	Musculoskeletal II Lab	2
PHT	6816	Neuroscience	3
PHT	6802	Evidence-Based Practice	3
PHT	6819	Pediatrics II	3
PHT	6824	Clinical Practicum II	1
<b>Total</b>			<b>15</b>

<b>Second Year—Winter Semester</b>			Credits
PHT	6821	Musculoskeletal III	2
PHT	6821L	Musculoskeletal III Lab	2
PHT	6830	Neuromuscular I	3
PHT	6830L	Neuromuscular I Lab	2
PHT	6835	Systems Management III: Medical Screening and Differential Diagnosis for Physical Therapists	3
PHT	6813	Gender-Specific Issues in PT	2
PHT	6834	Clinical Practicum III	2
<b>Total</b>			<b>16</b>

<b>Third Year—Summer Semester</b>			Credits
PHT	6823	The Business of Physical Therapy	3
PHT	6914	Neuromuscular II	2
PHT	6914L	Neuromuscular II Lab	2
PHT	6915	Prosthetics and Orthotics	3
PHT	6920	Systems Management IV: Applied Clinical Decision Making	4
PHT	6906	Clinical Internship Orientation	0
<b>Total</b>			<b>14</b>

<b>Third Year—Fall Semester</b>			Credits
PHT	6916	Clinical Internship I	5
PHT	6926	Clinical Internship II	6
<b>Total</b>			<b>11</b>

<b>Third Year—Winter Semester</b>			Credits
PHT	6936	Clinical Internship III	5
PHT	6946	Wrap-up	2
<b>Total</b>			<b>7</b>

Elective			Credits
PHT	6910	Independent Study	1–6
PHT	6904	Independent Study Research Project	1–3
<b>Total Credits for Program</b>			<b>119</b>

## Professional D.P.T. Program—Tampa Curriculum Outline

First Year—Summer Semester (12 weeks)			Credits
PHY	5400	Physiology	3
ANA	5420	Anatomy	5
PHTT	6701	Communication and Cultural Competence	2
<b>Total</b>			<b>10</b>

First Year—Fall Semester (16 weeks)			Credits
PHTT	6705	Essentials of Exercise Physiology*	3
PHTT	5610	Clinical Application of Anatomy for Physical Therapists	1
PHTT	5611	Professional Issues in Physical Therapy	3
PHTT	6741	Systems Management I	3
<b>Total</b>			<b>10</b>

First Year—Winter Semester (16 weeks)			Credits
PHTT	6710	Clinical Skills I*	3
PHTT	6715	Essentials of Biomechanics and Kinesiology	3
PHTT	6761	Systems Management II	3
PHTT	6822	Health Promotion, Disease Prevention, and Wellness	2
<b>Total</b>			<b>11</b>

Second Year—Summer Semester (12 weeks)			Credits
PHTT	6700	Introduction to Evidence-Based Practice	3
PHTT	6623	Practice Management	3
<b>Total</b>			<b>6</b>

<b>Second Year—Fall Semester (16 weeks)</b>			Credits
PHTT	6722	Integumentary PT	2
PHTT	6802	Application of Evidence-Based Practice	3
PHTT	6815	Physical Agents*	3
PHTT	6916	Patient/Client Management Post Amputation*	2
<b>Total</b>			<b>10</b>

<b>Second Year—Winter Semester (16 weeks)</b>			Credits
PHTT	5423	Neuroanatomy and Neurophysiology	3
PHTT	6810	Musculoskeletal I	2
PHTT	6810L	Musculoskeletal I Lab*	2
PHTT	6725	Cardiovascular and Pulmonary PT	4
PHTT	6916	Patient/Client Management Post Amputation*	2
<b>Total</b>			<b>13</b>

<b>Third Year—Summer Semester (12 weeks)</b>			Credits
PHTT	6816	Motor Control Across the Life Span	3
PHTT	6820	Musculoskeletal II	3
PHTT	6820L	Musculoskeletal II Lab	2
<b>Total</b>			<b>8</b>

<b>Third Year—Fall Semester</b>			Credits
PHTT	6817	Pediatrics*	3
PHTT	6821	Musculoskeletal III	2
PHTT	6821L	Musculoskeletal III Lab*	2
PHTT	6813	Gender-Specific Health Issues in Physical Therapy	2
<b>Total</b>			<b>9</b>

<b>Third Year—Winter Semester (16 weeks)</b>			Credits
PHTT	6830	Neuromuscular Systems I	3
PHTT	6830L	Neuromuscular Systems I Lab*	2
PHTT	6812	Topics in Clinical Education‡	2
PHTT	6835	Systems Management III: Differential Diagnosis for Physical Therapists	3
<b>Total</b>			<b>10</b>

Fourth Year—Summer Semester (12 weeks)			Credits
PHTT	6914	Neuromuscular Systems II	2
PHTT	6914L	Neuromuscular Systems II Lab*	2
PHTT	6920	Systems Management IV: Applied Clinical Decision Making of Complex Patients	4
<b>Total</b>			<b>8</b>

Fourth Year—Fall Semester (16 weeks)			Credits
PHTT	6911	Clinical Internship I** (12 weeks)	6
PHTT	6921	Clinical Internship II** (12 weeks)	6
<b>Total</b>			<b>12</b>

Fourth Year—Winter Semester (18 weeks)			Credits
PHTT	6930	Wrap Up and Review^	2
PHTT	6904	Evidence in Practice Capstone Project	2
PHTT	6931	Clinical Internship III** (12 weeks)	6
<b>Total</b>			<b>10</b>

**Total Credits for Program 117**

\* This course includes patient experiences.

‡ This course includes a one-week, integrated clinical experience.

\*\*Students do not attend classes in Tampa during clinical internships.

^ This course will include one week when students will have to return to Tampa to prepare for graduation and licensure examination.

## Professional Doctor of Physical Therapy Course Descriptions

### PHY 5400—Physiology

This foundational course will provide students in the Physical Therapy Program with an understanding of the basic physiochemical concepts and physiological principles underlying the development, maintenance, and propagation of human life. It provides an examination of the essential physiological processes with reference to clinical applications where appropriate. Topics covered include basic examinations of subcellular processes, membrane mechanisms, muscle physiology, the cardiovascular system, connective tissue matrices, the nervous system, renal physiology, the respiratory system, endocrinology, reproductive physiology, and gastrointestinal physiology. (3 credits)

### ANA 5420—Anatomy

This foundational science course develops the knowledge of human anatomy necessary for the practice of the profession. It presents the anatomy of the human body in both lecture and lab format. Learning modes will be active and collaborative and involve models, dissection, and some work with basic imaging and virtual laboratories. It addresses gross structures and systems of the human body and integrates topographic and radiographic anatomy, stressing the importance to clinical practice. (5 credits)

### PHT 5610—Clinical Applications of Anatomy for Physical Therapists

This course addresses anatomical knowledge specific to the practice of physical therapy. It is an in-depth study of joint anatomy including muscular attachments, ligamentous structures, neural innervations, and contribution to movement. Palpation of key bony- and soft-tissue structures will be introduced. **Corequisite:** ANA 5420 (2 credits)

### PHT 5611—Introduction to Physical Therapy

This course introduces the new PT student to the program and the PT profession. It addresses the history of physical therapy, the *Guide to Physical Therapist Practice*, and medical terminology. Professional socialization begins through introduction to ethical and professional standards (including decision making, supervision, and delegation) and state and federal laws governing PT practice (including issues requiring advocacy). Certifications required for clinical practice such as CPR, AIDS, etc. will be acquired. Students are required to join the American Physical Therapy Association. (3 credits)

### PHT 6705—Essentials of Exercise Physiology, Health Promotion, and Wellness

This course describes the response to exercise and training on the cardiac, pulmonary, musculoskeletal, neural, and endocrine systems of the human body. It explains nutritional considerations, as well as enhancing

supplements, as they relate to exercise, athletics, and physical therapy. The various methods of training for increased strength, hypertrophy, power, cardiovascular fitness, and endurance, and the effects of physical activities and work-related stress on the human organism will be discussed. Energy liberation, circulation and respiration, physical work capacity, physical training, energy cost of various activities, nutrition and performance, temperature regulation, factors affecting performance and fitness, and the physiology of various sport activities will be covered. Students will gain the knowledge required for designing exercise programs in the general and special populations based on established needs for function and performance. The course will also explore the professional role of physical therapists as advocates of health, wellness, and prevention, including the following topics: Healthy People 2020 initiative; APTA's Vision 2020; wellness theory/models; dimensions of wellness; holistic versus conventional medicine; outcome measurements of wellness and quality of life; screening for health, fitness, and wellness; and considerations for special populations. Upon completion of this course, students are encouraged to prepare for the National Strength and Conditioning Association (NSCA) Certified Strength and Conditioning Examination. (3 credits)

### PHT 6707—Gerontology

Theories, research, and unique characteristics and behaviors related to aging, geriatric medicine, and physical therapy intervention will be explored in light of current health care trends, reimbursement, clinical practice, and predictions. Students will gain an understanding of relevant laws impacting PT practice with elderly populations and the obligations of PTs with respect to suspected abuse, neglect, or exploitation of elderly and dependent adults. The course will appropriately incorporate this content into interactions with patients/clients, facility staff members, and administrators. (1 credit)

### PHT 6710—Clinical Skills I

This course introduces students to basic physical therapy clinical examination, assessments and evaluation in accordance with the patient/client management model found in the *Guide to Physical Therapist Practice*. Students will learn to safely interact and communicate with clients/patients, including history taking and documentation. The course will provide students with an understanding of cultural competence as an integral part of the clinical evaluation. An overview of documentation terms related to CPT-coding, ICD 9 & 10 coding, and reimbursement will be provided. Safe performance of psychomotor skills, such as assessing patient posture, vital signs, sensory assessment, positioning/draping, goniometry, manual muscle testing,

functional mobility, gait assessment, assistive devices, and patient guarding and handling techniques will be emphasized.

In partial fulfillment of this course, students will attend a service-learning activity that has been preidentified by faculty members to supplement classroom and clinical education experiences. Service learning experiences provide students with opportunities to apply their knowledge and clinical skills to benefit the local community with follow-up reflection on the impact of their service. (4 credits)

#### **PHT 6715—Essentials of Biomechanics and Kinesiology**

This is a basic science course to introduce physical therapy students to the study of biomechanics and kinesiology. The students will integrate their anatomy knowledge of muscle and joint structures into the study of joint motion and functional movements. The course introduces the student to basic principles of biomechanics, which serves as the foundation for understanding kinesiology. The course will be structured by body parts: the upper extremity, the lower extremity, and the spine. Once the regional knowledge of kinesiology is understood, the final outcome of the course will be to learn and comprehend complex kinesiological analysis: gait, posture, and functional movements. (3 credits)

#### **PHT 6717—Systems Management I: Medical Pathology and Pharmacology**

This course provides an introductory overview of medical pathology and pharmacology commonly seen by physical therapists in patients/clients across the life span. The relationship between pathology and movement dysfunction will be emphasized and this relationship will be conceptualized within the International Classification of Functioning, Disability and Health (ICF). Students will be introduced to normal immunity, tissue response to injury, healing processes, and the normal functioning of various body organs and systems. Students will also gain knowledge of signs and symptoms, pathogenesis, differential diagnosis, and prognosis of selected pathological disorders. Medical and pharmacological management of selected disorders will be introduced and the effects of those interventions on the physical therapy management of the patient will be discussed. Course content will be delivered through a combination of video lectures, interactive live lectures, and readings. An emphasis will be placed on the development of students' early clinical reasoning abilities related to physical therapy patient management by integrating knowledge about the various pathologies into case-based examples using the ICF model. (3 credits)

#### **ANA 5423—Neuroanatomy**

This course will examine the structural, functional, and developmental features of the human nervous system with

reference to different disease states. The purpose of this course is to establish an anatomical basis for the study and understanding of the nervous system as presented in the classroom and the lab. Application of these studies will help in the solving of problems encountered in the student's career as a future health care professional. (3 credits)

#### **PHT 6700—Introduction to Research Methods and Data Analysis**

This course allows the learner to gain skill in reviewing research literature. It includes an overview of the principles of measurement, reliability, and validity; an understanding of the four levels of measurement (nominal, ordinal, interval, and ratio); research ethics; and critical literature analysis. It employs a creative, problem-solving experience during which the student will develop a global understanding of the concepts and principles of research and begin to critically analyze health care research literature. The student will also begin to recognize the importance and role of research in clinical practice. (3 credits)

#### **PHT 6720—Clinical Skills II**

This course presents models for clinical decision making including the patient care management model as presented in the *Guide to Physical Therapist Practice*. This course includes interventions using therapeutic exercise including passive, active, and resistive range of motion; strengthening programs; stretching exercises; soft tissue mobilization; and gait training. Students will develop and write home programs, design exercise programs for therapeutic purposes, and critically analyze interventions. Students will learn to safely apply intervention techniques that address body structure/functional impairments in range of motion, musculoskeletal strength, gait deviations, and activity limitations. Safe performance of psychomotor skills such as gait training, functional mobility, therapeutic exercises, and PNF will be emphasized. All sessions will be a combination of lecture, demonstration, interactive presentation, case study application, and psychomotor lab skill practice. (3 credits)

#### **PHT 6721—The Health Care Educator**

Teaching is an integral part of physical therapy practice and one of the foundations of a doctoring profession. This course explores both the theoretical basis and the practical techniques related to patient-related instruction, designing educational programs/in-services, evaluating program/teaching effectiveness, facilitating behavior change, creating professional presentations, and engaging in clinical education. Students will also explore learning styles and factors that impact learning across the life span, as well as the many issues that impact patient education, from both a health care professional and management perspective. Adult education theory, patient/therapist interaction, communication barriers, strategies for success,

web-based patient education, documentation, federal laws and initiatives, and standards for patient education are some of the topics that will be examined. (1 credit)

#### **PHT 6722—Integumentary PT**

The focus of the course is on the identification and management of integumentary pathologies obtained as primary injuries or as secondary complications of other diseases. Acute and chronic wound etiologies, burns, lymphedema, and diseases with integumentary manifestations will be reviewed and discussed. Physical therapy management strategies and interventions—including soft tissue mobilization, biophysical agents, debridement, integumentary tests and measures, and patient education—will be reviewed and practiced. The use of evidence-based practice to guide clinical decision-making will be emphasized. (2 credits)

#### **PHT 6725—Cardiovascular and Pulmonary PT**

This course provides an overview of the related pathologies and diagnostic and medical-surgical procedures of the cardiovascular and pulmonary systems. Physiological principles of exercise will be applied to cardiovascular examination and pulmonary systems. Students will demonstrate PT cardiovascular and pulmonary examination and intervention for given pathologies. Students will demonstrate PT cardiovascular and pulmonary examination, interventions, treatment planning, documentation, and outcome measurement across all clinical settings and explore interventions related to exercise, functional activities and airway clearance. The relevance of clinical laboratory values and medical/surgical diagnostics and interventions associated with cardiovascular and pulmonary dysfunctions will also be covered. (4 credits)

#### **PHT 6807—Systems Management II: Medical Issues in the Acute Setting**

This course is a continuation of PHT 6717—Systems Management I: Medical Pathology and Pharmacology. Systems Management II has a two-fold purpose: 1) to present those body system pathologies not covered in PHT 6717, and 2) to specifically address medical and treatment issues found in acute care settings. Renal, urologic, hepatic, pancreatic, biliary, and gastrointestinal systems will be presented first. Students will gain knowledge of signs/symptoms, pathogenesis, differential diagnosis, and pharmacological aspects of treatment related to disorders in these systems. The second half of the course addresses physical therapy examination and management of the acute care patient. Included in this section are patient testing, condition diagnosis/prognosis, and patient disposition. Concomitant attention is given to issues of patient safety, management of the treatment environment, and proper use of specialized equipment. Treatment precautions, recognition of adverse responses, and emergency procedures will be emphasized. Case studies

and laboratory sessions will focus on patient mobilization principles; interprofessional coordination of care; and acute nonsurgical, acute postsurgical, and medically complicated patient management. Adding further depth to the course will be discussions of biopsychosocial and cultural factors affecting the rehabilitation process. (3 credits)

#### **PHT 6810—Musculoskeletal I**

This is the first of three courses designed to introduce the entry-level D.P.T. student to the elements of patient/client management in the orthopedic setting. This course emphasizes the musculoskeletal system and follows both the sequence and nomenclature outlined in the *Guide to Physical Therapist Practice* including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Specific areas to be covered will include communication and history taking, systems review, symptom physiology, selection and administering tests and measures, principles of manual therapy, soft tissue/myofascial intervention, extremity and spine mobilization (non-thrust), common disorders and injuries, musculoskeletal radiology, and principles of musculoskeletal disorder/injury management. Students will acquire the cognitive, psychomotor, and affective skills necessary to conduct a general musculoskeletal examination and perform interventions relevant to physical therapy practice. At completion of this course, students will have acquired the requisite knowledge to learn advanced diagnoses and interventions covered in PHT 6820, PHT 6820L, PHT 6821, and PHT 6821L. Case studies will be utilized in conjunction with lecture, laboratory skill practice, and interactive teaching and learning methods to integrate didactic knowledge into real-life clinical scenarios. (2 credits)

#### **PHT 6810L—Musculoskeletal I Lab**

Laboratory sessions will emphasize the psychomotor and affective skills required to perform the examination and interventions addressed in PHT 6810. **Corequisite:** PHT 6810 (2 credits)

#### **PHT 6814—Clinical Practicum I**

This course includes classroom instruction and integrated clinical education (ICE) experiences. It concludes with a four-week, full-time clinical internship in a skilled nursing facility (SNF) setting. Classroom instruction focuses on orientation and preparation for both integrated and full-time clinical experiences. The ICE experiences employ a self-contained collaborative clinical education model where students are directly supervised in the clinic by academic faculty members. Students practice examination/evaluation and treatment skills learned in the curriculum concurrently and cumulatively throughout the course of the semester in underserved geriatric and other adult populations in an acute care hospital joint replacement unit, an outpatient clinic, and a skilled nursing facility. Emphasis during the ICE experiences is on developing skills

in professional behavior, clinical safety, communication, therapeutic presence, assessment, examination, screening, basic treatment planning, and performance of basic skill interventions based primarily on Clinical Skills I with introduction of some of the skills in Clinical Skills II and cardiopulmonary. The four-week, full-time internship is a community-based clinical education experience in which students are directly supervised in an SNF by community-based clinicians in a 1:1 or 2:1 model based on facility preference. Emphasis during the internship is on developing confidence and competency in professional behavior, clinical safety, communication, therapeutic presence, assessment, examination, treatment planning, patient/client education, reimbursement/billing, and performance of basic skill interventions and documentation with patients/clients scheduled on a repetitive basis over the course of four weeks. **(3 credits)**

#### **PHT 6815—Physical Agents**

This course will emphasize both cognitive and psychomotor knowledge related to electro- and thermo-modalities. Basic science information related to physiological effects, indications, and contraindications will be discussed. Lecture, interactive teaching, and lab practice will be used to assist students in integrating the didactic knowledge into simulated and real-life scenarios. **(2 credits)**

#### **PHT 6802—Evidence-Based Practice II : Using Research to Inform Clinical Decision Making**

In this course, students will be exposed to Sackett's model of evidence-based medicine in order to lay a foundation for understanding the global concept of evidence-based practice (EBP). Students will learn to use the PICO format to ask clinically relevant questions. Students will learn to locate sources of evidence, evaluate the evidence, and make recommendations based on the evidence. Students will also explore the work of the Philadelphia Panel, the Pedro scale, and Hooked on Evidence as methods for critiquing the literature. Lastly, students will contribute to APTA's Hooked on Evidence database. **(3 credits)**

#### **PHT 6816—Neuroscience**

In this course, students will acquire the foundational knowledge of human neurophysiology, motor control, and motor learning. Students will also learn the underlying neuropathology that manifests into clinical signs and symptoms of common neuromuscular dysfunctions, which is necessary for the physical therapy examination and management of patients with neuromuscular dysfunctions. Emphasis will also be placed on understanding of principles of normal human motor control and motor learning and its relation to movement dysfunctions resulting from common neuromuscular dysfunctions. The classroom learning of students will be facilitated using lecture, small and large group discussions, case studies, literature review, and simulations. **Prerequisite:** ANA 5423 **(3 credits)**

#### **PHT 6817—Pediatrics I**

This is the first of two pediatrics courses. This course introduces students to pediatrics as a specialty practice area in physical therapy. Students gain an understanding of typical infant and child development as it relates to movement and have the opportunity to practice observation and evaluation skills, including the use of standardized tools, to screen children for atypical and delayed development. Typical development is presented in the context of applying current motor control theories to predictable developmental sequences, motor progressions, and achievement of motor milestones. Using this foundation, students begin to analyze movement dysfunction exhibited in high-risk infants and children who have common childhood pathologies. Content is presented through lecture, lab, large and small group discussion, and community-based activities. **(1 credit)**

#### **PHT 6819—Pediatrics II**

This course is the second part of a series that focuses on the physical therapy management and family-centered care for the pediatric patient/client. In Pediatrics I, students have gained an understanding of typical infant and child development related to movement and how to use the ICF model as a framework to determine assessment/intervention needs and goals. Students also practiced observation and interaction skills through projects and lab experiences. Using this foundation, students in Pediatrics II will analyze movement dysfunction exhibited in high-risk infants and children who have common childhood pathologies. Atypical child motor dysfunction related to developmental delays; CNS damage; orthopedic conditions; respiratory conditions; sensory processing dysfunction; multisystem impairments; and congenital, neurological, and neuromuscular disorders content is covered to promote critical thinking and establishment of appropriate physical therapy management principles. Students will become familiar with commonly used pediatric tests and measurements. The Guide to Physical Therapist Practice, and the ICF framework are applied in context. Management incorporating use/need for assistive devices, technologies, adapted equipment (i.e., wheelchair prescription and seating), orthotics, and bracing and use of newer interventions for the pediatric patient/client are presented. Delegation and supervision of support personnel, legal/ethical issues related to delivery of care, documentation, interprofessional team management, cultural issues, reimbursement, and patient/family and teacher education will be explored. Students will also have the opportunity to collaborate with students in other disciplines for case analysis and treatment planning. Content is presented through lecture, lab, case studies, large and small group discussion, and community-based activities. **(3 credits)**



### **PHT 6820—Musculoskeletal II**

Students will acquire the skills needed to manage and prevent disorders of the musculoskeletal system. Students will address relevant practice patterns as they relate to the upper/lower quarter, diagnostic classifications, ICD-10 codes, examination, evaluation, diagnosis, prognosis, and interventions. Case studies are utilized in conjunction with lecture to assist students in integrating the didactic knowledge into simulated and real life scenarios. (3 credits)

### **PHT 6820L—Musculoskeletal II Lab**

Emphasizes the psychomotor and affective skills required when providing the musculoskeletal interventions and tests addressed in PHT 6820. Students will acquire the psychomotor skills needed to manage and prevent disorders of the musculoskeletal system by addressing relevant practice patterns as they relate to the upper/lower quarter, ICD-10 codes, examination, evaluation, diagnosis, prognosis, and interventions related to these patterns. **Corequisite:** PHT 6820 (2 credits)

### **PHT 6813—Gender-Specific Issues in Physical Therapy**

This course provides a review of diseases unique to the male and female body systems. Students will gain knowledge of gender-specific pathologic processes associated with selected diseases as well as disease-specific signs and symptoms. Common medical diagnostic and treatment approaches of gender-specific conditions are discussed, including both medical management and an introduction to physical therapy intervention. Changes to body systems during normal pregnancy will be discussed in addition to common pregnancy-related musculoskeletal problems. Topics will include male and female incontinence, prostate disease, erectile dysfunction, pregnancy-related movement dysfunction, pelvic floor dysfunction, urinary and fecal incontinence, lymph edema management, premenstrual dysphoric syndrome, female athlete triad, postmenopausal considerations, and osteoporosis. Students will be exposed to entry-level physical therapy examination techniques and interventions used to manage gender-specific diseases, including recognition of key subjective or historical information that may warrant a pelvic floor examination or referral to another professional. Students will also learn effective approaches to the discussion of sensitive topics and will learn to perform culturally appropriate screening and management of patients who have gender-specific diseases. (2 credits)

### **PHT 6821—Musculoskeletal III**

PHT 6821 (lecture) is an evidence-based approach to the management of musculoskeletal disorders of the spine. Students will acquire the requisite skills necessary to examine, manage, and prevent musculoskeletal impairments; functional limitations; and disabilities

of the spine. The course will address lumbar, thoracic, costal, cervical, sacroiliac, pelvis, temporomandibular, and headache disorders. Students are prepared for entry-level patient/client management including the ability to perform an examination, evaluation, diagnosis, prognosis, and the ability to select optimum interventions. Moreover, students will acquire the knowledge necessary to accurately disseminate information (verbal and written/documented) related to the examination and management of spine disorders to patients and clients and across the broad range of health care disciplines. Case studies are utilized in conjunction with lecture and interactive teaching and learning to assist students in integrating the didactic knowledge into simulated and real life scenarios. (2 credits)

### **PHT 6821L—Musculoskeletal III Lab**

PHT 6821L (lab) will emphasize the psychomotor and affective skills required when providing the associated musculoskeletal examination and interventions addressed in PHT 6821, Musculoskeletal III. Students are instructed and mentored in the selection and application of tests, measurements, and physical therapy interventions. Case studies are utilized in conjunction with interactive teaching and learning to assist students in integrating the techniques into simulated and real-life scenarios relevant to the musculoskeletal system. **Corequisite:** PHT 6821 (2 credits)

### **PHT 6824—Clinical Practicum II**

This is a clinical education course utilizing a self-contained, collaborative, clinical education model where students are directly supervised in the clinic by academic faculty members. Students concurrently practice examination/evaluation and treatment skills learned in the curriculum in outpatient settings, including servicing underserved and/or underinsured adults.

In partial fulfillment of this course, students will select and complete service-learning activities that have been preidentified by faculty members to supplement classroom and clinical education experiences. Service-learning experiences will provide students with an opportunity to apply their knowledge and clinical skills to benefit the local community with follow-up reflection on the impact of their service. (1 credit)

### **PHT 6830—Neuromuscular I**

Neuromuscular Systems I addresses the examination and treatment of adults with neuromuscular disorders. Students apply knowledge from Neuroanatomy and Neuroscience to the clinical management of patients with neurological conditions. Neuromuscular Systems I provides the foundational concepts and clinical reasoning for choosing tests and measures used during PT examination of the neurological patient, including sensory and motor tests; examination of motor function, motor learning, and

coordination; cranial nerves; functional mobility; self-care and activities of daily living; community function; arousal, attention, and cognition; and balance, gait, and disease-specific tests. The foundational concepts for procedural interventions related to neurorehabilitation will be addressed. These include indications, precautions, and contraindications, as well as evidence-based recommendations for therapeutic exercise; balance and gait retraining; manual techniques and facilitation; electric stimulation; mobility training; upper extremity reach, grasp, and manipulation training; positioning, supportive, and protective devices; wheelchairs; and community re-entry. **Prerequisites:** ANA 5423 and PHT 6816 (3 credits)

#### **PHT 6830L—Neuromuscular I Lab**

This course is the laboratory component of Neuromuscular Systems I which addresses the psychomotor skills needed for the examination and treatment of patients with neuromuscular disorders. The students will be exposed to a variety of clinical tests and measures including patient history; sensory testing (superficial, deep, and cortical sensations) by both peripheral nerve distribution and dermatome; myotome and manual muscle testing; motor function and coordination testing; balance, gait, and mobility testing; arousal, attention, and cognitive tests; environmental, home, and work/play barriers; self-care and home management (including ADLs and IADL testing); job/school/play reintegration testing; and assistive/adaptive device testing. Disease-specific tests and measures will also be performed. Psychomotor treatment skills will include balance and gait training, including body weight-supported treadmill training; therapeutic exercise to improve muscle performance, mobility, balance, and coordination for the neurological patient; functional training, self-care and home management in ADLs and IADLs; work/play integration; manual therapy techniques, positioning, and facilitation; and prescription and application of assistive and supportive devices; as well as physical agents and electrotherapeutic modalities. **Prerequisites:** ANA 5423 and PHT 6816 (2 credits)

#### **PHT 6834—Clinical Practicum III**

This course includes classroom instruction and integrated clinical education (ICE) experiences, concluding with a four-week, full-time, clinical internship in an outpatient orthopedic setting. Classroom instruction focuses on orientation and preparation for both integrated and full-time clinical experiences. The ICE experiences employ a self-contained, collaborative, clinical education model in which academic faculty members directly supervise students in the clinic. Students practice examination/evaluation and treatment skills learned in the curriculum concurrently and cumulatively throughout the course of the semester in outpatient settings. The four-week, full-time internship is a community-based, full-time, clinical education experience in an adult, outpatient

setting (primarily musculoskeletal) in which community-based clinicians directly supervise students in a 1:1 or 2:1 model. (2 credits)

#### **PHT 6835—Systems Management III: Medical Screening and Differential Diagnosis for Physical Therapists**

This course provides students with the opportunity to develop their skills to identify patients with medical conditions outside the physical therapy practice, and to identify comorbidities and external factors that affect patient response to physical therapy treatment. The focus of this course is on the development of the skill of differential diagnosis as practiced by the physical therapist. This will be accomplished through the evaluation of information gained during the examination processes of intake, history, and physical examination, as well as the evaluation of a patient's response to physical therapy treatment. The synthesis of this information will be combined with the student's knowledge of medical pathology of the various systems to allow for an understanding of when a patient should be referred to another health care provider and when the patient is appropriate for physical therapy treatment. The differential diagnosis considered in this course will assist in differentiating between musculoskeletal system dysfunction and medical pathologies of all systems, including the musculoskeletal system. The identification and effects of cognitive-behavioral influences on patient management and patient prognosis will also be considered. This course emphasizes the ability to identify the presence of these conditions and identify when referral to another health care practitioner is required or when specific considerations should be made in the approach of physical therapy treatment. **Prerequisites:** PHT 6810 and PHT 6716 (3 credits)

#### **PHT 6823—The Business of Physical Therapy**

This course is devoted to understanding the structure and function of the United States health care delivery system. It explores the regulatory, economic, and financial responsibilities of the physical therapy manager in the utilization of human and material resources within a variety of health care environments. Students will develop knowledge and skills to effectively manage in various health care settings. (3 credits)

#### **PHT 6906—Clinical Internship Orientation**

This course will include all final preparation necessary for students to begin their Clinical Internship series. (0 credit)

#### **PHT 6914—Neuromuscular II**

Neuromuscular II integrates concepts from Neuroscience and Neuromuscular Systems I to engage students in the patient/client management of patients with neuromuscular dysfunction. Students are exposed to a variety of case studies, representing all adult neuromuscular practice

patterns in the *Guide to Physical Therapist Practice*, to integrate and apply previously learned neuromuscular skills to patient scenarios. Emphasis is placed on clinical reasoning during all steps of patient/client management; the ability to apply evidence in practice, design, and execution of patient/client-related instruction; delegation to support personnel; and documentation of all aspects of care. This class also addresses primary, secondary, and tertiary prevention for patients with neuromuscular conditions. (2 credits)

#### **PHT 6914L—Neuromuscular II Lab**

This course is the laboratory component of Neuromuscular II. In it, students will perform all aspects of patient/client management including examination, evaluation, diagnosis, prognosis, development of a plan of care, procedural interventions, and outcome measurement. Students will apply these techniques to a variety of case studies, representing the scope of adult practice patterns in the *Guide to Physical Therapist Practice*. Neuromuscular II culminates in an intense, one-week laboratory experience, the Neuro Boot Camp, in which students work with real patients who have complicated neuromuscular disorders in a faculty-supervised setting. Students are responsible for performing a thorough examination, writing a comprehensive plan of care, performing procedural interventions, providing patient instruction, and communicating with caregivers. (2 credits)

#### **PHT 6915—Prosthetics and Orthotics**

In this course, students will acquire the skills necessary to evaluate need, analyze pathological gait, develop a plan of care, and treat patients for whom prosthetic or orthotic devices are indicated from a medical or rehabilitation standpoint. Students will learn how to manage movement-related problems in patients with amputations because of diabetes, burns, trauma, cancer, or genetic conditions. They will learn about the components, fabrication, and application of upper and lower extremity prosthetic and orthotic devices and spinal orthoses. The course includes a full-day laboratory experience in which students work with real patients with amputations in a faculty-supervised setting. Students will also explore the contemporary literature to facilitate an evidence-based approach to orthotic and prosthetic rehabilitation. (3 credits)

#### **PHT 6916—Clinical Internship I**

The clinical internship series consists of three consecutive, full-time, supervised, clinical education internships for senior D.P.T. students. Students are provided with the opportunities to practice clinical decision-making based on evidence and develop entry-level physical therapy skills for patient/client management in inpatient and outpatient settings. Students will apply their knowledge, skills, attitudes, and behaviors in various community-based settings representative of the common practice settings

in which physical therapists work. Clinical internships encompass campus orientation in the summer of year 3, followed by a total of 32 weeks of full-time, clinical education during fall and winter semesters. Students will typically rotate through three clinical placements of 10, 12, and 10 weeks, in a variety of health care organizations; schedule modifications may be made to accommodate facility requirements or other needs. The goal of all placements is for student achievement of entry-level competency and professional behaviors in all settings. Students must complete at least one internship in an acute care/inpatient facility or the equivalent, such as an LTACH; subacute inpatient or outpatient facility with a neurorehabilitation component; and an outpatient facility. During the full-time internships, students will focus on patient/client management models by performing patient examinations and evaluations; determining diagnoses, prognoses, and interventions (POC) within the context of the clinical setting; and utilizing the *Guide to Physical Therapist Practice*. It is expected that through the clinical internships, students will demonstrate appropriate management skills of patients/clients across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They will also demonstrate progressively greater independence in effectively managing less medically complex to more medically complex patients in each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the APTA core values, cultural competence, and ethical and legal practice. (5 credits)

#### **PHT 6920—Systems Management IV: Applied Clinical Decision Making**

Students apply problem solving heuristics, analyze case presentations of multifactor movement dysfunction, synthesize patient problem lists from collected data, develop intervention strategies, and evaluate the outcome of assessment and intervention decisions. The course integrates material from the foundational medical and clinical sciences and student clinical experiences. Accordingly, students demonstrate differential diagnosis and treatment planning across the life span as well as select and justify interventions, recommend referrals, and establish discharge dispositions.

Student learning and course participation is driven by mock and real clinical cases and clinical experiences. Content experts guide cognitive domain discussion and the decision-making process, assess the affective domain and compliance with professional ethical standards, and evaluate complex overt performance of psychomotor tasks. Students will develop initial plans for examination and assessment, perform assessments, analyze and interpret test results, prepare written intervention plans, perform

interventions, and suggest potential outcome assessments. Students will justify and modify treatment plans to account for changes in the patients' status. In addition, students will prepare and present a clinical case report to the assembled class at the conclusion of the term. Topics for the clinical cases and clinical experiences will cover a broad spectrum of conditions seen by physical therapists in the clinical setting. **(4 credits)**

#### **PHT 6926—Clinical Internship II**

The clinical internship series consists of three consecutive, full-time, supervised, clinical education internships for senior D.P.T. students. Students are provided with the opportunities to practice clinical decision-making based on evidence and develop entry-level physical therapy skills for patient/client management in inpatient and outpatient settings. Students will apply their knowledge, skills, attitudes, and behaviors in various community-based settings representative of the common practice settings in which physical therapists work. Clinical internships encompass campus orientation in the summer of year 3, followed by a total of 32 weeks of full-time, clinical education during fall and winter semesters. Students will typically rotate through three clinical placements of 10, 12, and 10 weeks, in a variety of health care organizations; schedule modifications may be made to accommodate facility requirements or other needs. The goal of all placements is for student achievement of entry-level competency and professional behaviors in all settings. Students must complete at least one internship in an acute care/inpatient facility or the equivalent, such as an LTACH; subacute inpatient or outpatient facility with a neurorehabilitation component; and an outpatient facility. During the full-time internships, students will focus on patient/client management models by performing patient examinations and evaluations; determining diagnoses, prognoses, and interventions (POC) within the context of the clinical setting; and utilizing the Guide to Physical Therapist Practice. It is expected that through the clinical internships, students will demonstrate appropriate management skills of patients/clients across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They will also demonstrate progressively greater independence in effectively managing less medically complex to more medically complex patients in each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the APTA core values, cultural competence, and ethical and legal practice. **(6 credits)**

#### **PHT 6946—Wrap-up**

This course is offered at the completion of the student's clinical and didactic coursework. Students participate in a hybrid (online and on-campus) format review of the

curriculum leading to the comprehensive examination. Activities include online review modules, self-assessment, and practice examinations. Debriefing of the clinical internships takes place when students return to campus and participate in summative assessments of the curriculum and preparation for employment as physical therapists. The comprehensive examination takes place when the students return to campus. **(2 credits)**

#### **PHT 6936—Clinical Internship III**

The clinical internship series consists of three consecutive, full-time, supervised, clinical education internships for senior D.P.T. students. Students are provided with the opportunities to practice clinical decision-making based on evidence and develop entry-level physical therapy skills for patient/client management in inpatient and outpatient settings. Students will apply their knowledge, skills, attitudes, and behaviors in various community-based settings representative of the common practice settings in which physical therapists work. Clinical internships encompass campus orientation in the summer of year 3, followed by a total of 32 weeks of full-time, clinical education during fall and winter semesters. Students will typically rotate through three clinical placements of 10, 12, and 10 weeks, in a variety of health care organizations; schedule modifications may be made to accommodate facility requirements or other needs. The goal of all placements is for student achievement of entry-level competency and professional behaviors in all settings. Students must complete at least one internship in an acute care/inpatient facility or the equivalent, such as an LTACH; subacute inpatient or outpatient facility with a neurorehabilitation component; and an outpatient facility. During the full-time internships, students will focus on patient/client management models by performing patient examinations and evaluations; determining diagnoses, prognoses, and interventions (POC) within the context of the clinical setting; and utilizing the Guide to Physical Therapist Practice. It is expected that through the clinical internships, students will demonstrate appropriate management skills of patients/clients across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They will also demonstrate progressively greater independence in effectively managing less medically complex to more medically complex patients in each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the APTA core values, cultural competence, and ethical and legal practice. **(5 credits)**

#### **PHT 6904—Independent Study Research Project**

This course requires students to complete a single or group research project with other students in the same class. The topic, methodology, and depth of the study

will be determined by the supervising faculty member(s). Though this is an individual or group project, students receive individual grades for the work they contributed to the project. (1–3 credits)

#### **PHT 6910—Independent Study**

The topic and requirements of this course will be determined by the supervising faculty member(s). (1–6 credits)

## **Doctor of Physical Therapy Tampa Course Descriptions**

### **Year One**

#### **Summer**

##### **PHY 5400—Physiology**

The course is foundational and intended to provide students in the Physical Therapy Program with an understanding of the basic physiochemical concepts and physiological principles underlying the development, maintenance, and propagation of the human body. It provides an examination of the essential physiological processes with reference to clinical applications where appropriate. Topics covered include basic examinations of subcellular processes, membrane mechanisms, muscle physiology, connective tissue matrices, the cardiovascular system, the nervous system, renal physiology, the respiratory system, endocrinology, reproductive physiology, and gastrointestinal physiology. (3 credits)

##### **ANA 5420—Anatomy**

This foundational science course develops the knowledge of human anatomy necessary for the practice of the profession. It presents the anatomy of the human body in both lecture and lab format. Learning modes will be active and collaborative and involve models, dissection, and some work with basic imaging and virtual laboratories. It addresses gross structures and systems of the human body and integrates topographic and radiographic anatomy, stressing the importance to clinical practice. (5 credits)

##### **PHTT 6701—Communication and Cultural Competence**

This course explores concepts of cultural competence related to health care delivery, with students given an opportunity to actively incorporate principles of cultural competency to real-life situations. Interprofessional and interpersonal communication and group processes needed to function effectively as part of a team in the health care environment will also be presented. Communication (written, verbal, and nonverbal) methods used to enhance interactions with the patient/client, families, and other members of the health care team will be discussed and practiced. Discussions will include epidemiology and health care access issues as they relate to cultural barriers. (2 credits)

### **Fall**

##### **PHTT 6705—Essentials of Exercise Physiology**

Exercise physiology describes the response to exercise and training on the cardiac, pulmonary, musculoskeletal, neural, and endocrine systems of the human body. The various methods of training for increased strength, hypertrophy, power, cardiovascular fitness, and endurance, and the effects of physical activities and work-related stress on the human organism will be discussed. Energy liberation, circulation and respiration, physical work capacity, physical training, energy cost of various activities, nutrition and performance, temperature regulation, and factors affecting performance and fitness will be covered. Students will gain the knowledge required for designing exercise programs in the general and special populations based on established needs for function and performance. (3 credits)

##### **PHTT 6741—Systems Management I**

This course provides an introductory overview of medical pathology and pharmacology commonly seen by physical therapists across the life span. Students will be introduced to the medical management, pharmacological aspects, signs and symptoms, pathogenesis, and differential diagnosis of selected pathological disorders. Application of the ICF Model will be used to determine the effect of pathological disorders on functional ability. Drug classification, pharmacokinetics, pharmacodynamics, mechanism of action, and indications for use for selected medication classes will be addressed. Pharmacotherapeutic knowledge will be brought into the clinical perspective of physical therapy patient/client management. This class introduces students to patient care within inpatient environments, including management of medical equipment such as lines, tubes, catheters, and patient lift devices, as well as working with patients at the bedside. (3 credits)

##### **PHTT 5610—Clinical Application of Anatomy for Physical Therapists**

This course addresses anatomical knowledge specific to the practice of physical therapy. It is an in-depth study of musculoskeletal anatomy including bony landmarks, muscular attachments, ligamentous structures, and neutral structures. Palpation of key bony- and soft-tissue structures will be introduced. (1 credit)

### **PHTT 5611—Professional Issues in Physical Therapy**

The professional roles and responsibilities of physical therapists provide a framework for discussion of contemporary health care issues and the history of the American Physical Therapy Association. Ethical principles, core values, standards of practice, and key professional documents that guide clinical practice serve as the basis for student socialization into the profession of physical therapy. This transition into the profession of physical therapy is celebrated symbolically during the White Coat Ceremony. This course also addresses the roles of physical therapists (patient manager, educator, consultant, critical inquirer, and administrator) in their professional development over time from novice to expert practitioner. Students analyze their roles as members of health care teams and determine the broader position of the profession in society. Additionally, this course introduces compliance issues related to clinical education to prepare students for clinical internship. (3 credits)

### **Winter**

#### **PHTT 6710—Clinical Skills I**

This course introduces students to the basic clinical skills associated with physical therapy examination and evaluation, including administering culturally appropriate and age-related tests and measures including gait, balance, range of motion/muscle length, muscle strength, and functional performance testing, as well as producing documentation of these portions of an examination. Both psychomotor skills and clinical reasoning skills are addressed based on tests and measures in the *Guide to Physical Therapist Practice*. The course also provides opportunities for both integrated patient experiences in the classroom and integrated clinical experiences in the clinic under the close supervision of faculty members and lab assistants. (3 credits)

#### **PHTT 6715—Essentials of Biomechanics and Kinesiology**

This is a basic science course to introduce physical therapy students to the study of biomechanics and kinesiology. The students will integrate their anatomy knowledge of muscle and joint structures into the study of joint motion and functional movements. The course introduces the student to basic principles of biomechanics, including kinetics, kinematics, and tissue biomechanics. Basic biomechanics serves as the foundation for understanding kinesiology. The study of kinesiology will be separated by body parts: kinesiology of the upper extremity, the lower extremity, and the spine. Once the regional knowledge of kinesiology is understood, the final outcome of the course will be to facilitate the students to learn and comprehend complex kinesiological analysis: gait, posture, and functional movements. (3 credits)

### **PHTT 6716—Systems Management II**

This course is a continuation of Systems Management I. This course provides an introductory overview of medical pathology and pharmacology commonly seen by physical therapists across the life span. Students will be introduced to the medical management, pharmacological aspects, signs and symptoms, pathogenesis, and differential diagnosis of selected pathological disorders. Application of the ICF Model will be used to determine the effect of pathological disorders on functional ability. Drug classification, pharmacokinetics, pharmacodynamics, mechanism of action, and indications for use of selected medication classes will be addressed. Pharmacotherapeutic knowledge will be brought into the clinical perspective of physical therapy patient/client management. Students will continue introductory skills of patient care within inpatient environments, including bed mobility, transfers, and management of medical equipment such as lines, tubes, and catheters during patient mobility. (3 credits)

#### **PHTT 6822—Health Promotion, Disease Prevention, and Wellness**

This two-part course addresses two integral concepts in physical therapist practice: health promotion/disease prevention and education/instruction of patients, clients, and communities. In Unit 1, students explore health promotion, disease prevention, and wellness theories and models, including behavior-change theories and the factors that promote or impede change. Students apply the Healthy People 2030 and the APTA's Vision 2020 initiatives to individuals and communities for primary, secondary, or tertiary prevention. In Unit 2, students explore principles of teaching and learning needed to plan and implement educational programs, in-services, or patient education, including learning theories, needs assessments, instructional strategies, and assessments of learning effectiveness. (2 credits)

### **Year Two**

#### **Summer**

#### **PHTT 6700—Introduction to Evidence-Based Practice**

Evidence-based practice (EBP) integrates evidence from three sources to answer clinically relevant questions that deal with 1) research literature; 2) clinician knowledge, experience, and judgment; and 3) patient preferences, values, and circumstances. This course introduces the role of the physical therapist as a scientific, evidence-based practitioner of physical therapy and provides a foundation for the integration of critical inquiry and evidence-based practice throughout the curriculum. (3 credits)

### **PHTT 6720—Clinical Skills II**

This course integrates all three aspects of physical therapist interventions described in the *Guide to Physical Therapist Practice*, including a) coordination, communication, and documentation; b) patient-related instruction; and c) procedural interventions. Students will learn, practice, and apply basic procedural interventions (clinical skills), including therapeutic exercise, gait training, functional training in self-care and home management, and prescription/application of devices and equipment with emphasis on assistive devices and wheelchairs. Clinical Skills II provides opportunities for both integrated patient experiences in the classroom and integrated clinical experiences in the clinic under the close supervision of faculty members and lab assistants. (3 credits)

### **PHTT 6623—Practice Management**

This course prepares students for the practice management demands of contemporary physical therapy practice that are essential to being successful, responsive, and adaptable to the evolving needs of the health care industry. Students are introduced to the business perspective of health care service delivery, including leadership and managerial skills related to direct patient care and organizational operations. Topics covered include the continuum of care, regulatory and reimbursement mechanisms, coding, billing, documentation, compliance, the triple aim of health care, interprofessional collaborative practice, leadership, ethical practice, quality improvement, risk management, marketing, and public relations. (3 credits)

### **PHTT 6711—Principles of Documentation**

This course introduces students to the principles of effective documentation for physical therapists. Because documentation is a critical component of every patient encounter, this course provides the foundations regarding different types of documentation (initial examination, treatment, progress, re-evaluation, and discharge notes) and varying forms of documentation (paper and electronic medical records), as well as legal and ethical guidelines regarding documentation for physical therapists. Students will apply these principles throughout the curriculum in all patient management courses. (1 credit)

## **Fall**

### **PHTT 6722—Integumentary PT**

Integumentary PT addresses the patient/client management of patients with integumentary dysfunction or those who have the potential for integumentary disorders as described in the *Guide to Physical Therapist Practice*. The course builds on the students' knowledge of skin anatomy and physiology as related to skin structure, function, pathology, and tissue healing as well as the relationship of movement to the prevention and management of wounds. Topics include screening of the skin as a system as well as the

examination, evaluation, diagnosis, prognosis, plan of care, and interventions for people with superficial, partial-thickness, or full-thickness wounds. Students learn to use clinical reasoning and the best available evidence to select appropriate tests/measures and apply PT interventions to address wounds of all etiologies, depths, and stages. Infection control is addressed throughout the course, as is the role of the PT as part of an interprofessional team, including the referral to other health care professionals for diagnostic testing and medical/surgical interventions. (2 credits)

### **PHTT 6815—Physical Agents**

This course will emphasize both cognitive and psychomotor knowledge related to the appropriate use of physical agents in physical therapy patient management. Basic science information related to physiological effects as well as indications and contra-indications for physical agents will be discussed. (3 credits)

### **PHTT 6823—The Business of Physical Therapy**

Potential opportunities and career paths that can lead to mid-level and executive management positions for physical therapists are presented in the context of the complex world of contemporary health care organizations and their unique business models. Current issues that impact the roles of leaders and managers and their responsibilities in five different types of health care settings are presented. Students will prepare a program proposal, feasibility study, or business plan to address a need for physical therapy services. (3 credits)

### **PHTT 6916—Patient/Client Management Post Amputation**

This course focuses on the patient/client management of people with amputations, including examinations, evaluations, diagnoses, prognoses, plans of care, interventions, and outcomes. Topics include the etiology, psychological considerations, medical management, and complications of amputations; physical therapy examination and evaluation of the acute and chronic patient; prosthetic fabrication, fit, and components; and physical therapy interventions to maximize patient outcomes. Students will also explore current literature to demonstrate an evidence-based approach to rehabilitation using prosthetics. This course also provides an introduction to the role of orthotic devices in patient/client management. The clinical indications and principles of orthotics presented in this class form the foundation for discussion of orthotic prescription and modification in subsequent patient management classes throughout the curriculum. (2 credits)

### **PHTT 6802—Application of Evidence-Based Practice**

This course focuses on the patient/client management of people with amputations, including examination,

evaluation, diagnosis, prognosis, plan of care, interventions, and outcomes. Topics include the etiology, psychological considerations, medical management, and complications of amputations; physical therapy examination and evaluation of the acute and chronic patient; prosthetic fabrication, fit, and components; and physical therapy interventions to maximize patient outcomes. Students will also explore current literature to demonstrate an evidence-based approach to rehabilitation using prosthetics. This course also provides an introduction to the role of orthotic devices in patient/client management. The clinical indications and principles of orthotics presented in this class form the foundation for discussion of orthotic prescription and modification in subsequent patient management classes throughout the curriculum.

Evidence-based practice (EBP) integrates evidence from three sources to answer clinically relevant questions concerning 1) research literature; 2) clinician knowledge, experience, and judgment; and 3) patient values and circumstances. This course reviews and builds on content introduced in Introduction to Evidence-Based Practice, developing the role of the physical therapist as a scientific, evidence-based practitioner of physical therapy and continuing to integrate critical inquiry and evidence-based practice throughout the curriculum. Emphasis will be on the use of statistical tools in appraising evidence, as well as the introduction of more complex sources of evidence, such as systematic reviews, meta-analysis, Cochrane reviews, clinical prediction rules, and clinical practice guidelines. The role of qualitative and mixed-methods research designs also will be explored. (3 credits)

## Winter

### PHTT 6725—Cardiovascular and Pulmonary PT

This course emphasizes physical therapy management (examination, evaluation, diagnosis, prognosis and plan of care, intervention, and outcomes) for patients with cardiovascular and pulmonary pathologies. Diseases within each system will be presented with specific reference to etiology, pathology, and current medical management. The course emphasizes the physical therapy examination, development of appropriate clinical decision making, and utilization of evidenced-based interventions for people with these conditions. Concurrent didactic and laboratory sessions provide students with an opportunity to learn and practice examination, evaluation, and intervention skills when treating patients with cardiovascular and pulmonary dysfunction. (4 credits)

### PHTT 6810—Musculoskeletal I

This is the first of three courses designed to introduce the entry-level D.P.T. student to the elements of musculoskeletal orthopedic patient/client management. This course emphasizes the musculoskeletal system

and follows both the sequence and nomenclature outlined in the *Guide to Physical Therapist Practice* including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Specific areas to be covered will include communication and history taking, systems review, symptom physiology, selection and administration of tests and measures, principles of manual therapy, soft tissue/myofascial interventions, extremity and spinal joint mobilization (non-thrust), common musculoskeletal disorders and injuries, musculoskeletal radiography/imaging, and principles of musculoskeletal disorder/injury management. Students will acquire the cognitive, psychomotor, and affective skills necessary to conduct a general musculoskeletal examination and perform interventions relevant to physical therapy practice across the life span and in various practice settings. At the completion of this course, students will have acquired the requisite knowledge to learn advanced diagnoses and interventions skills covered in PHTT 6820, PHTT 6820L, PHTT 6821, and PHTT 6821L. Case studies will be utilized with interactive teaching and learning methods to integrate didactic knowledge into real-life clinical scenarios. (2 credits)

### PHTT 6810L—Musculoskeletal I Lab

Laboratory sessions will emphasize the psychomotor and affective skills required to perform the examination and interventions addressed in PHTT 6810. (2 credits)

### PHTT 5423—Neuroanatomy and Neurophysiology

This course introduces physical therapy students to the study of the human nervous system's structures, pathways, connections, and functions. Students are introduced to basic anatomical and physiological principles of the brain, spinal cord, and peripheral nervous system and relate these structures to the clinical signs and symptoms of neurological dysfunction. Neuroanatomy and Neurophysiology serves as the basic scientific foundation for subsequent physical therapy coursework including motor control, Neuromuscular Systems I, and Neuromuscular Systems II. (3 credits)

## Year Three

### Summer

### PHTT 6816—Motor Control Across the Life Span

This course provides the foundational knowledge about motor control theory and practice across the life span. Principles of motor control and motor learning are discussed as they relate to normal human movement from birth through older adulthood, as well as movement dysfunction that results from neurologic pathology. Concepts of neuroplasticity and the recovery of function are also addressed. This class provides the foundations for



neurologic and pediatric physical therapy practice through a review of normal human development, as well as the development and impairments of postural control, mobility, and the control of reach/grasp/manipulation. Classroom activities include lectures, case studies, lab simulations, and observation/analysis of normal childhood development postural control, mobility, and upper extremity function. (3 credits)

#### **PHTT 6820—Musculoskeletal II**

This is the second of three courses designed to build upon the introduction to the elements of the musculoskeletal/orthopedic patient/client management. This course will emphasize the musculoskeletal system of the upper quarter and follows both the sequence and nomenclature outlined in the *Guide to Physical Therapist Practice* including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Specific areas to be covered will include upper-quarter-specific communication and history taking, selecting and administering tests and measures, principles of manual therapy including advanced mobilization (thrust and non-thrust), joint/region specific musculoskeletal disorders and injuries, joint/region specific radiography/imaging, and selected specific interventions. Students will acquire the skills necessary to conduct an examination of the upper quarter and perform interventions relevant to physical therapy practice required to manage and prevent disorders of the musculoskeletal system across the life span and in various practice settings. Case studies are utilized in conjunction with lecture to assist students in integrating the didactic knowledge into simulated and real-life scenarios. (3 credits)

#### **PHTT 6820L—Musculoskeletal II Lab**

Laboratory sessions will emphasize the psychomotor and affective skills required to perform the examination and interventions addressed in PHTT 6820. (2 credits)

### **Fall**

#### **PHTT 6821—Musculoskeletal III**

This is the third of three courses designed to build upon the elements of musculoskeletal/orthopedic patient/client management and will emphasize an evidence-based approach to the management of musculoskeletal disorders of the lower quarter. This course follows both the sequence and nomenclature outlined in the *Guide to Physical Therapist Practice* including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Specific areas to be covered will include lower-quarter-specific communication and history taking, selecting and administering tests and measures, principles of manual therapy including advanced mobilization (thrust and non-thrust), specific musculoskeletal disorders and injuries, specific radiography/imaging, and selected specific interventions. Students will acquire the skills

necessary to conduct an examination of the lower quarter and perform interventions relevant to physical therapy practice required to manage and prevent disorders of the musculoskeletal system across the life span and the broad range of health care settings. Case studies are utilized in conjunction with lecture to assist students in integrating the didactic knowledge into simulated and real-life scenarios. (2 credits)

#### **PHTT 6821L—Musculoskeletal III Lab**

Laboratory sessions will emphasize the psychomotor and affective skills required to perform the examination and interventions addressed in PHTT 6821. (2 credits)

#### **PHTT 6813—Gender-Specific Issues in Physical Therapy**

This course is an overview of pathology and musculoskeletal issues that impact the male and female body. Students will gain knowledge of anatomy and physiology, disease processes, and medical management of gender-specific pathology, as well as physical therapy interventions. Students will be educated on the musculoskeletal changes to the female body and other body systems during normal pregnancy. The topics that will be covered will include anatomy and physiology, urologic and colorectal dysfunction, pregnancy-related musculoskeletal issues, prostate disease, the female athlete, osteoporosis, and other gender-specific issues. The students will gain entry-level knowledge on how to interview and perform a basic evaluation and how to develop a plan of care related to gender-specific issues. Students will be able to implement basic treatment strategies for gender-specific issues while recognizing when it is appropriate to refer a patient to another professional for a more specialized pelvic floor examination. (2 credits)

#### **PHTT 6817—Pediatrics**

This course is the second part of a series that focuses on the physical therapy management of the pediatric patient/client and the role of family-centered care. In pediatrics I, students have gained an understanding of typical infant and child development as it relates to movement. Using this foundation, students in pediatrics II will analyze movement dysfunction exhibited in high-risk infants and children who have common childhood pathologies. Atypical child motor dysfunction related to developmental delays; CNS damage; orthopedic conditions; respiratory conditions; sensory processing dysfunctions; multisystem impairments; and congenital, neurological, and neuromuscular disorders content is covered to promote critical thinking and establishment of appropriate physical therapy management. Students become familiarized with commonly used pediatric screens, tests and measurements. The *Guide to Physical Therapist Practice* patterns (examination, evaluation, diagnosis, prognosis, and evidence-based interventions)

are applied in context. Management incorporating use/need for assistive devices, technologies, adapted equipment (i.e., wheelchair prescription and seating), orthotics, and bracing and use of newer interventions for the pediatric patient/client is presented. Delegation and supervision of support personnel, legal/ethical issues related to delivery of care, documentation, interdisciplinary team management, cultural issues, reimbursement, and patient/family and teacher education are explored. Content is presented through lecture, lab, case studies, large and small group discussion, and community-based activities. (3 credits)

## Winter

### PHTT 6830—Neuromuscular Systems I

Neuromuscular Systems I addresses the examination and interventions for adults with neuromuscular disorders. Students will apply knowledge from Neuroanatomy and Neurophysiology and Motor Control Across the Life Span to the clinical management of patients with neuromuscular disorders. Neuromuscular Systems I provides the foundational concepts and clinical reasoning for choosing tests and outcome measures used during the PT examination of the neurological patient. These include sensory and motor tests and examination of motor function, motor learning, coordination, cranial nerve integrity, functional mobility, self-care, activities of daily living, community function, mental function, balance, gait, and disease-specific tests. The foundational concepts and clinical reasoning for procedural interventions related to neurorehabilitation will be addressed. These include indications and precautions, as well as evidence-based recommendations for therapeutic exercise; balance and gait retraining; facilitation; electric stimulation; mobility training; upper extremity reach, grasp, and manipulation training; positioning, supportive, and protective devices; wheelchairs; and community re-entry. (3 credits)

### PHTT 6830L—Neuromuscular Systems I Lab

This course is the laboratory component of Neuromuscular Systems I, which addresses the psychomotor skills and clinical reasoning needed for the examination and treatment of patients with neuromuscular disorders. The students will become competent in performing and documenting a variety of clinical tests and outcome measures including patient history; sensory testing (superficial, deep, and cortical sensations); motor control; manual muscle testing; motor function and coordination testing; balance, gait, and mobility testing; mental function; environmental, home, and work/play barriers; self-care and home management (including ADLs and IADL testing); job/school/play reintegration testing; and assistive/adaptive device testing. Students will demonstrate competence in psychomotor intervention skills such as balance and gait training, including body weight-supported treadmill training; therapeutic exercise to improve muscle

performance, mobility, balance, and coordination for the neurological patient; functional training, self-care and home management in ADLs and IADLs; work/play integration positioning and facilitation; and prescription and application of assistive and supportive devices, as well as physical agents and electrotherapeutic modalities. Documentation of all aspects of care is also emphasized. (2 credits)

### PHTT 6835—Systems Management III: Differential Diagnosis for PT

This course reviews information related to differential diagnosis of the major body systems—including cardiovascular, pulmonary, hematological, gastrointestinal, renal and urinary, hepatic and biliary, endocrine, and immune systems. It provides students with the opportunity to recognize and identify patients with medical conditions outside the scope of physical therapy practice. The focus is on differential diagnosis through thorough history taking and physical examination. The course will also discuss the findings of imaging tests in diseases affecting the musculoskeletal system including cancer, infection, cardiovascular disease, and inflammatory arthritis. Students are expected to apply the information learned in this course to their clinical internships and future practice. This course is taught under the assumption of direct access practice. (3 credits)

### PHTT 6812—Topics in Clinical Education

This course is designed to prepare students for the full-time clinical internships that take place in the fall and winter semesters of their fourth year. Topics such as professional expectations related to the clinical setting, documentation, and goal setting will be covered. Students will be trained in the use of the clinical performance instrument (CPI) and educated on how to effectively use it for self-assessment and goal-writing. Federal and state practice regulations will be reviewed to ensure compliance in the clinic. Students will be introduced to the capstone project and expectations related to the clinical internship, including CPI assessments, in-service presentations, and student completion of the CSIF. The clinical education handbook will be reviewed and discussed in detail during this class. (2 credits)

## Year Four

### Summer

### PHTT 6914—Neuromuscular Systems II

Neuromuscular Systems II integrates concepts from Neuroanatomy and Neurophysiology, Motor Control Across the Life Span, and Neuromuscular Systems I to engage students in the patient/client management of individuals with neuromuscular dysfunction. Students are exposed to a variety of case studies, representing all

adult neuromuscular practice patterns in the *Guide to Physical Therapist Practice*, to integrate and apply previously learned neuromuscular skills. Emphasis is placed on disease-specific tests and measures and application of clinical reasoning during all steps of patient/client management and throughout the course of management (acute to chronic); the ability to apply evidence in practice; the design and execution of patient/client-related instruction; delegation to support personnel; and documentation of all aspects of care. This class also addresses primary, secondary, and tertiary prevention for patients with neuromuscular conditions. (2 credits)

#### **PHTT 6914L—Neuromuscular Systems II Lab**

This course is the laboratory component of Neuromuscular Systems II. In it, students will perform all aspects of patient/client management including examination, evaluation, diagnosis, prognosis, development of a plan of care, procedural interventions, and outcome measurement for individuals with various neurologic conditions. Students will apply these techniques to a variety of case studies, representing the scope of adult practice patterns in the *Guide to Physical Therapist Practice*. Neuromuscular Systems II culminates in an intense, one-week laboratory experience, the Neuro Boot Camp, in which students work with real clients who have complicated neuromuscular disorders in a faculty-supervised setting. Students are responsible for performing a thorough examination, writing a comprehensive plan of care, performing procedural interventions, providing patient instruction, and communicating with caregivers. (2 credits)

#### **PHTT 6920—Applied Clinical Decision Making**

The course focuses on developing and refining fourth-year D.P.T. students' clinical reasoning skills by making thinking visible. We use a clinical reasoning framework that incorporates the Patient/Client Management Model, the ICF Framework, and Schön's reflective practice elements to build students' thinking and clinical decision-making routines. Students work under the guidance of expert clinicians skilled in empowering students to do the clinical reasoning themselves. Learning activities incorporate specific questions that target clinical reasoning strategies used for diagnosis; patient/client management; and ethical problem solving when faced with complex, ambiguous, uncertain, and unpredictable case scenarios and make clinical reasoning processes explicit to the students. Students' clinical reasoning capabilities are developed through exercises that incorporate reflection, as well as critical, complex, and dialectical thinking skills. Online and face-to-face learning activities mimic real-life clinical scenarios where students are required to demonstrate their ability to adjust their examination and treatment techniques for medically complex patients based on changing patient responses during a treatment session and/or episode of care. (4 credits)

### **Fall–Winter**

#### **PHTT 6911—Clinical Internship I**

The Hybrid D.P.T. program's clinical internships occur in the fall and winter of a student's fourth year, after completion of all didactic coursework and consists of three consecutive, full-time, supervised, clinical internships totaling 36 weeks. The goal of clinical internship placements is for student achievement of entry-level competency and professional behaviors in a variety of clinical settings. Students engage in patient/client management, including examination, evaluation, determination of diagnosis, prognosis, and plan of care, as well as providing interventions. They practice clinical decision-making based on evidence, patient goals, and the experience of their clinical instructor(s). Students refine their knowledge, skills, attitudes, and behaviors in a variety of patient-care settings across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They are expected to demonstrate progressive independence in managing patients of increasing complexity within each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the American Physical Therapy Association's core values, and cultural competence, as well as ethical and legal practice appropriate to federal and state guidelines. (6 credits)

#### **PHTT 6921—Clinical Internship II**

The Hybrid D.P.T. program's clinical internships occur in the fall and winter of a student's fourth year, after completion of all didactic coursework. They consist of three consecutive, full-time, supervised, clinical internships totaling 36 weeks. The goal of a clinical internship placement is for student achievement of entry-level competency and professional behaviors in a variety of clinical settings. Students engage in patient/client management, including examination, evaluation, determination of diagnosis, prognosis, and plan of care, as well as providing interventions. They practice clinical decision-making based on evidence, patient goals, and the experience of their clinical instructor(s). Students refine their knowledge, skills, attitudes, and behaviors in a variety of patient-care settings across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They are expected to demonstrate progressive independence in managing patients of increasing complexity within each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the American Physical Therapy Association's core values, and cultural competence, as well as ethical and legal practice appropriate to federal and state guidelines. (6 credits)

### **PHTT 6931—Clinical Internship III**

The Hybrid D.P.T. program's clinical internships occur in the fall and winter of a student's fourth year, after completion of all didactic coursework and consists of three consecutive, full-time, supervised, clinical internships totaling 36 weeks. The goal of clinical internship placements is for student achievement of entry-level competency and professional behaviors in a variety of clinical settings. Students engage in patient/client management, including examination, evaluation, determination of diagnosis, prognosis, and plan of care, as well as providing interventions. They practice clinical decision-making based on evidence, patient goals, and the experience of their clinical instructor(s). Students refine their knowledge, skills, attitudes, and behaviors in a variety of patient-care settings across adulthood or the life span and across the continuum of care commonly seen in physical therapy practice. They are expected to demonstrate progressive independence in managing patients of increasing complexity within each practice setting. Students are expected to demonstrate effective communication and documentation skills, professionalism consistent with the American Physical Therapy Association's core values, and cultural competence, as well as ethical and legal practice appropriate to federal and state guidelines. (6 credits)

### **PHTT 6930—Wrap-up and Review**

This final course in the curriculum provides students with a guided process for comprehensive review of the physical therapy curriculum, study strategies and preparation for the National Physical Therapy Examination (NPTE), summative assessment of the curriculum, preparation for employment as a physical therapist, and self-reflection on personal growth in the core values of the physical therapy profession. Activities include online review modules, self-assessment and practice examinations, a formal NPTE review course, outcomes data collection, presentation of the values portfolio, and preparation for commencement and job readiness. The class begins during clinical internships and culminates during the week prior to graduation. (2 credits)

### **PHTT 6904—Evidence in Practice Capstone Project**

Evidence-based practice (EBP) integrates evidence from three sources to answer clinically relevant questions concerning 1) research literature; 2) clinician knowledge, experience, and judgment; and 3) patient preferences, values, and circumstances. This is the last of three courses in evidence-based practice. The focus of this course is on the integration of content from the entire curriculum and the application of evidence-based practice to a patient or clinical situation from a clinical education experience. (2 credits)

## **Postprofessional Doctoral Programs in Physical Therapy**

The Physical Therapy Department at Nova Southeastern University offers two postgraduate programs for practicing physical therapists: the clinical doctorate—or transition Doctor of Physical Therapy (T-D.P.T.), and the research doctorate—the Doctor of Philosophy in Physical Therapy (Ph.D.). These two distinct programs are designed to meet the diverse needs of physical therapists who are seeking to advance their education and skills from an accredited institution. Both programs are offered primarily in an online format to meet the needs of working professionals. There is an on-campus component for each core course taken, generally two days per course, per semester. Nova Southeastern University is a recognized leader of distance education and has a well-respected history of innovation and leadership in the health professions.

### **Transition Doctor of Physical Therapy Program (T-D.P.T.)**

Given the complex health care environment and the growing body of knowledge in the physical therapy profession, entry-level education in physical therapy has shifted toward the clinical doctorate degree. The vision

of the American Physical Therapy Association (APTA) is that by the year 2020, physical therapy will be provided by physical therapists who are doctors of physical therapy. In support of this vision, the Physical Therapy Department at Nova Southeastern University offers the transition Doctor of Physical Therapy (T-D.P.T.) Program. The transition D.P.T. program is a postprofessional curriculum designed to advance the knowledge, attitudes, and skills of practicing physical therapists to those commensurate with the current entry-level doctorate in physical therapy. This program focuses on the professional roles of the D.P.T., clinical reasoning and differential diagnosis, evidence-based practice, and patient/client management related to optimizing movement, function, and health. The degree awarded upon completion of the program is the Doctor of Physical Therapy degree.

#### **Program Outcomes**

The transition D.P.T. program will prepare physical therapists to

- demonstrate competent and relevant patient/client management skills across the continuum of

care, including examination, evaluation, diagnosis, prognosis and plan of care, interventions, and outcome measurement

- synthesize current evidence and experience into clinical decision making, incorporating client beliefs, values, and abilities to promote effective and efficient treatment plans in a direct access, autonomous, health care environment
- engage in critical self-reflection/assessment and life-long learning to enrich core values of professionalism as defined by APTA, including altruism, accountability, compassion/caring, excellence, integrity, professional duty, and social responsibility in all professional roles
- integrate health promotion, fitness, wellness, and prevention with patients, groups, community, organizations, and society as educators, consultants, administrators, and collaborators
- conduct analysis of patient, organization, and community needs, abilities, and concerns from a systemic perspective to achieve measurable outcomes that demonstrate effective change

### Admissions Requirements

The following are requirements for admission:

1. Applicants must have graduated from an entry-level physical therapy (PT) program (bachelor or master's degree level) accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE), or have a current physical therapy license in the United States. Graduates from physical therapy schools in other countries are also eligible after review of academic credentials by an appropriate agency and a review of their Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Pearson Test of English—Academic (PTE-Academic) scores.
2. Applicants must have a minimum of six months of clinical work experience following their graduation from a physical therapy program and prior to entering the T-D.P.T. program.
3. Applicants must have a grade point average of 75 percent or higher from the entry-level physical therapy coursework. If the GPA is lower than 75 percent, applicants must achieve a minimum score of 500 on both the verbal and quantitative portions (145 on the revised scale) of the Graduate Record Examination (GRE). The GRE is only required for students whose GPA is below 75 percent.
4. Selection of students for the transition D.P.T. program is based on a review of the application, prior academic performance, and three letters of recommendation. We seek students who are motivated and self-directed learners, with strong oral and written communication and critical thinking skills.

5. Applicants can also apply to be nonmatriculated students in the T-D.P.T. program. Nonmatriculated students can take selected courses, but are not officially admitted to the program as degree-seeking students. To apply to be a nonmatriculated student, an applicant must submit a nonmatriculated application and provide proof that he or she has completed a physical therapy academic program. Official transcripts and records are not required for application as a nonmatriculated student, other than to show proof that the applicant is a graduate physical therapist. Students can take up to 12 credit hours as a nonmatriculated student. A nonmatriculated student that wants to matriculate into the T-D.P.T. program must submit an official matriculated student application, transcripts, and official credentialing evaluation (as appropriate) to the program office, as well as meet all entering requirements for a degree-seeking student. Once the applicant is accepted as a degree-seeking student, courses taken as a nonmatriculated student with an earned grade of 80 percent or higher will be counted toward the T-D.P.T. graduation requirements.

The dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

### Application Procedures

Applicants must submit

- a completed application form along with a nonrefundable application fee of \$50
- official transcripts from all undergraduate, professional, and graduate institutions attended, sent directly to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Physical Therapy Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

- three letters of evaluation from individuals who can evaluate the applicant's performance as a physical therapist and/or the applicant's ability for doctoral studies (Letters of reference should be sent on an NSU applicant recommendation form—available on NSU's website—or on letterhead.)
- GRE scores or other standardized scores, if the PT degree GPA is less than 75 percent (GRE scores must be less than five years old.)

Students must demonstrate English proficiency if their PT degree is from a non-U.S.-based program. TOEFL, IELTS or PTE-Academic scores may be used to demonstrate English proficiency.

Students can transfer up to 6 semester hours (two classes) from another accredited postprofessional program based on the assessment by the Office of Admissions and the

T-D.P.T. program director. The Office of Admissions evaluates all requests for transfer credits and assessment of professional credentials. After an evaluation of credentials, qualified applicants may be interviewed. Applications are accepted year-round.

### Foreign Coursework

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York, 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)
- Foreign Credentialing Commission on Physical Therapy\* (FCCPT)  
511 Wythe Street  
Alexandria, VA 22314, USA  
(703) 684-8406 • [fccpt.org](http://fccpt.org)
- International Consultants of Delaware, Inc.  
3600 Market Street  
Suite 450  
Philadelphia, PA 19104  
(215) 222-8454, ext. 603 • [icdeval.com](http://icdeval.com)

\* This agency specializes in evaluation for U.S. PT licensure.

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Physical Therapy Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

### Transition D.P.T. Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([nova.edu/pt/dpt](http://nova.edu/pt/dpt)). An NSU student services fee—ranging from \$225 to \$450, dependent on number of credit hours taken—is required each semester, with a maximum fee of \$1,350 due annually. Tuition and fees are subject to change by the board of trustees without notice.

Students that have served as clinical instructors for NSU's entry-level D.P.T. students can receive 'vouchers' that can be used for tuition for courses taken in the T-D.P.T. program.

T-D.P.T. students who are members of the American Physical Therapy Association (APTA) will receive a 15 percent tuition discount each term (with written proof of membership).

The first term's tuition and fees are due at time of course registration. Tuition for each subsequent semester is due on or before the appropriate registration day.

### Curriculum Overview

The transition D.P.T. program offers three semesters per year. These are winter (January–May), summer (May–July), and fall (August–December). The summer term is designated primarily for elective and selected patient/client management courses. Classes are designed using a hybrid model, meaning coursework is offered mostly online with on-campus time required each semester for every core course taken. The on-campus sessions are generally two days per course and occur midway through the semester (March, June, October). These sessions are mandatory for all students.

The curriculum is designed for working physical therapists, where students can enroll part-time (3–7 credit hours) or full time (8–12 credit hours). The required coursework and total number of hours needed to graduate vary depending on the previous educational background of each applicant. Applicants with a baccalaureate degree must complete 13 classes (45 credits), including 7 core courses and 6 elective courses. Applicants with a master's degree from another university must complete seven core classes (27 credits). Applicants with an M.P.T. from Nova Southeastern University must complete six core courses (24 credits). Applicants with a Ph.D./Ed.D. degree must complete five core courses (20 credits). The patient/client management course requirement is waived for those holding an APTA specialty certification.

### Requirements for Graduation

In order to graduate from the transition D.P.T. program, students must

- be of good moral character
- complete the required number of semester hours as outlined
- satisfactorily complete all program requirements for the degree within six years from the first date of classes
- have a minimum GPA of 80 percent for all T-D.P.T. coursework
- satisfactorily meet all financial and library obligations
- complete the T-D.P.T. exit survey

## Course of Study

Applicants with a master's degree take seven core courses (see below).

### Seven Core Courses

- PHT 7215—Introduction to Clinical Reasoning, Differential Diagnosis, and Disablement Models (3 credits)
- PHT 7405—Professional Roles of the Doctor of Physical Therapy (4 credits)
- PHT 7415—Radiology and Pharmacology (4 credits)
- PHT 7605—Applying Research in Evidence-Based Practice (4 credits)
- PHT 7615—Advanced Differential Diagnosis (4 credits)
- PHT 7805—Contemporary Theories of Movement, Exercise, and Motor Learning (4–6 credits)
- One Patient/Client Management course (4 credits)

*(choice of seven practice areas: neuromuscular, manual therapy, geriatrics, pediatrics, women's health, sports, or lymphedema and wound management)*

### Elective Courses (18 credits)

- Patient/Client Management courses may be taken as electives.
- PHT 7025—The Health Care Educator (3 credits)
- PHT 7065/7075—Independent Study: Case Report (1–3 credits)
- PHT 7975—The Physical Therapist in Home Health Care (3 credits)
- DHS 8100—Alternative and Complementary Medicine (4 credits)\*

- MHS 5003—Current Trends and Cultural Issues in Health Care (3 credits)\*
- MHS 5521—Ethical Issues in Health Care (3 credits)\*

\* *These courses are offered through other programs within the Dr. Pallavi Patel College of Health Care Sciences and may be taken upon approval of the T-D.P.T. program director.*

Applicants with a Master of Physical Therapy degree from NSU: six courses (24 credits)

- PHT 7405—Professional Roles of the Doctor of Physical Therapy (4 credits)
- PHT 7415—Radiology and Pharmacology (4 credits)
- PHT 7605—Applying Research in Evidence-Based Practice (4 credits)
- PHT 7615—Advanced Differential Diagnosis (4 credits)
- PHT 7805—Contemporary Theories of Movement, Exercise, and Motor Learning (4–6 credits)
- PHT 7815–75—Patient/Client Management (4 credits)

Applicants with a Doctor of Philosophy degree: five courses (20 credits)

- PHT 7605—Applying Research in Evidence-Based Practice (4 credits)
- PHT 7415—Radiology and Pharmacology (4 credits)
- PHT 7615—Advanced Differential Diagnosis (4 credits)
- PHT 7805—Contemporary Theories of Movement, Exercise, and Motor Learning (4 credits)
- PHT 7815–75—Patient/Client Management (4 credits)

## Transition D.P.T. Course Descriptions

### Core Courses

#### PHT 7215—Introduction to Clinical Reasoning, Differential Diagnosis, and Disablement Models

Students explore the conceptual basis for effective clinical reasoning and differential diagnosis using the disablement model, clinical decision-making model, elements of patient/client management, and reflective practice theories. (3 credits)

#### PHT 7405—Professional Roles of the Doctor of Physical Therapy

This course explores the emerging roles of the physical therapist as a Doctor of Physical Therapy (D.P.T.). Emphasis is on the role of the D.P.T. in patient/community education; prevention and health promotion; and managing services through administration, consultation, and supervision. The class is organized into two modules: Module 1—Teaching/Learning and Health Promotion/Disease Prevention and Module 2—Managing Services Through Administration, Consultation, and Supervision. (4 credits)

#### PHT 7415—Radiology and Pharmacology

This course provides an overview of current radiological and pharmacological medical interventions so that physical therapists can recognize the indications and implications for medical diagnostic tests, including diagnostic imaging; augment information obtained from the physical therapy examination with information provided by the referral source; and communicate effectively with other health care providers regarding medical diagnosis and treatment. Course content is organized throughout the semester based in two subsections: diagnostic imaging and pharmacology. Students will synthesize information from these two key areas of medical management, including radiological/imaging exams and clinical pharmacology. (4 credits)

#### PHT 7605—Applying Research in Evidence-Based Practice

In this course, students will be exposed to Sackett's model of evidence-based medicine in order to lay a foundation for understanding the global concept of evidence-based practice (EBP). Students will learn to use the PICO format to ask clinically relevant questions. Students will learn to locate sources of evidence, evaluate the evidence, and make recommendations based on the evidence. Students will also rate an article based on the PEDro Scale and be exposed to APTA's *PT NOW*. (4 credits)

#### PHT 7615—Advanced Differential Diagnosis

This course is designed to offer students the skills to make clinical decisions and screen medical diseases independently from a physician, dentist, or psychologist.

It is not the intent of this course to instruct the students in becoming medical diagnosticians, but rather to give students the tools to rule out medical problems in which physical therapy is contraindicated or that may require additional medical or psychological evaluation or treatment. Course content includes subjective and physical exam of the cardiovascular, pulmonary, gastrointestinal, urogenital, integumentary, and endocrine systems, among others. (4 credits)

#### PHT 7805—Contemporary Theories of Movement, Exercise, and Motor Learning

This course addresses current theories of motor function (motor control and motor learning), exercise training (therapeutic exercise and aerobic conditioning), and movement science to enhance the practitioner's ability to choose and apply appropriate examinations and interventions for patients with movement-related dysfunction. Students will apply contemporary theories to develop treatment strategies related to their current practice environment or patient population. (4 credits)

#### Patient/Client Management

Students expand their current scope of practice in one of seven practice areas or one of six manual therapy courses. This allows the practitioner to direct his or her learning to a defined practice area using the elements of patient/client management, including examination (tests and measures), evaluation, diagnosis, prognosis and plan of care, interventions, and outcome measurement. Each Patient/Client Management course provides both didactic and laboratory experiences to integrate theory with practice. There will be two or three days of intensive, hands-on training mid-way through the semester. Any student can also take additional practice areas as electives.

#### PHT 7825—Patient/Client Management—Neuromuscular

In this course, students will expand their current scope of practice in the neuromuscular practice area. This allows the practitioner to direct his or her learning to a defined practice area using the elements of patient/client management, including examination (tests and measures), evaluation, diagnosis, prognosis and plan of care, interventions, and outcome assessment. This Patient/Client Management course provides both didactic and clinical experiences to integrate theory with practice. There will be two days of intensive, hands-on training mid-way through the semester. (4 credits)

#### PHT 7835—Patient/Client Management—Women's Health

Women consist of at least 50 percent of any given health care setting and have, at times, specific needs and



consideration requiring physical therapy intervention. Drawing from the student's present knowledge base of physical therapy diagnosis and intervention, this course will expand into women's health topics including pregnancy, uro-gynecological and colorectal dysfunction, and the significance of estrogen across the life span. Students will closely examine the relationships of abdomino-pelvic anatomy, including the muscles of the abdominal core, and explore the impact of lifestyle/health choices on wellness of the woman for a lifetime. **(4 credits)**

**PHT 7845—Patient/Client Management—Pediatric Practice**

The focus of this course is to enhance the practicing physical therapist's clinical decision making by application of evidence-based practice and current theories of motor development, motor control, and motor learning in the treatment of the pediatric client. Through utilization of the elements of the physical therapist patient/client management model (examination, evaluation, diagnosis, prognosis, and intervention), students will implement practical, efficient, and effective plans of care for managing children of all ages with various neurological disorders. Clinicians will use a patient-centered approach incorporating patient/family/education goals in the development of appropriate plans of care based on the ICF enablement and rehabilitation model for neurological rehabilitation. The goal of the course is to provide students with the conceptual basis, strategies, and methods likely to lead to improved pediatric patient outcomes. **(4 credits)**

**PHT 7855—Patient/Client Management—Geriatric Practice**

Through the utilization of the elements of the physical therapist patient/client management model (examination, evaluation, diagnosis, prognosis, and intervention), students will apply and advance clinical skills, strategies, and decision making for managing older adults with impairments, functional limitations, and disabilities. Students will practice identifying appropriate and relevant tests, assessments, evaluations, and interventions to be used with older adults who exhibit functional limitations; interpreting the findings of tests and measurements; augmenting findings with information from other members of the health care team; and developing comprehensive plans of care for older adults that are appropriate to the practice setting. Theories and research related to aging and geriatric physical therapy are explored in light of current health care trends and predictions. A case study format will be used to integrate comprehensive treatment planning and development of team strategies in order to address the needs of the older adult in various settings. **(4 credits)**

**PHT 7865—Patient/Client Management—Sports Practice**

Through the utilization of the elements of the physical therapist patient/client management model (examination,

evaluation, diagnosis, prognosis, and intervention), students will apply and advance clinical skills, strategies, and decision making for managing athletes with impairments, functional limitations, and disabilities. Students will practice identifying appropriate and relevant tests, assessments, evaluations, and interventions to be used with athletes who exhibit functional limitations; interpreting the findings of tests and measurements; augmenting findings with information from other members of the health care team; and developing comprehensive plans of care for athletes that are appropriate to the practice setting. Theories and research related to sports medicine and orthopedic physical therapy are explored. A case study format will be used to integrate comprehensive treatment planning and development of team strategies to address the needs of athletes in various settings. **(4 credits)**

**PHT 7875—Patient/Client Management—Practice Management**

Effective practice management, generally in health care and specifically in physical therapy, requires a wide range of information and skills, the breadth and depth of which take many months, if not years, to master. It requires knowledge in critical areas—such as coding, billing, documentation requirements, statutory and regulatory requirements, financial management, and human resource management—and the ability to utilize this knowledge on a consistent basis within the context of the daily operations of a physical therapy clinic or facility. Recognizing the amount of time available for this course and the inability to introduce and effectively instruct the student in all areas related to successful practice management, this introductory course is designed to provide students with a focused introduction to five key areas: position of profession in health care delivery system, CPT codes and RBRVS, documentation issues, regulatory compliance, and financial statement analysis. **(4 credits)**

**PHT 7881—Lymphedema and Wound Management Dual Certification (6CEHs/PTCE 0108)**

This course provides didactic and laboratory components required to achieve lymphedema specialist certification and become a Certified Lymphedema and Wound Therapist (CLWT). The course is comprehensive and intense and provides thorough training in complete decongestive physiotherapy (CDT). It provides a practicum-based and clinically focused approach, utilizing an integrative approach to the comprehensive management of patients with lymphedema, edema, and wounds. Through innovative mapping systems and treatment approaches developed by physical and occupational therapists, the CLWT lymphedema training is condensed, yet comprehensive. The hybrid format combines pre-course online work and on-campus, classroom, practicum training. In this course, students will master CDT techniques used to effectively treat lymphedema of the trunk, upper and lower extremities, head and neck, and genitals. In addition,

differential diagnosis and treatment of other forms of edema (such as venous edema, lipedema, post-thrombotic syndrome, CHF, dependent edema, etc.) and how to assess and treat wounds associated with those conditions will be covered. The use of PowerPoint presentations, videos, reading, handouts, and online tests for the pre-course work and live, practicum training, which is all hands-on labs and workshops, group activities, and case studies, will allow students to integrate knowledge. Students must complete all practicums by demonstrating mastery of each skill, and pass a final practicum test to receive dual certification and earn the ILWTI board-certified designation of Certified Lymphedema and Wound Therapist. (4 credits)

#### **Patient/Client Management—Manual Therapy Track**

##### **PHT 7878—Upper Quadrant (24 CEHs/ PTCE 0106)**

This course will address components of the patient-client management model, including examination techniques, diagnosis, prognosis, manual therapy intervention, and outcome assessment for neuromusculoskeletal disorders of the cervical spine, thoracic spine, and shoulder girdle. Foundational concepts of the neuromusculoskeletal manual therapy program, principles of evidence-based practice, pain science, and the effects of manual therapy will be discussed, as will general principles of functional anatomy, physiology, biomechanics, and pathophysiology for each region. Examination procedures, including quantitative and qualitative assessment of observation/posture, range of motion, segmental mobility testing, and soft tissue mobility, will emphasize the relationships between regions using an evidence-informed approach. Interventions for movement dysfunctions, such as mobilizations/non-thrust manipulation, soft tissue mobilization, traction, muscle energy techniques, stabilization/strengthening exercises, and stretching, will be addressed. Indications, precautions, and contraindications for all assessments and interventions will be provided, as will integration of sound clinical decision making to maximize outcomes. The didactic component will be the focus of the online portion, and education and training of psychomotor skills will be the focus of the on-campus sessions. (5 credits)

##### **PHT 7877—Lower Quadrant (16 CEHs/ PTCE 0107)**

This course will address components of the patient-client management model, including examination techniques, diagnosis, prognosis, manual therapy intervention, and outcome assessment for neuromusculoskeletal disorders of the lumbar spine, pelvis, and hip regions. Foundational concepts of the neuromusculoskeletal manual therapy program, principles of evidence-based practice, pain science, and the effects of manual therapy will be discussed, as will general principles of functional anatomy, physiology, biomechanics, and pathophysiology for each region. Examination procedures, including quantitative and qualitative assessment of observation/posture, range of motion, segmental mobility testing, and soft tissue

mobility, will emphasize the relationships between regions using an evidence-informed approach. Interventions for movement dysfunctions, such as mobilizations/non-thrust manipulation, soft tissue mobilization, traction, muscle energy techniques, stabilization/strengthening exercises, and stretching, will be addressed. Indications, precautions, and contraindications for all assessments and interventions will be provided, as will integration of sound clinical decision making to maximize outcomes. The didactic component will be the focus of the online portion, and education and training of psychomotor skills will be the focus of the on-campus sessions. (4 credits)

##### **PHT 7879—Distal Extremities**

This course will address components of the patient-client management model, including examination techniques, diagnosis, prognosis, manual therapy intervention, and outcome assessment for neuromusculoskeletal disorders of the elbow and wrist/hand complex and the knee and ankle/foot complex. General principles of functional anatomy, physiology, biomechanics, and pathophysiology for each region will be included. Examination procedures, including quantitative and qualitative assessment of observation/posture, range of motion, segmental mobility testing, and soft tissue mobility will be discussed, emphasizing the relationships between regions using an evidence-informed approach. Interventions for movement dysfunctions, including mobilizations/non-thrust manipulation, soft tissue mobilization, stabilization/strengthening exercises, and stretching will be addressed. Indications, precautions, and contraindications for all assessments and interventions will be provided, as will integration of sound clinical decision making to maximize outcomes. The didactic component will be the focus of the online portion, and education and training of psychomotor skills will be the focus of the on-campus sessions. **Prerequisite:** PHT 7877 or 7878 (4 credits)

##### **PHT 7880—Advanced Techniques (16 CEHs)**

**This course is offered as a continuing education course only.** This course will address components of the patient-client management model including examination techniques, manual therapy interventions, and outcomes assessment for neuromusculoskeletal disorders of the vertebral column and peripheral joints. Advanced techniques for movement dysfunctions, including non-thrust/thrust manipulation, soft tissue mobilization, muscle energy techniques, stabilization/strengthening exercises, and plyometric/agility training will be discussed. Indications, precautions, and contraindications for all assessments and interventions will be provided, as will integration of evidence and sound clinical decision making to maximize outcomes. The didactic component will be the focus of the online portion, and education and training on psychomotor skills will be the focus of the on-campus sessions. **Prerequisites:** PHT 7877, 7878, and 7879 (16 CEHs)

### **PHT 7439—Soft Tissue Mobilization**

This course will introduce and expand upon concepts and techniques of soft tissue mobilization. It will specifically address histology, pathohistology, neurophysiology, and anatomy as it is applicable to the performance of manual physical therapy in all forms. Students will be instructed on various techniques for the extremities and the spine and will learn to apply these techniques safely and appropriately based on a variety of case scenarios and presentations. Positional release techniques will be introduced as well as the clinical application when applying soft tissue mobilization. Examples and/or explanation of specific exercises post-STM will be discussed, but the focus will be maintained on the manual application. This course will combine online instruction for didactic material with an intensive, two-day laboratory course to emphasize psychomotor skills. (4 credits)

### **PHT 7445—Manual Therapy Certification**

This course is designed to prepare physical therapists for the manual therapy certification competency exam offered through the T-D.P.T. program at NSU. This course will review manipulative therapy principles and application as well as the anatomy, physiology, and biomechanics of the spine and extremities. It will address evaluation and management of musculoskeletal disorders and review manual evaluation and treatment skills employed in the management of musculoskeletal disorders. This course will also review the theory and clinical skills from UQ, LQ, DE, and AT. This course includes online and on-campus components. The online portion will guide students to review the theoretical course content addressed on the competency exam, while the on-campus portion will guide students in a review of psychomotor skills included on the competency examination. The manual therapy competency exam will take place on-campus and will include a multiple choice and a practice examination. After successful completion of the competency exam, the student will receive a certification entitled Certified Musculoskeletal Manual Physical Therapist (CMMPT). **Prerequisites:** PHT 7877, 7878, 7879, and 7880 (6 credits)

## **Electives**

### **PHT 7025—The Health Care Educator**

Patient education is an integral part of health care in every setting, from patient treatment to health and wellness promotion to injury and illness prevention. The focus of this course is to explore the many issues that impact patient education, from both a health care professional and a management perspective. Adult education theory, patient/therapist interaction, communication barriers, strategies for success, web-based patient education, documentation, federal laws and initiatives, and standards for patient education are some of the topics students will examine. (3 credits)

### **PHT 7065/7075—Independent Study/Case Report**

Students engage in individualized programs of study that may include development of clinical programs and/or management projects/proposals for implementation in their clinical settings or developing and writing case reports based on their own practices using guidelines from the American Physical Therapy Association. The process of writing a case report includes identification of an appropriate case, a review of the literature, identification of valid and reliable outcome measures, and documentation of the elements of patient/client management: examination, evaluation, diagnosis, prognosis and plan of care, and interventions. (1–3 credits)

### **PHT 7975—The Physical Therapist in Home Health Care**

This course addresses common issues affecting the physical therapist in the evolving home care environment. The student will develop an understanding of the various types of home care organizations and identify optimal methods to work effectively within each. Included in this course will be a review of regulatory guidelines, assessment principles, care planning, and identification and implementation of targeted interventions to achieve successful outcomes. Principles of interdisciplinary case management using evidence-based standards of care will be reviewed for the most common home care diagnoses. The common legal and ethical principles including patient rights, abuse, and neglect will also be addressed. (3 credits)

Additional electives are available through the D.H.Sc./M.H.Sc. program. Prior approval must be granted by the T-D.P.T. program director for registration in D.H.Sc./M.H.Sc. courses.

## Doctor of Philosophy in Physical Therapy (Ph.D.)

As our health care delivery systems change and our knowledge base broadens, it becomes important for licensed physical therapists to continue their formal education to assume roles as consultants, educators, researchers, and health care leaders.

The Department of Physical Therapy at NSU offers the Doctor of Philosophy Program to address these needs by offering a curriculum that will prepare its students to become leaders of the profession.

### Curriculum Overview

The Doctor of Philosophy in Physical Therapy (Ph.D.) degree program is taught in a distance/hybrid education format. Sixty semester hours are required beyond the entry-level master's or doctoral degree in physical therapy or beyond an advanced master's degree (in which the undergraduate or master's degree was in physical therapy).

### Expected Outcomes of Student Learning

Graduates of the program will be able to

- serve as change agents in health care organizations
- address health care issues of patients through the life span
- educate patients, students, peers and other health care providers in order to accomplish treatment goals and the goals of the program
- consult with organizations for the development of health care services.
- contribute to physical therapy practice through educational, translational, and clinical research
- critically appraise the evidence from scientific literature, synthesize findings across studies, and draw appropriate inferences based on current knowledge
- formulate study questions that will advance scientific knowledge about topics of importance
- ensure that the study meets accepted standards for the use of human subjects and ensures the responsible conduct of research in design, implementation, and dissemination

### Admissions Requirements

1. Applicants must be licensed physical therapists who are graduates of schools accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE). Graduates of physical therapy schools in other countries are also eligible with review of academic credentials by an appropriate agency and a review of TOEFL, IELTS, or (PTE-Academic) scores, when appropriate.
2. Selection of students for the physical therapy Doctor of Philosophy (Ph.D.) program is based on prior academic performance, clinical experience, and references. We seek students who have qualities such as assertiveness, initiative, leadership, self-understanding, openness, strong communication skills, and who are critical thinkers. Students must also be motivated and self-directed.
3. Applicants must hold either a bachelor's degree in physical therapy with a master's or doctoral degree, an entry-level master's degree (e.g., M.S.P.T., M.P.T.), or an entry-level doctoral degree (D.P.T.) in physical therapy.
4. Completion of the Graduate Record Examination (GRE) with writing component is required.

### Computer Requirements

All students are **required** to have a computer that meets the specifications according to the Hardware Guidelines for Computing at NSU (<https://www.nova.edu/publications/it-standards>).

### Application Procedures

Applicants must submit

1. a completed application form along with a nonrefundable application fee of \$50
2. official transcripts from all under graduate, professional, and graduate institutions attended, sent directly to

Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Physical Therapy Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

3. three letters of evaluation from individuals who can evaluate the applicant's performance as a physical therapist and the applicant's capability for doctoral studies (At least one reference should come from a faculty member of a physical therapy school with a terminal research doctoral degree.)

4. official GRE scores and TOEFL, IELTS, or (PTE-Academic), scores, if appropriate

**Foreign Coursework**

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • *wes.org*
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • *jsilny.com*
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • *ece.org*
- Foreign Credentialing Commission on Physical Therapy\* (FCCPT)  
511 Wythe Street  
Alexandria, VA 22314, USA  
(703) 684-8406 • *fccpt.org*
- International Consultants of Delaware, Inc.  
3600 Market Street  
Suite 450  
Philadelphia, PA 19104  
(215) 222-8454, ext. 603 • *icdeval.com*

\* This agency specializes in evaluation for U.S. PT licensure.

It is the applicant’s responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, Dr. Pallavi Patel College of Health Care Sciences, Department of Physical Therapy Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

**Doctoral Tuition and Fees**

Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (*nova.edu/pt/dpt*). An NSU student services fee of \$1,350 maximum is also required annually.

The first term’s tuition and fees are due on registration day. Tuition for each subsequent semester is due on the appropriate registration day.

**Requirements for Graduation**

In order to be eligible for the Ph.D. degree, students shall

- be of good moral character
- complete a minimum of 60 semester hours of coursework beyond a master’s degree
- successfully pass the comprehensive examination
- satisfactorily complete the program requirements for the degree with a minimum grade of B in each course
- satisfactorily meet all financial and library obligations
- successfully complete and defend their dissertation and have it approved.

Students will have up to seven years to complete the degree requirements.

**Course of Study**

For students holding a master’s, entry-level master’s, or doctoral degree in physical therapy:

<b>Requirements</b>	<b>Semester Hours</b>
Required HPD core courses .....	12
Required PT core courses.....	23
Specialty and elective courses .....	9
Dissertation .....	16

Students may transfer up to 6 credits from an accredited postprofessional or advanced degree program (doctoral level only). Final determination of acceptable transfer credits will be at the discretion of the program director.

Courses will be conducted in a distance-hybrid format and as independent study under faculty supervision. The distance education format enables students to continue their practice as physical therapists while earning the degree. The distance education program does require students to be in residence on campus twice per year for two days per registered course. Graduates will be awarded the Ph.D. degree upon satisfactory completion of all degree requirements.

## Doctor of Philosophy in Physical Therapy Course Descriptions

Note: Listed after each entry are semester credits.

\*Required core course

### HPH 7200—Ethics

Health care professionals are required to act morally and ethically. This course is designed to expand the student's basic understanding of ethics to promote ethical awareness and enable students to derive better health care decisions that reduce risk of potential ethical consequence. By exposing students to bioethics and controversial ethical issues typically encountered in current health care practice, students practice making difficult decisions. Students will synthesize and implement strategies for applying morals, values, and ethics systematically in the various settings in which health care is delivered. Considering the perspectives of all stakeholders and the role of the health care provider, patient advocate, professional, and consumer of medical care, students will gain workable knowledge of contemporary ethical issues and appreciate that ethics permeate the majority of decisions made in health care. (3 credits)\*

### HPH 7300—Biostatistics I

The application of quantitative techniques has expanded rapidly in medical decision making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with the knowledge of quantitative techniques. The course will cover descriptive statistics, parametric group comparison statistics, and basic nonparametric statistics, as well as provide an introduction to linear modeling. (3 credits)\*

### HPH 7310—Biostatistics II

The aim of this course is to enable students to appreciate the richness of statistical science and to invite them to the concepts of probabilistic thinking. Statistics is the science of the future. Any technique that they are going to learn will help them to understand the unknown better, and in turn, it will increase their success in other courses and in future professional careers. Principles of statistical inference build upon the Biostatistics I course. As such, a prerequisite for enrolling in this course is Biostatistics I. The goals of this course are threefold: (1) introduce the basic concepts of probability and methods for calculating the probability of an event, (2) assist students in developing an understanding of probability theory and sampling distributions, and (3) familiarize students about inferences involving one or two populations, ANOVA, regression analysis, and chi-square tests. (3 credits)\*

### HPH 7400—Research Design

This course will provide students with a basic understanding of the methods and approaches used in health-related research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretation of research findings. It will prepare students to critically evaluate published literature and to design sound research studies. The course will be both theoretical and applied. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design a study to address a health-related issue of their choice. (3 credits)\*

### HPH 7410—Qualitative Research Design

The Doctor of Philosophy degree programs in HPD are designed to prepare students to conduct research in their discipline. The focus of this course is to introduce students to qualitative research methods of inquiry, and to provide the knowledge and skill competencies needed to critique, design, and conduct qualitative research. Phenomenological inquiry, grounded theory, ethnography, and other commonly used approaches to qualitative research will be examined. Students will gain understanding of the history of qualitative research, the philosophies that drive the various methodologies, strategies for data collection and analysis, ethical considerations, applications, and implications of using qualitative research methods in health care. Students will have the opportunity to experience qualitative data collection and analysis. Current published qualitative research in health professions and education literature will be analyzed in the context of topics covered in this course. Upon completion of the course, students will have demonstrated mastery of the basic competencies needed to create, plan, and complete a qualitative research study. As part of the HPD Ph.D. core curriculum, students in this course represent various health professions programs throughout the HPD and the college of education. This affords unique and valuable opportunities for discussion, collaboration, and sharing of ideas and perspectives among students with varied professional experiences and research goals. (3 credits)

### PHT 7010—Professional Issues in Physical Therapy and Health Care

Current issues facing the physical therapy profession. Students participate in group discussions and complete a written project on a selected topic. (3 credits)\*

### **PHT 7020—Legal Issues in Health Care**

Students explore more global and controversial bioethical topics in the health care arena. Legal and ethical issues related to topics including animal and human research, genetic engineering, cloning, alternative medicine, life support, organ donation, and telemedicine are analyzed. Students will participate in group discussions, conduct interviews of local legal authorities, and complete written assignments on highly controversial health care practices. (3 credits)\*

### **PHT 7030—Health Care Policy and Health Care Reform**

Covers global issues of health care reform, examining the theories, methodologies of reform, the impact of each on physical therapy, and how practitioners can effect change. (4 credits)\*

### **PHT 7111—Qualitative Research Methods**

The focus of this course is to introduce students to qualitative research methods of inquiry. Phenomenological inquiry, grounded theory, ethnography, and other approaches to qualitative research will be examined. Students will gain understanding of the history of qualitative research, the philosophies that drive the various methodologies, strategies for data collection and analysis, ethical considerations, applications and implications of using qualitative research methods in physical therapy. Students will have the opportunity to experience qualitative data collection and analysis. (3 credits)

### **PHT 7112—Measurement Issues in Physical Therapy Research**

The course is designed for the health professionals to gain an overview of measurement theory and methods. It will focus on problems and challenges of validity and reliability of measurement, and emphasize development, testing, and refinement of norms and criteria-referenced data collection instruments. It will help the student in the development of an analytical view of measurement issues. (3 credits)\*

### **PHT 7113—Advanced Methods and Design**

The focus of this course is to introduce the research design and analysis that is involved in advanced and multivariate statistical methods. Topics include multiple and logistic regression, multivariate analysis of variance, factor analysis, discriminant analysis, and time series analysis. Single subject design and research synthesis will also be introduced. Emphasis is on understanding and applying statistical concepts and techniques to research data as well as developing the ability to critically analyze research methods used in the scientific literature. (3 credits)

### **PHT 7114—Essentials of Clinical Trials in Physical Therapy**

Clinical trials play a pivotal role in evidence-based medicine. This course will provide an introduction to the scientific, statistical, and ethical aspects of clinical trials research. All aspects of the development of a study protocol will be addressed, including criteria for the selection of participants, treatments, multicenter collaboration, clinical trial registration, randomization procedures, implementation across facilities, use of electronic medical records, data analysis, and study interpretation. The ethical issues that arise at each phase will be explored. Specific requirements from related professional and federal funding agencies will also be discussed. (3 credits)

### **PHT 7120—Critical Inquiry**

Students are required to evaluate research literature in a scientific and systematic way. Knowledge gained in this course will help in developing research proposals using different designs. This course is required for students entering with a bachelor's degree. **Prerequisites:** HPH 7300 and HPH 7310 (3 credits)

### **PHT 7130—Dissertation Research Seminar**

The purpose of this course is to prepare students for writing their dissertations as the final requirement for completion of the Ph.D. Students will be guided in the development of a research question, related research design, data collection, and the appropriate statistical methods as steps toward developing an idea paper and a dissertation proposal. Attention will also be paid to how results of research might be presented and how the discussion portion of a dissertation should be approached. Various referencing methods will be discussed and the advantages and disadvantages of each presented. A variety of writing styles that are appropriate for scientific writing and various ways to improve dissertation writing will be examined. Students will be required to investigate the application of research designs to research problems in physical therapy by analyzing classmates' research questions, proposed research designs, data collection methods, and proposed statistics. (3 credits)\*

### **PHT 7140—The Therapist and Cultural Diversity**

In this course, the impact of ethnocultural issues, policies, and procedures on the therapist will be assessed and analyzed. The complex issues of policy implementation and planning in dealing with ethnocultural issues will be explored. Continuation of PHT 6140. No prerequisite. (3 credits)

### **PHT 7200—Teaching and Learning in Physical Therapy**

Examines the complexity of learning and behavioral change. Students explore their own learning styles as well as a variety of learning theories, including computer-based learning. (3 credits)\*

**PHT 7210—Patient Education**

Applies teaching-learning theories to patient education issues. Students will complete a project related to teaching and learning for patient groups or for individual patient care. Offered as independent study as needed. **Prerequisite:** PHT 7200 (3 credits)

**PHT 7300—Consulting Skills**

The roles and skills of consultants. Students complete a paper on selected topics in consultation. (3 credits)

**PHT 7310—Consulting as a Physical Therapist**

Independent study course. Students apply consulting concepts to prepare a report on a hypothetical or actual consulting situation in physical therapy. (3 credits)

**PHT 7400—Independent Study**

Individualized study under the supervision of assigned instructor. Requires permission of program director. (1–10 credits)

**PHT 7401—Independent Study**

Individualized study under the supervision of assigned instructor. Requires permission of program director. (1–4 credits)

**PHT 7420—Health Care Delivery Systems**

Addresses issues in various health care systems where physical therapists work. Students discuss and complete a report on management of physical therapy services in selected delivery systems. (3 credits)

**PHT 7430—Physical Therapy Management**

Addresses management of fiscal and human resources. Students take part in discussions and complete a case study. (3 credits)

**PHT 7510—Designing Educational Material for the Web**

This course explores current concepts and principles of designing educational material for the web. Through “discovery learning,” students develop principles of multimedia design for the web, identify best and worst websites based on those principles, apply the newly acquired design principles to the development of individual home pages, and create a web-based course using Blackboard. (3 credits)

**PHT 7700—Advanced Clinical Competency I**

Students will enroll in an advanced clinical course of their choice. The course may be offered by the physical therapy program or in the form of a clinical certificate that is approved by the Doctoral Committee. (3 credits)

**PHT 7710—Advanced Clinical Competency II**

A project in the area of chosen clinical competency will be completed under the direction or agreement of the assigned mentor. (3 credits)

**PHT 7720—Leadership**

This online course explores leadership methods and theories in health care and physical therapy in a rapid changing environment. The student is expected to gain knowledge to be able to critically analyze leadership styles and compare and contrast leadership skills and management skills. (3 credits)

**PHT 7740—Comprehensive Examination**

Students in the Ph.D. program in physical therapy must take and pass the comprehensive examination (pass/fail) to be eligible to start the dissertation phase. To be eligible to take the examination, all core courses must be completed. The examination includes questions related to research, ethical and legal issues, health care policies, and professional issues. The student has six hours to complete the examination without using any resources. (0 credit)\*

**PHT 7800—Dissertation**

Supervised, original project on a physical therapy-related topic will be completed under the supervision of the Dissertation Committee. (16 credits)\*

**PHT 7801—Research Seminar**

This sequence of four, one credit courses is intended to prepare the student for the processes of analysis and understanding of the research literature, which is crucial to the dissertation process. These courses designed as one credit per semester are required during the first four semesters that students are taking courses in the physical therapy Ph.D. program. Other students in the program are encouraged to participate. These courses are designed to reinforce the material being presented in the research courses and to promote intellectual discussion on physical therapy science and scholarly works. Students will be required to read and discuss the research literature related to physical therapy illustrating the relationship of research design to statistical analysis and how researchers approach research questions and problems. Students must take 1 credit per semester for the first four semesters they are in the program. (1 credit)\*



## Department of Physician Assistant

### Physician Assistant Program—Fort Lauderdale

Physician assistants (PAs) serve as essential components of a medical system that continues to struggle to provide quality, affordable health care for all Americans. Their roles in the system will continue to grow as changes in health care indicate. Today, more than 100,000 individuals are in practice as PAs in the United States. PAs provide care that would otherwise be provided by physicians. PAs take medical histories, perform physical examinations, order and interpret tests, diagnose and treat illnesses, perform medical/surgical procedures, assist in surgery, and can write prescriptions in all states. PAs work in most medical specialties and in all types of communities. Many PAs practice family and internal medicine, and more than one-third are in towns with fewer than 50,000 residents. The PA profession is one of the fastest growing health care professions. According to the Bureau of Labor statistics (BLS) U.S. Department of Labor, as published in the 2016–2017 *Occupational Outlook Handbook*, employment of PAs is expected to grow 30 percent from 2014 to 2024.

It is the obligation of each physician/PA team to ensure that the PA's scope of practice is identified; that delegation of medical tasks is appropriate to the PA's level of competence; that the relationship of, and access to, the supervisory physician is defined; and that a process of performance evaluation is established. Adequate responsible supervision of the PA contributes to both high-quality patient care and professional growth.

The Department of Physician Assistant offers an innovative program that lasts 27 months. Upon successful completion of study, students will be awarded the master of medical science degree in physician assistant. The curriculum includes rigorous instruction in basic science subjects, followed by clinical medicine, physical diagnosis, clinical laboratory medicine, clinical pathophysiology, clinical procedures and surgical skills, electrocardiography, pharmacology, and others.

The clinical year is devoted to 12 months of training in nine required rotations. Students are required to complete six-week rotations in family medicine, emergency medicine, pediatrics, general surgery, and internal medicine. Students are also required to complete three-week rotations in women's health and behavioral medicine. In addition, students have three elective rotations in any area of medicine they wish to pursue. Two of the elective rotations are six weeks in length. The remaining elective rotation is four weeks in length.

#### Accreditation

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted **Accreditation—Continued** status to the **Nova Southeastern University—Fort Lauderdale Physician Assistant Program** sponsored by Nova Southeastern University—Fort Lauderdale. Accreditation—Continued is an accreditation status granted when a currently accredited program is in compliance with the *ARC-PA Standards*.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the *Standards*. The approximate date for the next validation review of the program by the ARC-PA will be **March 2022**. The review date is contingent upon continued compliance with the *Accreditation Standards* and ARC-PA policy.

#### Mission Statement

To provide a primary care training program designed for, and dedicated to, producing competent, caring physician assistants who will provide quality health care in rural, urban, underserved, and culturally diverse communities; to increase the accessibility of quality health care, mainly in the primary care setting, as well as in specialty care areas, to prepare students for lifelong learning and leadership roles; and to promote the physician assistant profession.

#### Admissions Requirements

Prospective students are selected on a rolling admissions basis. The Committee on Admissions (COA) considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding of the PA profession, academic performance and level of achievement, life experiences, quality and length of prior health care experience, and recommendations/evaluations. Personal interviews are offered to the most qualified applicants to assess interpersonal and communication skills, maturity, integrity, altruistic attitude, and commitment to a PA career.

1. Applicants must have a minimum cumulative GPA of 3.0 and a minimum science GPA of 3.0 on a 4.0 grading scale **at the time of application**.

Successful applicants in the past have typically had both cumulative and science GPAs of 3.4 or higher, GRE

score (verbal, quantitative, and analytical) in the 40th percentile or higher in each of the three categories, and letters of recommendation from individuals with whom the applicant has had a professional working relationship in the health care field. Greater consideration will be given to applicants with prior patient-contact experience.

2. Prior to matriculation, applicants must have received a baccalaureate degree from a regionally accredited college or university. A baccalaureate degree in any field of study is acceptable as long as all prerequisites are met.

3. The college requires the students to earn a grade of C (2.0) or better in each of the following required courses:

- college math (3 semester hours)
- English (6 semester hours, including 3 of English composition)
- humanities/arts (3 semester hours)
- social sciences (9 semester hours)
- general biology (or zoology), including laboratory (4 semester hours)
- microbiology, including laboratory (4 semester hours)
- general chemistry I and II, including laboratory (8 semester hours)
- human anatomy and physiology (6 semester hours)
- biochemistry (3 semester hours)
- genetics (3 semester hours)
- Medical Terminology (1 semester hour)

Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical, and social sciences or in the humanities. (Science prerequisites must be completed by end of the fall semester, prior to matriculation.) Additionally, science prerequisites must be completed prior to being invited for a personal interview.

The following courses are recommended:

- biochemistry laboratory (1 semester hour)
- Anatomy laboratory (1 semester hour)
- Physiology laboratory (1 semester hour)
- Introduction to Statistics (3 semester hours)

4. Graduates of foreign institutions where English is not the primary language of instruction must present transcripts showing at least 18 semester hours (or equivalent quarter hours) of study from a regionally accredited college or university in the United States. Of these 18 semester hours,

- 3 semester hours must be in English composition (courses do not include ESOL)

- 3 semester hours must be in English literature (courses do not include ESOL)

- 3 semester hours must be in public speaking (courses do not include ESOL)

The remaining 9 semester hours can be any course of the applicant's choosing (excluding physical education).

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test as part of the CASPA application. The test must have been taken within the past five years and must be taken early enough for official scores to be received in the admissions office by the supplemental application due date of January 31. Applications will not be considered complete without GRE scores. Testing information for the GRE may be obtained from *gre.org* or by telephone at (609) 921-9000. If multiple exams have been taken, only the most recent GRE scores will be considered.

6. Prior health care experience is **highly recommended** and is considered for admission. Those applicants who have prior health care experience must submit verifiable information about their experience. Those applicants with a formal certification in a health care field are considered more competitive.

### Computer Requirements

All students are required to have a laptop computer and printer. The computer must have the following minimum specifications:

- combo DVD and RW drive
- sound capability and speakers
- Internet connection with private Internet service provider (ISP) for universal access to the Internet
- wireless capability
- printer
- webcam (internal or attached)

The following are recommended features:

- Intel Core i5 or i7 processor
- 4GB RAM (upgradeable to 6GB or more)
- 250 GB hard disk or larger (7200 RPM)
- Windows 7, SP1 or higher OR Mac OS X 10.6 or Mac OS X 10.7
- Microsoft Office 2007 with PowerPoint, Word, and Excel minimum
- surge suppressor electrical outlet
- flash drive

## Application Procedures

### 1. Apply to CASPA

The Physician Assistant Program participates in the Centralized Application Service for Physician Assistants (CASPA) for the receipt and processing of all applications. CASPA takes no part in the selection of students. CASPA application packets may be obtained and submitted online at [caspaonline.org](http://caspaonline.org) or by writing

CASPA  
P.O. Box 9108  
Watertown, MA 02471

The CASPA application deadline is December 1 in order to be considered for admission in June.

### 2. Send transcripts and letters of recommendation/evaluation to CASPA

All official college transcripts from all undergraduate, graduate, and professional institutions attended must be sent directly from the institutions.

Two letters of recommendation/evaluation must be sent to CASPA. The first letter **must be from a physician assistant**. The second letter must be from a health care professional involved with direct patient care. None of the letters may be from relatives or friends. Applications submitted without these letters will not be given consideration.

### 3. Report GRE scores directly to CASPA

Official Graduate Record Exam (GRE) scores must be admitted directly to CASPA as part of the CASPA application. The school code number for NSU's PA—Fort Lauderdale program is 0947. The GRE must have been taken in the last five years and must be taken early enough for official scores to be available by the supplemental application deadline of January 15.

### 4. Complete Supplemental Application

Once the CASPA application has been received by Nova Southeastern University, a supplemental application will be made available online.

Your complete supplemental application must be received no later than January 15 in order to be considered for admission for the May entering class. Once we receive your GRE scores, supplemental application, and \$50 fee, your file will be reviewed.

The applicant will not be considered for a possible interview until all of these requirements have been received by the EPS.

### 5. Competitive Interview Criteria

These include higher cumulative and science GPAs, a higher GRE score, two letters of recommendation (including one from a physician or physician assistant), and health care experience.

## Personal Interviews

Once your application is complete, the Committee on Admissions will decide whether or not your application is strong enough to warrant an invitation for a personal interview. Interviews are conducted on the Nova Southeastern University, Fort Lauderdale, Florida, campus and are by invitation only. Interviews are usually held during the months of October through February. An invitation to interview is not a guarantee of admission. Applicants will only be invited for an interview after demonstrating completion of all science prerequisites.

## Current College Coursework

All prerequisite coursework must be completed by the end of April in order to be considered for the May entering class. If, at the time of application, coursework is in progress or anticipated, please identify these courses on the supplemental application.

## Transcripts

All applicants who are accepted must submit official transcripts from all schools attended to the NSU EPS Physician Assistant Admissions Office prior to matriculation. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

## Tuition and Fees

- Tuition 2018–2019 will be posted on our website <https://healthsciences.nova.edu/palfortlauderdale/faq.html>.
- Acceptance fee is \$500. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be credited to the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- Deposit is \$500. This is due February 15, under the same terms as the acceptance fee.
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- A clinical support charge of \$400 will be assessed in each of the three semesters of clinical training.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required

to carry adequate health insurance. Students may avail themselves of the insurance plan obtainable through the university.

There are a limited number of part-time work-study assignments available. Due to the demands of the PA curriculum, the program discourages any outside employment.

### **Academic Promotions and Progression**

The progress of each student through the curriculum requires continuous, satisfactory academic and professional performance. No student may advance to the clinical year of study without satisfactorily completing all of the requirements for the didactic year's courses. In addition, no student may complete the clinical year curriculum and graduate without satisfactorily completing all the requirements of the clinical year coursework.

### **Requirements for Graduation**

In order to be eligible to graduate from the Physician Assistant Program, students shall

- successfully complete all academic and clinical courses and degree requirements
- have satisfactorily met all financial and library obligations
- attend in person the commencement program, at which time the degree is conferred

### **Academic Dismissal in the Physician Assistant Program**

See the suspension/dismissal section of the student handbook.

### **Readmission Policy in the Physician Assistant Program**

In selected cases, and only with the approval of the program director, department chair, and college dean, a student may be allowed to be noncompetitively matriculated with the next first-year class. It is emphasized that this only refers to those few students with special academic or personal issues.

### **Course of Study**

The Physician Assistant Program curriculum is completed following a baccalaureate degree from a regionally accredited college or university in the United States. The comprehensive curriculum, completed in a consecutive manner, is oriented to primary care and prepares the

student to practice in a wide variety of clinical settings. The first 15 months of study consist of basic sciences and clinically related didactic courses. All courses are required and must be successfully completed before advancing to the clinical year. During this time frame, students are generally in class from Monday through Friday, 8:00 a.m. to 5:00 p.m., although there are occasional evening and/or weekend hours. Because of its highly integrated and compact curriculum, the PA department requires matriculants to complete the entire curriculum at this campus. No advanced placement, transfer of credit, or credit for experiential learning will be granted.

The clinical year is devoted to 12 months of training in nine required rotations. Students are required to complete six-week rotations in family medicine, emergency medicine, pediatrics, general surgery, and internal medicine. Students are also required to complete three-week rotations in women's health and behavioral medicine. In addition, students have three elective rotations in any area of medicine they wish to pursue. Two of the elective rotations are six weeks in length. The remaining elective rotation is four weeks in length.

Each required rotation has assigned readings and learning objectives. At the end of each required rotation, a written comprehensive subject examination is administered and must be passed. During rotations, students will be supervised by licensed practitioners and will actively participate in patient assessments, perform common laboratory procedures, interpret common diagnostic examinations, and help manage common medical problems. The work hours during clinical rotations are set by the preceptor and can include evening and weekend hours. Students are required to work approximately 40 hours per week, however many rotation sites require students to work substantially more hours per week.

Upon completion of the course of study, students will be awarded the master of medical science degree in physician assistant. Graduates will be eligible to take the Physician Assistant National Certification Examination (PANCE) administered by the National Commission on Certification of Physician Assistants.

The role of the physician assistant requires a high level of expertise and responsibility. The applicant must possess the ability and desire to complete a rigorous academic and clinical program and make a commitment to continued learning.

## Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Fort Lauderdale

Start Date: June

Length: 27 months

Degree: Master of Medical Science (M.M.S.) in Physician Assistant

Didactic: 15 months

Clinical: 12 months

<b>First Semester—Summer I (June–August)</b>			Lecture	Laboratory	Credit Hours
ANA	5420	Anatomy	48	32	4
PHS	5400	Physiology	52	0	4
PAC	5400	Clinical Pathophysiology	46	0	3
PAC	5000	Physical Diagnosis I	24	36	3
PAC	5020	Fundamentals of Medical Imaging	16	10	1
PCO	5300	Biomedical Principles	16	0	1
PAC	5001	Introduction to the PA Profession	28	0	2
<b>Total Hours:</b>			<b>230</b>	<b>78</b>	<b>18</b>

<b>Second Semester—Fall (September–December)</b>			Lecture	Laboratory	Credit Hours
MIC	5400	Microbiology	50	0	3
PAC	5404	Legal and Ethical Issues in Health Care	32	0	2
PAC	5100	Physical Diagnosis II	32	36	3
PCO	5400	Pharmacology I	38	0	3
PAC	5110	Clinical Medicine and Surgery I	128	6	9
PAC	5130	Clinical Laboratory Medicine I	14	0	1
PAC	5229	Electrocardiography	36	2	3
<b>Total Hours:</b>			<b>330</b>	<b>38</b>	<b>24</b>

<b>Third Semester—Winter (January–May)</b>			Lecture	Laboratory	Credit Hours
PAC	5200	Physical Diagnosis III	32	38	3
PAC	5210	Clinical Medicine and Surgery II	120	0	8
PAC	5310	Clinical Medicine and Surgery III	112	0	8
PAC	5412	Interpretation and Evaluation of Medical Literature	30	0	2
PAC	5131	Clinical Laboratory Medicine II	34	0	2

PCO	5410	Pharmacology II	56	0	4
PAC	5311	Clinical Behavioral Medicine	45	0	3
PAC	5410	Complementary Medicine and Nutrition	30	0	2
<b>Total Hours:</b>			<b>459</b>	<b>38</b>	<b>32</b>

<b>Fourth Semester—Summer II Advanced Didactic (June–July)</b>			Lecture	Laboratory	Credit Hours
PAC	5460	Life Support Procedures and Skills	24	20	2
PAC	5510	Clinical Procedures and Surgical Skills	48	32	4
PAC	5129	Health Promotion and Disease Prevention	48	0	3
PAC	5010	Clinical Applications	12	5	1
PAC	5407	Clinical Pharmacology	48	0	3
PAC	5408	Clinical Genetics	30	0	2
<b>Total Contact Hours:</b>			<b>210</b>	<b>57</b>	<b>15</b>

<b>Clinical Curriculum—Second Year (August–August)</b>			Weeks	Contact Hours	Credit Hours
PAC	6301	Behavioral Health	3	135	3
PAC	6302	Women’s Health	3	135	3
PAC	6311	Internal Medicine	6	270	6
PAC	6313	Surgery	6	300	6
PAC	6315	Emergency Medicine	6	270	6
PAC	6317	Pediatrics	6	240	6
PAC	6318	Family Medicine	6	250	6
PAC	6401	Elective I	6	270	6
PAC	6402	Elective II	6	270	6
PAC	6308	Elective III	4	160	4
PAC	6500	Graduate Project			3
<b>Total Contact Hours:</b>				<b>2,300</b>	<b>55</b>

Curriculum is subject to change as directed by the department.

## Physician Assistant—Fort Lauderdale Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and semester hours.

\*Core competency course (Failure of a core competency course will result in automatic dismissal from the program. Students must successfully complete core competency courses prior to moving on to the next semester.)

### ANA 5420—Anatomy

The study of structural and functional features of the human body addressed in both lecture and cadaver format. The student will have an anatomical basis for understanding and applying information presented in the basic science and clinical courses and for understanding clinical problems. Students will also learn integrated topographic and radiographic anatomy to stress the application and importance of clinical anatomy. (48-32-4)

### MIC 5400—Microbiology

This course explores the relationship of microbes to human disease and the host-immune response. Characteristics and properties of clinically significant bacteria, viruses, fungi, and selected parasites as well as the prevention, control, and diagnostic laboratory tests of their associated specific infectious diseases. (50-0-3)

### PAC 5000—Physical Diagnosis I\*

The Physical Diagnosis I course is an introduction to clinical medicine. Students will acquire the knowledge and skills essential to obtain a comprehensive medical history and perform a complete, head-to-toe physical examination. Emphasis is placed on normal physical findings. The course emphasizes patient interviewing, acquiring a medical data base, and performing a comprehensive physical examination. A combination of lectures, discussions, case studies, and performance skills labs will be used to present and practice the necessary concepts and skills. Lab sessions are used to optimize teaching of concepts. The student will be required to demonstrate Competency-Based Learning during the performance of the required procedures and skills. **Prerequisite for PAC 5100 (24-36-3)**

### PAC 5001—Introduction to the Physician Assistant Profession

This course will be taught in a hybrid format. Hybrid learning has been defined as the thoughtful fusion of face-to-face and online learning experiences. This course will provide a historical perspective of the PA profession, as well as content related to current trends and the political and legal issues affecting PA practice, both within the state and on a national level. This course will also discuss the physician-PA team relationship and the team approach in medicine. During this course, we will explore and participate in PA professional organizations and the roles these organizations play in the profession. (28-0-2)

### PAC 5020—Fundamentals of Medical Imaging

This course provides an introduction to medical imaging with emphasis on normal imaging of the human body systems. The course will enable the student to acquire the skills necessary to recognize normal findings on radiographs and other selective imaging modalities. (16-10-1)

### PAC 5010—Clinical Applications\*

This course serves as a cumulative evaluation of the student's knowledge after completion of the initial 12 months of the didactic curriculum. Student competency will be evaluated by a comprehensive written examination and an OSCE practical examination. The course also reinforces concepts related to critical thinking and application of medical knowledge to clinical scenarios through the utilization of case studies and simulation exercises. (12-5-1)

### PAC 5100—Physical Diagnosis II\*

This course will build upon the skills learned in Physical Diagnosis I and will cover the essential skills for performing both complete and focused medical interviews and physical examinations. A combination of lectures, discussions, case studies, and performance skills labs will be used to present and practice the necessary concepts and skills. Lab sessions are used to optimize teaching of concepts. The student will be required to demonstrate competency-based learning during the performance of the required procedures and skills. Using the skills developed in Physical Diagnosis I, students learn to accurately integrate and record historical and physical findings in the correct written format. This course introduces the student to the concept of medical problem solving. Emphasis is on the correlation of historical information and physical findings to the process of formulating a differential diagnosis and treatment plan. Through case presentations and medical simulations, students will use knowledge acquired from previous and concurrent didactic courses to develop their problem-solving skills. **Prerequisite for PAC 5200 (32-36-3)**

### PAC 5110—Clinical Medicine and Surgery I

Lectures, group discussions, case studies, evidence-based medicine, problem-based learning, online coursework, clinical simulation, web-based education, independent study, EKG, and diagnostic or radiological images interpretation are included in presentations. Medical and surgical entities of ophthalmology, dermatology, hematology, cardiovascular, and pulmonary disease, as well as disorders of the ears, nose, throat, and neck will be presented. Emphasis will be placed on symptoms and signs, diagnostic evaluation, and therapy. The focus will be on common diseases of medical and surgical nature that may be encountered in clinical practice. (128-6-9)

**PAC 5130—Clinical Laboratory Medicine I**

Students will learn how to appropriately order and accurately interpret laboratory tests. These skills will help them diagnose common diseases related to major organ systems. (14-0-1)

**PAC 5131—Clinical Laboratory Medicine II**

Continuation of Clinical Laboratory Medicine I. Students will learn how to appropriately order and accurately interpret laboratory tests. These skills will help them diagnose common diseases related to major organ systems. (34-0-2)

**PAC 5200—Physical Diagnosis III\***

A combined lecture and laboratory format will be used to present the concepts and skills required to elicit a medical history and perform a physical examination for specific patient complaints. Small group and laboratory presentations will be used to refine the medical history concepts and physical examination skills acquired in Physical Diagnosis I and II. Instructional methods, including supervised clinical experience and patient simulations, will facilitate the students' integration of clinical information in order to diagnose disease and record historical and physical findings in written format. The course will expand on the skills essential for performing a thorough medical interview and physical examination and will enhance medical documentation skills. This course also continues to develop medical problem-solving skills. The student will be taught the concepts and skills necessary to develop a differential diagnosis and management plan for medical problems encountered in the primary care setting. Emphasis is on correlation of historical information, physical findings, and pertinent laboratory results to formulate a diagnosis. Through case presentations and medical simulations, the student will also utilize knowledge acquired from previous and concurrent didactic courses to develop these skills. (32-38-3)

**PAC 5210—Clinical Medicine and Surgery II**

This course covers common disease entities of major organ systems and primary care aspects of disease evaluation and treatments. Medical and surgical entities of gastroenterology, orthopedics, rheumatology, neurology, the reproductive system, endocrinology, and geriatrics will be presented. The focus will be on common diseases of medical and surgical nature that may be encountered in clinical practice. (120-0-8)

**PAC 5219—Health Promotion and Disease Prevention**

This course will focus on wellness through preventative interventions and services. Students will learn methods of promoting health and wellness initiatives in multiple settings including health care organizations and team-based practices. The course focuses on the importance of taking responsibility for one's own health, the community's efforts to protect against disease, and environmental hazards, as

well as barriers to health promotion. Emphasis is placed on public health initiatives and resources available within the community. (48-0-3)

**PAC 5229—Electrocardiography**

Provides the foundation for learning to interpret 12-lead ECG tracings and applying those principles to evaluate the ECG tracings of common cardiac diseases, including the recognition of more subtle ECG abnormalities (36-2-3)

**PAC 5310—Clinical Medicine and Surgery III**

Clinical Medicine and Surgery III will be presented with pediatrics, nephrology/urology, emergency medicine, and surgery. Emphasis will be placed on symptoms and signs, diagnostic evaluation, and therapy. The focus will be on common diseases of medical and surgical nature that may be encountered in clinical practice. (112-0-8)

**PAC 5311—Clinical Behavioral Medicine**

Common psychosocial problems and disorders encountered by health care professionals. The course emphasizes the diagnosis and understanding of development of these behaviors, including the patient-clinician relationship, varieties of psychotherapy, communication skills, and appropriate interventions and treatment regimens, including relevant medications. (45-0-3)

**PAC 5400—Clinical Pathophysiology**

This course introduces the student to pathophysiologic concepts that form the biologic basis of disease. It builds on the knowledge gained in Human Anatomy and Physiology courses. However, physiologic concepts will be reviewed and emphasized in order for the student to fully appreciate the progression from the normal physiologic state to the diseased state with its resultant clinical signs and symptoms. The course begins with discussions of general biologic and pathologic processes such as immunity, inflammation, wound healing, pain, and neoplasia. The remainder of the course addresses disease-producing perturbations in the physiology, regulatory mechanisms, and anatomy within organ systems. (46-0-3)

**PAC 5404—Legal and Ethical Issues in Health Care**

This course is designed to introduce the students to the more important influences of the law and ethics on health care and the practice of medicine. (32-0-2)

**PAC 5407—Clinical Pharmacology**

At the completion of this course, students will be able to appropriately prescribe medications in various clinical settings. Preparation for appropriate prescribing and administration of medicines is accomplished by studying drug classifications, pharmacodynamic actions, and the rationale for therapeutic use of prescription and nonprescription medications. In addition, students will be able to describe the potential advantages and disadvantages of specific therapeutic regimens, universal indications



and contraindications for usage, dosing schedules, and the relative cost of commonly prescribed medications. Common errors involving prescription writing will be discussed and practical exercises will require students to accurately write prescriptions and treatment orders. This course will enhance the fund of knowledge acquired in Pharmacology and Clinical Medicine and Surgery courses upon which to build during clinical rotations. It will also provide a general understanding of the clinical aspects of the pharmacological treatment of common illnesses and disease processes. (48-0-3)

#### **PAC 5408—Clinical Genetics**

This course prepares physician assistant students for medical practice in the age of genomics. Areas of focus include dysmorphology; family history with pedigree risk analysis; chromosomal abnormalities, single gene disorders, and familial cancer syndromes; genetic testing and screening; pharmacogenomics; gene therapy; and the genetic ethical, legal, and social issues (ELSI) impact on primary care. Students will hear from medical geneticists and genetic counselors about their role in patient care. Patients will present their *diagnostic odyssey*, so students will appreciate the importance of genetics and lifelong learning in primary care. (30-0-2)

#### **PAC 5410—Complementary Medicine and Nutrition**

Survey of human nutrition in health care, and the principles for maintaining good health through nutrition. Addresses health hazards associated with dietary deficiencies, obesity, fad dieting, food contamination, diet management of selected diseases, and functional roles of vitamins and minerals. Additionally, this course will address introductory concepts, procedures, education, potential integration, and licensing in alternative and complementary medicine. (30-0-2)

#### **PAC 5412—Interpretation and Evaluation of Medical Literature**

This course is designed to introduce the student to the process of interpretation and evaluation of the medical literature. The components of published medical papers and physician assistant-authored research papers are evaluated in this course. The course will be hybrid in that students will have online access via Blackboard and have face-to-face interactions. (30-0-2)

#### **PAC 5460—Life Support Procedures and Skills**

Introduction to the principles of advanced life support used in medical and surgical emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the student in developing the skills required to stabilize patients with life-threatening conditions. Includes certification in basic (BLS) and Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). (24-20-2)

#### **PAC 5510—Clinical Procedures and Surgical Skills**

A combined lecture, discussion, case study, human patient simulation (HPS), and laboratory format will be used to present the concepts and skills required in performing common clinical procedures and surgical skills. The student will be required to demonstrate competency-based education in the performance of the procedures and skills required. The course is designed to prepare the student for the clinical procedures and surgical skills that will be performed on clinical rotations during the second year and real-world patient encounters. The course also will serve as the summative examination of competency-based skills. (48-32-4)

#### **PAC 6301—Behavioral Medicine**

This is a required, three-week rotation for Mental and Behavioral Health. This rotation takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic behavioral health problems seen in the behavioral health practice. (3-135-3)

#### **PAC 6302—Women’s Health**

This is a required, three-week rotation in obstetrics and gynecology. This rotation takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic problems related to women’s health, as well as pregnancy and the puerperium. (3-135-3)

#### **PAC 6308—Clinical Elective III**

This is a required four-week rotation for Elective III. This rotation takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic medical problems seen in the specialty practice. Elective rotations are provided to allow students to gain knowledge and skill in an area of medicine that they have not experienced or to have additional exposure in an area of interest. (4-160-4)

#### **PAC 6311—Internal Medicine**

This required, six-week rotation is conducted in both the clinical and hospital settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, treatment, and management of both the inpatient and outpatient surgical patient. Emphasis is placed on surgical disorders commonly encountered in various settings by the physician assistant. (6-270-6)

#### **PAC 6313—Surgery**

Required six-week rotation in outpatient and inpatient settings. Students learn to diagnose, treat, and manage the surgical patient. Emphasizes surgical entities commonly encountered in the primary care setting. (6-300-6)

**PAC 6315—Emergency Medicine**

This is a required, six-week rotation that takes place in the emergency department environment. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of emergent, urgent, and nonurgent medical problems commonly encountered in the emergency department setting. (6-270-6)

**PAC 6317—Pediatrics**

This is a required, six-week rotation that takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic medical problems seen in pediatric practice. Emphasis is placed on growth and development from the infant to the adolescent. (6-240-6)

**PAC 6318—Family Medicine**

This is a required, six-week rotation that takes place primarily in the outpatient setting. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of primary care patients. Emphasis is placed on the primary care needs of patients in rural and inner city communities. (6-250-6)

**PAC 6401—Clinical Elective I**

This is a required, six-week rotation for Elective I. This rotation takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic medical problems seen in the specialty practice. Elective rotations are provided to allow students to gain knowledge and skill in an area of medicine that they have not experienced or to have additional exposure in an area of interest. (6-270-6)

**PAC 6402—Clinical Elective II**

This is a required, six-week rotation for Elective II. This rotation takes place in outpatient and/or inpatient settings. The purpose of this rotation is to educate the physician assistant student in the diagnosis, management, and treatment of acute and chronic medical problems seen in the specialty practice. Elective rotations are provided to allow students to gain knowledge and skill in an area of medicine that they have not experienced or to have additional exposure in an area of interest. (6-270-6)

**PAC 6500—Graduate Project**

The Graduate Project is the capstone educational event for the program curriculum. It allows the student to demonstrate his or her ability to research and compile information and to present that information in two formats while working with his or her advising group: 1) presentation to peers of an evidence-based analysis of available research on a clinical question and 2) a written clinical review article suitable for publication in a peer-reviewed journal. (0-90-3)

**PCO 5300—Biomedical Principles**

Physiologic and biochemical basis for drug action. Basic biochemical pathways in which drugs intervene: metabolism, protein synthesis, and coagulation. Principles of pharmacokinetics: drug absorption, distribution, and metabolism are studied and applied to designing dosage regimens. (16-0-1)

**PCO 5400—Pharmacology I**

This course will provide the student a thorough understanding of the classes of drugs commonly used in clinical practice. The course includes an in-depth study of drugs that affect the autonomic nervous, renal, cardiovascular, and endocrine systems. Emphasis will be on the mechanism of action, clinical indications, side effects, contraindications, important drug interactions, and the basic pharmacokinetics of each drug class. (38-0-3)

**PCO 5410—Pharmacology II**

This course will provide the students with a thorough understanding of the classes of drugs commonly used in medical practice. The course includes an in-depth study of antimicrobial drugs, chemotherapeutic drugs, respiratory and gastrointestinal drugs, vitamins, and drugs affecting the central nervous system and inflammation. Emphasis will be on the mechanism of action, clinical indications, side effects, important drug interactions, and the basic pharmacokinetics of each drug class. (56-0-4)

**PHS 5400—Physiology**

The course provides an overview of physiological processes of critical importance to students in the Dr. Pallavi Patel College of Health Care Sciences. Topics covered include basic examinations of cellular processes, membrane mechanisms, muscle physiology, the cardiovascular system, the nervous system, renal physiology, the respiratory system, endocrinology, reproductive physiology, and gastrointestinal physiology. (52-0-4)

## Physician Assistant Program—Fort Myers

Physician assistants (PAs) serve as essential components of a medical system that continues to struggle to provide quality, affordable health care for all Americans. Their roles in the system will continue to grow as changes in health care indicate. Today, there are more than 100,000 nationally certified physician assistants in the United States. PAs provide care that would otherwise be provided by physicians. PAs take medical histories, perform physical examinations, order and interpret tests, diagnose and treat illnesses, perform medical/surgical procedures, assist in surgery, and can write prescriptions in all states. PAs work in most medical specialties and in all types of communities. Many practice family and internal medicine, and more than one-third are in towns with fewer than 50,000 residents. According to the Bureau of Labor statistics (BLS) U.S. Department of Labor, as published in the 2016–2017 *Occupational Outlook Handbook*, employment of PAs is expected to grow 30 percent from 2014 to 2024.

It is the obligation of each physician/PA team to ensure that the PA's scope of practice is identified; that delegation of medical tasks is appropriate to the PA's level of competence; that the relationship with, and access to, the supervisory physician is defined; and that a process of performance evaluation is established. Adequate responsible supervision of the PA contributes to both high-quality patient care and professional growth.

The Physician Assistant Program—Fort Myers offers an innovative program that lasts 27 months. Upon successful completion of study, students will earn a master of medical science (M.M.S.) in physician assistant degree. The curriculum includes rigorous instruction in the basic sciences, clinical medicine, physical diagnosis, clinical laboratory medicine, clinical pathophysiology, clinical procedures and surgical skills, electrocardiography, radiology, clinical behavioral medicine, legal and ethical issues in health care, cultural issues in health care, interpretation and evaluation of medical literature, complementary medicine and nutrition, and clinical pharmacology.

During the clinical year of study, the student participates in clinical rotations throughout the state of Florida, primarily within 80–100 miles from NSU's Fort Myers Campus. These rotations include family medicine, internal medicine, pediatrics, gynecology and prenatal care, emergency medicine, and surgery, all complemented by two elective rotations and a selective rotation in one of the following areas: behavioral health, otorhinolaryngology, orthopedics, rural or underserved primary care medicine, or an internal medicine subspecialty. Each student should expect to complete one or more rotations in a rural or underserved area. This will likely entail traveling beyond the 80–100 mile radius of Fort Myers. For core rotations assigned by the program outside of the 100-mile radius,

housing will be provided for the student. With a sound foundation in medical training, NSU graduates are prepared to work in many clinical areas, both in primary care and specialty medicine.

### Accreditation

The NSU Physician Assistant Program—Fort Myers is accredited by the Accreditation Review Commission on Education for Physician Assistants, Inc., (ARC-PA). The NSU PA Program—Fort Myers was initially awarded provisional accreditation in 2005. The ARC-PA has granted Continued Accreditation to the Physician Assistant Program—Fort Myers, sponsored by Nova Southeastern University. Continued accreditation is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards. Continued Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program, formerly the comprehensive review, by the ARC-PA will be March 2028. The program is a member of the Physician Assistant Education Association (PAEA).

### Mission Statement

In keeping with the principles of both Nova Southeastern University and the Dr. Pallavi Patel College of Health Care Sciences mission statements, the NSU Physician Assistant Program—Fort Myers endeavors to

- provide an educational experience that emphasizes primary medical care and enables graduates to demonstrate competency and skill in a variety of clinical and cultural settings
- provide health care experiences in medically underserved communities
- prepare students for lifelong learning
- prepare students for leadership roles
- cultivate professionalism throughout the program

### Admissions Requirements

Prospective students are selected by the committee on admissions (COA), which considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding of the PA profession, academic performance and level of achievement, life experiences, quality and length of prior health care experience, and recommendations/evaluations. Personal interviews are offered to the most qualified

applicants to assess interpersonal and communication skills, maturity, altruistic attitude, and commitment to a PA career.

1. Prior to matriculation, applicants must have completed a baccalaureate degree from a regionally accredited college or university.

- A baccalaureate degree in any field of study is acceptable, as long as all prerequisites are met.
- The program requires applicants to have earned grades of C (2.0) or better in each of their upper-division courses.
- Applicants must have a minimum cumulative GPA of 3.0 and a minimum science GPA of 3.0 on a 4.0 grading scale.
- Successful applicants in the past have typically had cumulative GPAs in the range of 3.2 to 3.4 and higher.

2. The college requires the students to earn a grade of C (2.0) or better in each of the following required courses\*:

- college math (3 semester hours)
- English (6 semester hours, including 3 of English composition)
- humanities/arts (3 semester hours)
- social sciences (9 semester hours)
- general biology (or zoology), including laboratory (4 semester hours)
- microbiology, including laboratory (4 semester hours)
- general inorganic chemistry I and II, including laboratory (8 semester hours)
- human anatomy and physiology (6 semester hours)
- biochemistry (3 semester hours)
- Medical Terminology (1 semester hour)
- human genetics (3 semester hours)
- electives (43 semester hours) Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical and social sciences, or the humanities.

\*Science course prerequisites must be completed by the end of the fall semester prior to matriculation

Upon review of a student's record, the Committee on Admissions may require additional coursework and testing as a condition of acceptance.

The following courses are recommended:

- organic chemistry (3 semester hours)
- anatomy laboratory (1 semester hour)
- physiology laboratory (1 semester hour)
- Introduction to Statistics (3 semester hours)

3. Graduates of foreign institutions or of institutions where English is not the primary language of instruction must present transcripts showing at least 18 semester hours (or equivalent quarter hours) of study from a regionally accredited college or university in the United States. Of these 18 semester hours,

- 3 semester hours must be in English composition (courses do not include ESOL)
- 3 semester hours must be in English literature (courses do not include ESOL)
- 3 semester hours must be in public speaking (courses do not include ESOL)

The remaining 9 semester hours can be any courses of the applicant's choosing.

4. Prior health care experience is highly recommended and is considered for admission. Those applicants who have prior health care experience must submit verifiable information about their experience. Greater consideration will be given to applicants who have prior patient-contact experience.

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test to CASPA as part of the CASPA application. Our student code is 0951. The test must have been taken within the past five years and must be taken early enough for official scores to be received in the admissions office by the supplemental application due date of January 15. Applications will not be considered complete without GRE scores. Successful applicants in the past have typically had GRE scores (verbal, quantitative, and analytical writing) in the 40th percentile or higher in each of the three categories. Testing information for the GRE may be obtained from [gre.org](http://gre.org) or by telephone at (609) 921-9000.

### Computer Requirements

All students are required to have a laptop computer. Please see the Hardware Guidelines for Computing at NSU, available at <https://www.nova.edu/publications/it-standards/#/1>.

The clinical year will require the student to track clinical experiences via a web-based program.

## Application Procedures

### 1. Apply to CASPA

The Physician Assistant Program participates in the Centralized Application Service for Physician Assistants (CASPA) for the receipt and processing of all applications. CASPA takes no part in the selection of students. CASPA application packets may be obtained and submitted online at [caspaonline.org](http://caspaonline.org) or by writing

CASPA  
P.O. Box 9108  
Watertown, MA 02471

Questions regarding completion of the online application may be directed to CASPA's email address, [caspainfo@caspaonline.org](mailto:caspainfo@caspaonline.org), or by telephone at (617) 612-2080 or (617) 926-3571.

The CASPA application may be submitted as early as April 15, the year prior to the admission cycle. The CASPA application deadline is December 1 to be considered for admission in May/June of the following year.

### 2. Send transcripts and letters of recommendation/evaluation to CASPA

All official college transcripts from all undergraduate, graduate, and professional institutions attended must be sent directly from the institutions to CASPA.

Two letters of recommendation/evaluation must be sent to CASPA. The first letter **must be from a physician assistant**. The second letter must be from a health care professional involved with direct patient care. None of the letters may be from relatives or friends. Applications submitted without these letters will not be given consideration.

### 3. Report GRE scores directly to CASPA

Official Graduate Record Exam (GRE) scores must be admitted directly to CASPA as part of the CASPA application. The school code number for NSU's PA—Fort Myers program is 0951. The GRE must have been taken in the last five years and must be taken early enough for official scores to be available by the supplemental application deadline of January 15.

### 4. Complete Supplemental Application

Once the CASPA application has been received by Nova Southeastern University, a supplemental application will be made available to the applicant online.

Your completed supplemental application must be received no later than January 15 in order to be considered for admission for the May/June entering class. Once we receive your GRE scores; copies of all professional certifications, registrations, licenses, or relevant credentialing materials; supplemental application; and \$50 fee, your file will be

reviewed. Completed applications are reviewed on a “rolling” or periodic basis.

The applicant will not be considered for a possible interview until the application from CASPA, the supplemental application (signed and dated), the nonrefundable, \$50 supplemental application fee, and the Graduate Record Evaluation (GRE) test scores are received by the Nova Southeastern University Physician Assistant Office of Admissions.

### Personal Interviews

Once your application is complete, the Committee on Admissions (COA) will decide whether or not your application is strong enough to warrant an invitation for a personal interview. Interviews are conducted on the Nova Southeastern University campus in Fort Myers, Florida, and are by invitation only. Interviews will be held from September through February. An invitation to interview is not a guarantee of admission. Notice of acceptance or action by the COA will be on a “rolling” or periodic schedule; therefore, **early completion of the application is in the best interest of the candidate.**

### Transcripts

All applicants who are accepted must submit official transcripts of all coursework to the NSU EPS Physician Assistant admissions office prior to matriculation. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

### Tuition and Fees

- Tuition for 2018–2019 will be posted on our website (<http://healthsciences.nova.edu/palfort-myers/faq.html>). All tuition and fees are subject to change by the board of trustees without notice.
- Acceptance fee is \$500. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- Deposit is \$500. This is due February 15, under the same terms as the acceptance fee.
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- A clinical support charge of \$400 will be assessed in each of the three semesters of clinical training.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met. The

financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class.

Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required to carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

Opportunity for a limited number of part-time work-study assignments is available. Due to the demands of the PA curriculum, the program discourages any outside employment.

### **Requirements for Graduation**

In order to be eligible to graduate from the Physician Assistant Program, students must

- successfully complete the program of study required for the degree with a minimum cumulative GPA of 2.0 (C)
- successfully complete all didactic and clinical coursework
- demonstrate professional behavior throughout the program
- satisfactorily meet all financial and library obligations
- attend, in person, the commencement program, at which time the degree is conferred

### **Academic Dismissal in the Physician Assistant Program**

See the suspension/dismissal section of the student handbook.

### **Readmission Policy in the Physician Assistant Program**

In selected cases, and only with the approval of the department chair and college dean, a student may be allowed to be noncompetitively matriculated with the next first-year class. It is emphasized that this only refers to those few students with special academic or personal issues.

### **Course of Study**

The Physician Assistant Program curriculum is completed following attainment of a baccalaureate degree, including specified course prerequisites. The comprehensive curriculum, completed in a consecutive manner, is oriented to primary care and prepares the student to practice in a wide variety of clinical settings. The first 14.5 months of study consist of basic sciences and clinically related didactic

courses. All courses are required and must be successfully completed before advancing to the clinical year. During this time frame, students are generally in class from Monday through Friday, 8:00 a.m. to 5:00 p.m., although there are occasional evening and/or weekend hours. Because of its highly integrated and compact curriculum, the PA program requires matriculants to complete the entire curriculum at the NSU Fort Myers Campus and will not grant requests for advanced placement, transfer of credit, or credit for experiential learning.

The clinical year is devoted to 12.5 months of training with required six-week rotations in family medicine, emergency medicine, pediatrics, prenatal care/gynecology, general surgery, and internal medicine; one six-week selective rotation of behavioral health, otorhinolaryngology, orthopedics, rural or underserved primary care medicine, or an internal medicine subspecialty; and one six-week and one four-week elective rotation that may include other selectives or specialties. All required rotations must be completed in Florida, primarily within 80–100 miles from NSU's Fort Myers Campus. Each student will complete at least one rotation in a rural or underserved area. This will likely entail traveling beyond the 80–100-mile radius of Fort Myers, Florida. For core rotations assigned by the program outside of the 100-mile radius, student housing will be provided.

Each required rotation has assigned readings and learning objectives. At the end of each rotation, a written comprehensive examination is administered and must be passed. During rotations, students will be supervised by licensed practitioners and will actively participate in patient assessments, perform common laboratory procedures, interpret common diagnostic examinations, and help manage common medical problems. The work hours during clinical rotations are set by the preceptor and can include evening and weekend hours. Students are required to work a minimum of 40 hours per week, although many rotation sites require a greater student participation.

Upon completion of the course of study, students will have earned a master of medical science (M.M.S.) in physician assistant degree. Graduates will be eligible to take the Physician Assistant National Certification Examination (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA).

The role of the physician assistant requires a high level of expertise and responsibility. The applicant must possess the ability and desire to complete a rigorous academic and clinical program and make a commitment to continued learning.

## Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Fort Myers

Start Date: May/June

Length: 27 months

Degree: Master of Medical Science (M.M.S.) in Physician Assistant

Didactic: 14.5 months

Clinical: 12.5 months

First Semester—Summer (May/June–August)			Lecture	Laboratory	Credit Hours
PAN	5000	Anatomy	56	38	5
PAN	5100	Physiology	54	0	4
PAN	5300	Physical Diagnosis I	22	28	2
PAN	5400	History Taking and Communication Skills	16	0	1
PAN	5003	Fundamentals of Medical Imaging	18	0	1
PAN	5002	Introduction to the PA Profession	16	0	1
PAN	5409	Cultural Issues in Health Care	30	0	2
<b>Total Hours:</b>			<b>212</b>	<b>66</b>	<b>16</b>

Second Semester—Fall (August–December)			Lecture	Laboratory	Credit Hours
PAN	5200	Microbiology	46	0	3
PAN	5310	Physical Diagnosis II	40	26	4
PAN	5410	Pharmacology I	36	0	2
PAN	5500	Clinical Medicine and Surgery I	100	0	7
PAN	5600	Clinical Laboratory Medicine I	34	0	2
PAN	5101	Clinical Pathophysiology	44	0	3
PAN	5005	Genetics	30	4	2
<b>Total Hours:</b>			<b>330</b>	<b>30</b>	<b>23</b>

Third Semester—Winter (January–May)			Lecture	Laboratory	Credit Hours
PAN	5320	Physical Diagnosis III	24	36	3
PAN	5510	Clinical Medicine and Surgery II	118	0	8
PAN	5520	Clinical Medicine and Surgery III	113	0	8
PAN	5006	Electrocardiography	34	0	2
PAN	5610	Clinical Laboratory Medicine II	28	0	2
PAN	5420	Pharmacology II	72	0	5
PAN	5423	Interpretation and Evaluation of Medical Literature	45	30	4
<b>Total Hours:</b>			<b>434</b>	<b>66</b>	<b>32</b>

<b>Fourth Semester—Summer II Advanced Didactic (May–July/August)</b>			Lecture	Laboratory	Credit Hours
PAN	5461	Life Support Procedures and Skills	24	20	2
PAN	5560	Clinical Procedures and Surgical Skills	30	36	3
PAN	5008	Health Promotion and Disease Prevention	26	0	2
PAN	5009	PA and Health Care Dynamics	16	0	1
PAN	5411	Complementary Medicine and Nutrition	18	0	1
PAN	5419	Clinical Pharmacology	46	0	3
PAN	5403	Legal and Ethical Issues in Health Care	48	0	3
PAN	5540	Clinical Behavioral Medicine	50	0	3
<b>Total Hours:</b>			<b>250</b>	<b>98</b>	<b>18</b>

<b>Clinical Curriculum—Second Year (August–August)</b>			Weeks	Contact Hours	Credit Hours
PAN	6310	Emergency Medicine	6	270	6
PAN	6320	Family Medicine	6	250	6
PAN	6330	Internal Medicine	6	270	6
PAN	6340	Pediatrics	6	240	6
PAN	6350	Prenatal Care and Gynecology	6	270	6
PAN	6360	Surgery	6	300	4
PAN	6371	Selective I (1 of 5*) <ul style="list-style-type: none"> <li>• Behavioral Health</li> <li>• Otorhinolaryngology</li> <li>• Orthopedics</li> <li>• Rural or Underserved Primary Care Medicine</li> <li>• Internal Medicine Subspecialty</li> </ul>	6	270	6
PAN	6376	Clinical Elective I	6	270	6
PAN	6381	Clinical Elective II	4	160	4
PAN	6601	Graduate Project	0	90	3
<b>Total Hours:</b>			<b>52</b>	<b>2,390</b>	<b>55</b>

Curriculum is subject to change as directed by the department.

\*1 of 5 selectives required—may use other selectives as electives



## Physician Assistant—Fort Myers Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and semester hours.

### PAN 5000—Anatomy

Gross structures of the human body. Integrates topographic and radiographic anatomy to stress the application and importance of clinical anatomy. Develops the knowledge of the human anatomy necessary for the practice of the profession. (56-38-5)

### PAN 5002—Introduction to the Physician Assistant Profession

Introduces key concepts regarding the PA profession: an overview of the profession, the history of the development of the profession, the current status of the profession, physician assistant education, and current and future roles of the physician assistant. (16-0-1)

### PAN 5003—Fundamentals of Medical Imaging

Introduces key concepts for the understanding of normal medical diagnostic imaging. Emphasis is placed on images of normal human body structures and organs. (18-0-1)

### PAN 5005—Genetics

This course will introduce principles of medical genetics applied to the clinical practice of medicine within the scope of practice of physician assistants. Discussions will include the role of genetics in medicine; the basic structure and behavior of genes; genetic basics of human disease; the human genome; application of genetic science to cancer; and genetics in clinical medicine for diagnosis, treatment, and ethical considerations. (30-4-2)

### PAN 5006—Electrocardiography

Provides the basics for learning to interpret normal ECG tracings and applying those principles to interpret the ECG tracings of common cardiac disease. (34-0-2)

### PAN 5008—Health Promotion and Disease Prevention

Focus on wellness through preventive interventions and services. Emphasizes responsibility for one's own health, the community's efforts to protect against disease, and environmental hazards. Epidemiology, risk factors, screening tests, and community resources are identified with each health issue presented. (26-0-2)

### PAN 5009—PA and Health Care Dynamics

This course focuses on the current status and issues regarding the physician assistant profession within the context of the U.S. medical system and today's health care workforce. It discusses the structures and administrative principles in health care organizations, the role of the practicing PA in unique environments with an emphasis

on rural and underserved medicine, reimbursement for services rendered, quality assurance, risk management, patient safety and medical errors, federal health care programs, and other issues involving patient care. (16-0-1)

### PAN 5100—Physiology

Clinically relevant physiologic principles of the major organ systems covered in Clinical Anatomy. Pathological changes that occur in human physiology in the disease process. (54-0-4)

### PAN 5101—Clinical Pathophysiology

This course introduces the student to pathophysiologic concepts that form the biologic basis of disease. It builds on the knowledge gained in anatomy and physiology courses. However, physiologic concepts will be reviewed and emphasized in order for the student to fully appreciate the progression from the normal physiologic state to the diseased state with its resultant clinical signs and symptoms. (44-0-3)

### PAN 5200—Microbiology

Relationship of microbes to human disease and the host-immune response. Characteristics and properties of clinically significant bacteria, viruses, fungi, and selected parasites as well as the prevention, control, and diagnostic laboratory tests of their associated specific infectious diseases. (46-0-3)

### PAN 5300—Physical Diagnosis I

Principles and skills required to perform a complete medical history and physical examination. Emphasizes normal physical findings. **Prerequisite for PAN 5310 (22-28-2)**

### PAN 5310—Physical Diagnosis II

Upon successful completion of the prerequisite PAN 5300, the students will build upon skills learned in Physical Diagnosis I. The student will have supervised practice of skills using simulated patient encounters. Integrating previously learned interviewing skills with principles from the clinical sciences, students elicit a comprehensive medical history, perform a complete physical examination, and formulate an initial diagnostic impression and diagnostic plan. Students are expected to continue to progress in recording information in written form and presenting the information orally to colleagues. **Prerequisite for PAN 5320 (40-26-4)**

### PAN 5320—Physical Diagnosis III

Upon successful completion of the prerequisite PAN 5310, the student will continue to systematically learn abnormalities in the physical examination and specialty examination techniques. The student will have supervised

practice of skills using simulated patient encounters. Integrating previously learned interviewing skills with principles from the clinical sciences, students elicit a comprehensive medical history, perform a complete physical examination, and formulate an initial diagnostic impression and diagnostic plan. Students are expected to continue to progress in recording information in written form and presenting the information orally to colleagues. (24-36-3)

#### **PAN 5400—History Taking and Communications Skills**

This course prepares the student to perform a complete medical history, identifying appropriate communication skills needed for interaction with patients, families, and colleagues. (16-0-1)

#### **PAN 5403—Legal and Ethical Issues in Health Care**

Introduces the role that ethics and the law play in the practice of health care. Principles and concepts in determining correct actions both legally and ethically are reviewed. Topics include solving an ethical dilemma, ethical implications involved in genetic engineering, the impaired clinician, conflicts between providers, conflicts between clinician and patient, euthanasia, risk management, confidentiality, informed consent, patients' directives, and documentation. (48-0-3)

#### **PAN 5409—Cultural Issues in Health Care**

Introduction to the skills and insights necessary in promoting health and dealing with illness in diverse populations. Issues discussed include the need for effective communication with an understanding of societal and cultural factors and how they impact on health care efforts and use of the health care system. (30-0-2)

#### **PAN 5410—Pharmacology I**

Understanding the basis for pharmacologic intervention in patient care is the foundation for treatment of disease. Course begins an in-depth study of the pharmacodynamics of drugs used in the automatic nervous, renal, and cardiovascular systems. Mechanisms of drug action, clinical uses, side effects, contraindications and drug interactions, pharmacokinetic considerations for special patient populations. (36-0-2)

#### **PAN 5411—Complementary Medicine and Nutrition**

Survey of human nutrition in health care, and the principles for maintaining good health through nutrition. Addresses health hazards associated with dietary deficiencies, obesity, fad dieting, food contamination, diet management of selected diseases, and functional roles of vitamins and minerals. Additionally, this course will address introductory concepts, procedures, education, and licensing in alternative and complementary medicine. (18-0-1)

#### **PAN 5419—Clinical Pharmacology**

This course will advance the clinical skills of the student as they relate to the pharmacologic treatment of the patient. Specific topics will include the indicated medications in the treatment of common illnesses; their adverse effects; and drug interactions, dosage, and monitoring. (46-0-3)

#### **PAN 5420—Pharmacology II**

Mechanisms of action, clinical uses, side effects, contraindications, drug interactions, and pharmacokinetics of drugs utilized in the treatment of diseases of the major organ systems. Treatment of HIV, geriatric and neonatal pharmacology, the pharmacological principles of nutrition, over-the-counter agents, toxicology, drugs of abuse, prescription writing, and evaluation of drug literature. (72-0-5)

#### **PAN 5423—Interpretation and Evaluation of the Medical Literature**

This course is designed to introduce the student to the processes of searching, interpreting, and evaluating medical literature for the purposes of application within an evidence-based medicine framework, as well as within a research framework. The essential components of a well-written medical or research paper are presented. The process by which these papers are transformed into publications is described (including the concepts of article preparation and revision and the steps required for submission to a physician assistant or other medical journal). This course is designed to adequately prepare students to complete the Graduate Project (PAN 6601), which results in a written medical or research paper. (45-30-4)

#### **PAN 5461—Life Support Procedures and Skills**

Introduction to the principles of advanced life support used in medical and surgical emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the student in developing the skills required to stabilize patients with life-threatening conditions. Includes certification in basic (BLS) and Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). (24-20-2)

#### **PAN 5500—Clinical Medicine and Surgery I**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of selected disease entities. (100-0-7)

#### **PAN 5510—Clinical Medicine and Surgery II**

Continuation of Clinical Medicine and Surgery I. Common disease entities of major organ systems and primary care aspects of disease evaluation and treatment. (118-0-8)

#### **PAN 5520—Clinical Medicine and Surgery III**

Continuation of Clinical Medicine and Surgery II. Disease entities of major organ systems. Lectures in primary care aspects of disease evaluation and treatment. (113-0-8)

**PAN 5540—Clinical Behavioral Medicine**

Common psychosocial problems and disorders encountered by health care professionals. Emphasizes the diagnosis and understanding of development of these behaviors, including the patient-clinician relationship, varieties of psychotherapy, communication skills, and appropriate intervention and treatment regimens. (50-0-3)

**PAN 5560—Clinical Procedures and Surgical Skills**

Lectures and laboratory practicum introducing the clinical procedures and surgical skills used in the clinical setting: aseptic technique, operating room protocol, injections, knot tying and suturing techniques, venipuncture, arterial puncture, intravenous catheterization, nasogastric intubation, and urinary catheterization. This course is a prerequisite for clinical rotations. (30-36-3)

**PAN 5600—Clinical Laboratory Medicine I**

Clinical laboratory utilization, rationale for selecting common diagnostic tests, interpretation of results, correlation between results and disease processes, and tests not available in the primary care setting that are necessary for diagnosis, treatment, and patient care. (34-4-2)

**PAN 5610—Clinical Laboratory Medicine II**

Continuation of Clinical Laboratory Medicine I. Students will learn how to appropriately order and accurately interpret laboratory tests. These skills will help them diagnose common diseases related to major organ systems. (28-0-2)

**PAN 6310—Emergency Medicine**

Required six-week rotation in hospital emergency department teaches students to recognize, assess, and treat acute and life threatening clinical problems. Emphasizes common primary care emergencies. (270-0-6)

**PAN 6320—Family Medicine**

Required six-week rotation in outpatient settings. Comprehensive primary care of the individual patient within the family unit. Emphasizes the primary care needs of patients in rural, or inner-city communities. (250-0-6)

**PAN 6330—Internal Medicine**

Required six-week rotation in outpatient and/or inpatient settings. Diagnosis, treatment, and management of acute and chronic medical problems seen in the internal medicine practice. Emphasizes the adult nonsurgical patient. (270-0-6)

**PAN 6340—Pediatrics**

Required six-week rotation in outpatient and/or inpatient settings teaches normal and abnormal growth and development, disease prevention, and basic health care in neonates through adolescence. Emphasizes primary care of the pediatric patient. (240-0-6)

**PAN 6350—Prenatal Care and Gynecology**

Required six-week rotation in outpatient and/or inpatient settings teaches perinatal care and treatment and gynecological diagnosis and management. Emphasizes primary care of the female patient including obstetrics. (270-0-6)

**PAN 6360—Surgery**

Required six-week rotation in outpatient and inpatient settings. Students learn to diagnose, treat, and manage the surgical patient. Emphasizes surgical entities commonly encountered in the primary care setting. (300-0-6)

**PAN 6371—Selective I**

In this selective, full-time, clinical rotation, students select one of four areas of medicine. The rotation provides an opportunity to investigate a behavioral health, otorhinolaryngology, orthopedics, rural or underserved primary care medicine, or internal medicine subspecialty. (270-0-6)

**PAN 6376—Elective I**

Elective, full-time, clinical rotation that provides an opportunity to investigate a clinical, medical, or surgical subspecialty area or gain more experience in primary care. Elective rotations provide opportunities to investigate a clinical subspecialty area or gain more experience in a required discipline. (270-0-6)

**PAN 6381—Elective II**

This is a four-week elective course rotation that will be completed at the end of the clinical year. Elective rotations provide opportunities to investigate a clinical subspecialty area or gain more experience in a required discipline. (160-0-4)

**PAN 6601—Graduate Project**

With the guidance of a faculty adviser, students will use the skills acquired in Interpretation and Evaluation of Medical Literature (PAN 5423) to create a graduate project. The project features topics in clinical or administrative medicine and consists of a comprehensive literature review and evaluation and completion of a publishable review paper. The project allows the student to demonstrate his or her ability to research and compile information and to present that information in a clear, written form. (0-90-3)

## Physician Assistant Program—Orlando

Physician assistants (PAs) serve as an essential component of a medical system that continues to strive to provide quality, affordable health care for all individuals. Their roles in the system will continue to grow as changes in health care indicate. Today, more than 100,000 individuals are in practice as PAs in the United States. PAs provide care that would otherwise be provided by physicians. PAs take medical histories, perform physical examinations, order and interpret tests, diagnose and treat illnesses, perform medical/surgical procedures, assist in surgery, and can write prescriptions in all states. PAs work in most medical specialties and in all types of communities. Many practice in primary care settings, and more than one-third are in towns with fewer than 50,000 residents. The PA profession is one of the fastest growing health care professions. According to the Bureau of Labor statistics (BLS) U.S. Department of Labor, as published in the 2016–2017 *Occupational Outlook Handbook*, employment of PAs is expected to grow 30 percent from 2014 to 2024.

It is the obligation of each physician/PA team to ensure that the PA's scope of practice is identified; that delegation of medical tasks is appropriate to the PA's level of competence; that the relationship of, and access to, the supervisory physician is defined; and that a process of performance evaluation is established. Adequate responsible supervision of the PA contributes to both high-quality patient care and professional growth.

The Department of Physician Assistant—Orlando offers a modern program that lasts 27 months. Upon successful completion of study, the student is awarded a Master of Medical Science degree in Physician Assistant. The curriculum includes rigorous instructions in basic science subjects, followed by clinical medicine, physical diagnosis, clinical laboratory medicine, clinical pathophysiology, clinical procedures, surgical skills, electrocardiography, radiology, and psychiatry. The student also takes courses in the Master of Medical Science program including health care law and ethics, epidemiology and biostatistics, research methodology, cultural issues in health care, publication skills, and medical research, as well as a graduate project.

During the clinical year of study, the student participates in clinical rotations predominantly in Central Florida. Required six-week rotations include family medicine, internal medicine, behavioral health, pediatrics, gynecology and prenatal care, emergency medicine, general surgery, and one selective of six weeks from one of the following areas: dermatology, geriatrics, otorhinolaryngology, cardiology, neurology, or orthopedics. The clinical year contains one four-week elective rotation. With a sound foundation in medical training, NSU graduates are prepared to work in many clinical areas, both in primary care and specialty medicine.

### Accreditation

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted **Accreditation—Continued** status to the **Nova Southeastern University—Orlando Physician Assistant Program** sponsored by **Nova Southeastern University—Orlando**. Accreditation—Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA *Standards*.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the *Standards*. The approximate date for the next validation review of the program by the ARC-PA will be **March 2024**. The review date is contingent upon continued compliance with the Accreditation *Standards* and ARC-PA policy.

### Mission Statement

- to provide a high-quality training program designed for, and dedicated to producing, culturally competent physician assistants who will provide quality health care in rural, urban, underserved, and culturally diverse communities
- to provide an exemplary educational experience, which emphasizes primary medical care, yet will enable graduates to manifest competency and skill in a variety of clinical environments
- to inspire graduates to pursue lifelong learning
- to foster leadership qualities, which will enable graduates to improve access to quality, affordable health care
- to heighten the stature of the physician assistant profession by training quality graduates

### Program Goals

- Produce competent graduates to provide primary health care.
- Increase accessibility of quality health care in the primary care setting.
- Develop student skills necessary for lifelong learning and leadership roles and promotion of the physician assistant profession.

### Admissions Requirements

Prospective students are selected by the Committee on Admissions (COA), which considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding

of the PA profession, academic performance and level of achievement, life experiences, quality and length of prior health care experience, and recommendations/evaluations. Personal interviews are offered to the most qualified applicants to assess interpersonal and communication skills, maturity, altruistic attitude, and commitment to a PA career.

1. Prior to matriculation, applicants must have completed a bachelor's degree of their choice from a regionally accredited college or university in the United States. Applicants must have a minimum cumulative GPA of 3.0 and a minimum science GPA of 3.0 on a 4.0 grading scale at the time of application and continuing through matriculation.

2. The college requires applicants to earn a grade of C (2.0) or better in each of the following required courses (science prerequisites must be completed by the end of the fall semester prior to matriculation):

- college math (3 semester hours)
- English, including 3 semester hours of English composition (6 semester hours)
- humanities/arts (3 semester hours)
- social sciences (9 semester hours)
- general inorganic chemistry (I and II) including lab (8 semester hours)
- microbiology including lab (4 semester hours)
- general biology (or zoology) including lab (4 semester hours)
- human anatomy and human physiology (6 semester hours)
- biochemistry (3 semester hours)
- human genetics (3 semester hours)
- Medical Terminology (1 semester hour)

The required science courses must be specifically for science majors. Introductory and survey courses are not accepted. Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical, and social sciences or the humanities. Upon review of an applicant's record, the Committee on Admissions may require additional coursework and testing as a condition of acceptance.

The following courses are recommended:

- biochemistry or organic chemistry laboratory (1 semester hour)
- anatomy laboratory (1 semester hour)

- physiology laboratory (1 semester hour)
- Introduction to Statistics (3 semester hours)

3. Graduates of foreign institutions where English is not the primary language of instruction must present transcripts showing at least 18 semester hours (or equivalent quarter hours) of study from a regionally accredited college or university in the United States. Of these 18 semester hours,

- 3 semester hours must be in English composition (courses do not include ESOL)
- 3 semester hours must be in English literature (courses do not include ESOL)
- 3 semester hours must be in public speaking (courses do not include ESOL)

The remaining 9 semester hours must be upper-level science courses for science majors of the applicant's choosing.

4. All applicants are required to have official scores from the Graduate Record Examination (GRE) general test submitted directly to the Centralized Application Service for Physician Assistants (CASPA). The test must have been taken within the past five years and must be taken early enough for official scores to be received in the admissions office by the supplemental application due date of January 15. Applications will not be considered complete without GRE scores. Testing information for the GRE may be obtained from *gre.org* or by telephone at (609) 921-9000. NSU's PA Orlando Program school code is 0964.

Prior health care experience is **highly recommended** and is considered for admission. Those applicants who have prior health care experience must submit verifiable information about their experience.

## Application Procedures

### 1. Apply to CASPA

The Physician Assistant Program participates in the Centralized Application Service for Physician Assistants (CASPA) for the receipt and processing of all applications. CASPA takes no part in the selection of students. CASPA applications are available online at *caspaonline.org*.

Questions regarding completion of the online application may be directed to CASPA's email address, *apply@caspaonline.org*, or by telephone to (617) 612-2080.

The CASPA application may be submitted as early as April 16, the year prior to the admission cycle. The CASPA application deadline is December 1 to be considered for admission in June.

## 2. Send transcripts and letters of recommendation/evaluation to CASPA

All official college transcripts from all undergraduate, graduate, and professional institutions attended must be sent directly from the institutions to CASPA.

Two letters of recommendation/evaluation must be sent to CASPA or the application will not be considered. Two letters of recommendation/evaluation must be from health care professionals (neither of which can be a practicing relative or friend), one of which must be from a physician assistant.

## 3. Report GRE scores directly to CASPA

Official Graduate Record Exam (GRE) scores must be admitted directly to CASPA as part of the CASPA application. The school code number for NSU's PA—Orlando program is 0964. The GRE must have been taken in the last five years and must be taken early enough for official scores to be available by the supplemental application deadline of January 15.

## 4. Complete Supplemental Application

Once the CASPA application has been received by Nova Southeastern University, a supplemental application will be available online.

The applicant will not be considered for a possible interview until the application from CASPA, the supplemental application, the \$50 supplemental application fee, and the Graduate Record Evaluation (GRE) test scores are received by the Nova Southeastern University Physician Assistant Office of Admissions.

### Personal Interviews

Once your application is complete, the Committee on Admissions (COA) will decide whether your application is strong enough to warrant an invitation for a personal interview. Interviews are conducted at Nova Southeastern University's Orlando Campus, and are by invitation only. An invitation is not a guarantee of admission. Notice of acceptance or action by the COA will be on a "rolling" or periodic schedule; **therefore, early completion of the application is in the best interest of the applicant.**

### Current College Coursework

All prerequisite coursework must be completed by the end of May in order to be considered for the June entering class. If, at the time of application, some coursework is in progress or anticipated, please identify the courses on the supplemental application.

### Transcripts

All applicants who are accepted must submit official transcripts of all coursework to the NSU EPS Physician Assistant Admissions Office prior to matriculation. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

## Tuition and Fees

- Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (<http://healthsciences.nova.edu/pa/orlandofaq.html>). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- A clinical support charge of \$400 will be assessed in each of the three semesters of clinical training.
- Acceptance fee is \$500. This fee is required to reserve the accepted applicant's place in the entering first-year class, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- Deposit is \$500. This is due February 15, or within two weeks of an applicant's acceptance, whichever is the latest, under the same terms as the Acceptance Fee.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met. The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class.

Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required to carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

Due to the demands of the PA curriculum, the program discourages any outside employment. The program does not allow working for NSU or any of the associated clinical training sites.

## Requirements for Graduation

In order to be eligible to graduate from the Physician Assistant Program, students must

- successfully complete all academic and clinical courses and degree requirements
- have satisfactorily met all financial and library obligations
- attend, in person, the commencement program, at which time the degree is conferred

## Academic Dismissal in the Physician Assistant Program

See the suspension/dismissal section of the student handbooks.

## Remediation Policy

The Nova Southeastern University Physician Assistant Program—Orlando is an intense academic experience. Students will encounter both written and performance-based examinations. In specific courses, (Physical Exam/diagnosis, Clinical Medicine, and Surgery, etc.) all blocks of instruction must be successfully passed by the student in order to pass the entire course.

All students are aware of their performance at the end of every test. If a student fails to demonstrate the required competencies for a specific exam or block of instruction, he or she will be notified and certain actions shall be taken. Students will receive email notification of failed grades from the academic coordinator. The student will meet with his or her academic adviser and/or the course director/instructor in order to discuss the academic situation and develop a plan of action for improving his or her academic deficiencies. The student will review the plan of action for improvement and grade sheets and sign them. Students will coordinate a retesting date with the course director and that will be within seven calendar days of the test failure or a mutually agreed upon date. The student must be proactive in coordinating additional study/tutoring time before the retest.

If the student successfully passes the retest, the student will receive a maximum score of 75 percent.

If the student fails to demonstrate mastery of the course objectives by failing the retest, the student's case will be forwarded to the Committee on Student Progress for further review and possible academic and administrative action. Recommendations will be referred to the department chair for final disposition.

## Course of Study

The Physician Assistant Program curriculum is completed following an acceptable bachelor's degree. The comprehensive PA curriculum, completed in a consecutive manner, is oriented to primary care and prepares the student to practice in a wide variety of clinical settings. The first 15 months of study consist of basic sciences and clinically related didactic courses. All courses are required and must be successfully completed before advancing to the next semester or the clinical year. During this time frame, students may be in class from Monday through Friday, 8:00 a.m. to 8:00 p.m., additionally, there may be occasional weekend hours. Because of its highly integrated and compact curriculum, the PA department requires matriculants to complete the entire curriculum at NSU. Therefore, no requests for advanced placement, transfer of credit, and credit for experiential learning will be considered.

The clinical year is devoted to 12 months of clinical training with required six-week clinical rotations in family medicine, internal medicine, emergency medicine, behavioral health, pediatrics, prenatal care/gynecology, general surgery, as well as a selective rotation in orthopedics, dermatology, geriatrics, cardiology, neurology, or otorhinolaryngology and a four-week elective. The rotations are as follows:

- Emergency Medicine (six weeks)
- Family Medicine (six weeks)
- Internal Medicine (six weeks)
- Pediatrics (six weeks)
- Prenatal Care and Gynecology (six weeks)
- General Surgery (six weeks)
- Selective (six weeks in one of the following courses)
  - Geriatrics (six weeks)
  - Orthopedics (six weeks)
  - Dermatology (six weeks)
  - Otorhinolaryngology (six weeks)
  - Cardiology (six weeks)
  - Neurology (six weeks)
- Behavioral Health (six weeks)
- Elective (four weeks)
- Graduate Project (each semester)

Each required rotation has assigned readings and learning objectives. At the end of each required rotation, a written, comprehensive subject examination is administered and must be passed. The six-week selective rotation requires the submission of documents as defined in the *Orlando Clinical Handbook* and rotation syllabi as related to the rotation. A comprehensive, written, summative examination is administered as a component of the four-week elective and must be passed. During rotations, students will be supervised by licensed practitioners and will actively participate in patient assessments, perform common laboratory procedures, interpret common diagnostic examinations, and help manage common medical problems as required by the program and the ARC-PA standards. Testing will occur on scheduled end-of-rotation days (EORs). OSCE, PACKRAT, and other testing may occur as scheduled during EORs. Comprehensive, computerized patient logs are to be completed and submitted as directed prior to EORs. Weekly Exam Master tests must be submitted to advisers at the scheduled times. The work hours during clinical rotations are set by the preceptor and can include evening and weekend hours. Students are required to work a minimum of 32 hours per week, however, many rotation sites require a greater student participation.

Upon completion of the course of study, students will have earned a Master of Medical Science (M.M.S.) in Physician Assistant degree. Graduates will be eligible to take the Physician Assistant National Certification Examination (PANCE) administered by the National Commission on Certification of Physician Assistants.

The role of the physician assistant requires a high level of expertise and responsibility. The applicant must possess the ability and desire to complete a rigorous academic and clinical program and make a commitment to lifelong learning and becoming a professional.

## Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Orlando

Start Date: June  
 Length: 27 months  
 Degree: Master of Medical Science (M.M.S.) in Physician Assistant  
 Didactic: 15 months  
 Clinical: 12 months

First Semester—Summer I (June–August)			Lecture	Lab	Credit Hours
PAO	5000	Anatomy	48	32	4
PAO	5001	Pharmacodynamics	16	0	1
PAO	5002	Introduction to the PA Profession	16	0	1
PAO	5100	Physiology	48	0	3
PAO	5300	Physical Diagnosis I	22	44	3
PAO	5400	History Taking and Communication Skills	20	20	2
PAO	5406	Cultural Issues in Health Care	20	0	1
PAO	5605	Clinical Laboratory Medicine	36	0	2
<b>Total Hours:</b>			<b>226</b>	<b>96</b>	<b>17</b>

Second Semester—Fall (September–December)			Lecture	Lab	Credit Hours
PAO	5003	Fundamentals of Medical Imaging	28	0	2
PAO	5006	Electrocardiography	30	0	2
PAO	5104	Clinical Pathophysiology	46	0	3
PAO	5200	Microbiology	42	0	3
PAO	5310	Physical Diagnosis II	18	36	2
PAO	5404	Legal and Ethical Issues in Health Care	30	0	2
PAO	5410	Pharmacology I	32	0	2
PAO	5421	Epidemiology and Biostatistics in Health Care	30	0	2
PAO	5500	Clinical Medicine and Surgery I	126	0	8
<b>Total Hours:</b>			<b>382</b>	<b>36</b>	<b>26</b>



<b>Third Semester—Winter (January–May)</b>			Lecture	Lab	Credit Hours
PAO	5320	Physical Diagnosis III	34	42	4
PAO	5420	Pharmacology II	64	0	4
PAO	5510	Clinical Medicine and Surgery II	156	0	10
PAO	5520	Clinical Medicine and Surgery III	148	0	10
PAO	5540	Clinical Behavioral Medicine	44	0	3
<b>Total Hours:</b>			<b>446</b>	<b>42</b>	<b>31</b>

<b>Fourth Semester—Summer II Advanced Didactic (June–July)</b>			Lecture	Lab	Credit Hours
PAO	5005	Genetics	20	30	2
PAO	5008	Health Promotion and Clinical Correlations	8	20	1
PAO	5009	PA and Health Care Dynamics	20	0	1
PAO	5407	Clinical Pharmacology	30	0	2
PAO	5408	Complementary Medicine and Nutrition	28	0	2
PAO	5412	Publication Skills and Medical Research	22	28	2
PAO	5460	Life Support Procedures and Skills	24	20	2
PAO	5560	Clinical Procedures and Surgical Skills	20	44	3
<b>Total Hours:</b>			<b>172</b>	<b>142</b>	<b>15</b>

<b>Clinical Curriculum—Second Year (August–August)</b>			Weeks	Contact	Credit Hours
PAO	6401	Clinical Elective I	4	160	4
PAO	6410	Behavioral Health	6	240	6
PAO	6498	Graduate Project I	0	0	1
PAO	6499	Graduate Project II	0	0	1
PAO	6500	Graduate Project III	0	0	1
PAO	6310	Emergency Medicine	6	230	6
PAO	6320	Family Medicine	6	240	6
PAO	6330	Internal Medicine	6	240	6
PAO	6340	Pediatrics	6	240	6
PAO	6350	Prenatal Care and Gynecology	6	240	6
PAO	6360	General Surgery	6	240	6

PAO	6406	Selective (choose one of six*) <ul style="list-style-type: none"> <li>• Geriatrics</li> <li>• Orthopedics</li> <li>• Dermatology</li> <li>• Otorhinolaryngology</li> <li>• Cardiology</li> <li>• Neurology</li> </ul>	6	240	6
<b>Total Weeks/Hours/Credits (second year)</b>			<b>52</b>	<b>2,070</b>	<b>55</b>

Curriculum is subject to change as directed by the department.

\*one of six selectives required, may use other selectives as electives

## Physician Assistant—Orlando Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and semester hours.

### PAO 5000—Anatomy

Gross structures of the human body. Integrates topographic and radiographic anatomy to stress the application and importance of clinical anatomy. Develops the knowledge of the human anatomy necessary for the practice of the profession. (48-32-4)

### PAO 5001—Pharmacodynamics

This course will provide the student with a thorough understanding of the basic pharmacodynamic and pharmacokinetic principles. Emphasis will be on basic terminology, receptor theory, pathways, absorption, distribution, elimination, and pharmacological effects. (16-0-1)

### PAO 5002—Introduction to the Physician Assistant Profession

Introduces key concepts regarding the PA profession including an overview of the profession, the history of the development of the profession, the current status of the profession, physician assistant education, and current and future roles of the physician assistant. (16-0-1)

### PAO 5003—Fundamentals of Medical Imaging

Introduces key concepts for the understanding of normal medical diagnostic imaging. Emphasis is placed on images of normal human body structures and organs. (28-0-2)

### PAO 5005—Genetics

This course will introduce principles of medical genetics applied to the clinical practice of medicine within the scope of practice of Physician Assistants. Discussions will include the role of genetics in medicine, the basic structure and behavior of genes, genetic basics of human disease,

the human genome, and application of genetic science to cancer, genetics in clinical medicine for diagnosis, treatment, and ethical considerations. (20-30-2)

### PAO 5006—Electrocardiography

Provides the basics for learning to interpret normal ECG tracings and applying those principles to interpret the ECG tracings of common cardiac disease. (30-0-2)

### PAO 5008—Health Promotion and Clinical Correlations

Focus on wellness through preventive interventions and services. Emphasizes responsibility for one's own health, the community's efforts to protect against disease, and environmental hazards. Epidemiology, risk factors, screening tests, and community resources are identified with each health issue presented. The clinical correlation of these topics, in addition to the knowledge and clinical skills taught during the academic year, will be reiterated and re-enforced. (8-20-1)

### PAO 5009—PA and Health Care Dynamics

This course focuses on the current status and issues regarding the physician assistant profession within the context of the U.S. medical system and today's health care workforce. The course discusses the structures and administrative principles in health care organizations; the role of the practicing PA in unique environments, with an emphasis on rural and underserved medicine; reimbursement for services rendered; quality assurance; federal health care programs; and other issues involving patient care. (20-0-1)

### PAO 5100—Physiology

Clinically relevant physiologic principles of the major organ systems covered in Clinical Anatomy. Normal

physiologic processes of all major organ systems are emphasized in this course. (48-0-3)

#### **PAO 5104—Clinical Pathophysiology**

This course introduces the student to pathophysiologic concepts that form the biologic basis of disease. It builds on the knowledge gained in human anatomy and physiology courses. However, physiologic concepts will be reviewed and emphasized in order for the student to fully appreciate the progression from the normal physiologic state to the acute and chronic diseased state with its resultant clinical signs and symptoms. (46-0-3)

#### **PAO 5200—Microbiology**

Relationship of microbes to human disease and the host-immune response. Characteristics and properties of clinically significant bacteria, viruses, fungi, and selected parasites as well as the prevention, control, and diagnostic laboratory tests of their associated specific infectious diseases. (42-0-3)

#### **PAO 5300—Physical Diagnosis I**

Principles and skills required to perform a complete medical history and physical examination. Emphasizes normal physical findings. (22-44-3)

#### **PAO 5310—Physical Diagnosis II**

Students will build upon skills learned in Physical Diagnosis I. The student will have supervised practice of skills using simulated patient encounters. Integrating previously learned interviewing skills with principles from the clinical sciences, students elicit a comprehensive medical history, perform a complete physical examination, and formulate an initial diagnostic impression and diagnostic plan. Students are expected to continue to progress in recording information in written form and presenting the information orally to colleagues. (18-36-2)

#### **PAO 5320—Physical Diagnosis III**

Students will continue to systematically learn abnormalities in the physical examination and specialty examination techniques. The student will have supervised practice of skills using simulated patient encounters. Integrating previously learned interviewing skills with principles from the clinical sciences, students elicit a comprehensive medical history, perform a complete physical examination, and formulate an initial diagnostic impression and diagnostic plan. Students are expected to continue to progress in recording information in written form and presenting the information orally to colleagues. (34-42-4)

#### **PAO 5400—History Taking and Communications Skills**

This course prepares the student to perform a complete medical history, identifying appropriate communication skills needed for interaction with patients, families, and colleagues. (20-20-2)

#### **PAO 5404—Legal and Ethical Issues in Health Care**

Introduces the role that ethics and the law play in the practice of health care. Principles and concepts in determining correct actions, both legally and ethically, are reviewed. Topics include solving an ethical dilemma, ethical implications involved in genetic engineering, the impaired clinician, conflicts between providers, conflicts between clinician and patient, euthanasia, risk management, confidentiality, informed consent, patients' directives, and documentation. (30-0-2)

#### **PAO 5406—Cultural Issues in Health Care**

Introduction to the skills and insights necessary in promoting health and dealing with illness in diverse populations. Issues discussed include the need for effective communication with an understanding of societal and cultural factors and how they impact on health care efforts and use of the health care system. (20-0-1)

#### **PAO 5407—Clinical Pharmacology**

This course will advance the clinical skills of the student as they relate to the pharmacologic treatment of the patient. Specific topics will include the indicated medications in the treatment of common illnesses; their adverse effects; and drug interactions, dosage, and monitoring. (30-0-2)

#### **PAO 5408—Complementary Medicine and Nutrition**

Survey of human nutrition in health care and the principles for maintaining good health through nutrition. Addresses health hazards associated with dietary deficiencies, obesity, fad dieting, food contamination, diet management of selected diseases, and the functional roles of vitamins and minerals. Additionally, this course will address introductory concepts, procedures, education, and licensing in alternative and complementary medicine. (28-0-2)

#### **PAO 5410—Pharmacology I**

Understanding the basis for pharmacologic intervention in patient care is the foundation for treatment of disease. This course is an in-depth study of the pharmacodynamics of drugs used in the autonomic nervous, renal, and cardiovascular systems. Mechanisms of drug action, clinical uses, side effects, contraindications and drug interactions, and pharmacokinetic considerations for special patient populations will also be discussed. (32-0-2)

#### **PAO 5412—Publication Skills and Medical Research**

This course deals with the emphasis and overview of the importance of data collection, research methods, and application of scientific thought to research findings. It is designed to enable participants to develop skill in reading and critically evaluating medical literature and research. The advantages and disadvantages of quantitative and qualitative research methods are compared and contrasted.

The essential components of a well-written medical or research paper are presented. The process by which these papers are transformed into publications is described,

including the concepts of article preparation and revision and the steps required for submission to a physician assistant medical journal. This course is designed to adequately prepare students to complete the Graduate Project (PAO 6500), which results in a written medical or research paper. (22-28-2)

#### **PAO 5420—Pharmacology II**

Mechanisms of action, clinical uses, side effects, contraindications, drug interactions, and pharmacokinetics of drugs used in the treatment of diseases of the major organ systems. Treatment of HIV, geriatric and neonatal pharmacology, the pharmacological principles of nutrition, over-the-counter agents, toxicology, drugs of abuse, prescription writing, and evaluation of drug literature. (64-0-4)

#### **PAO 5421—Epidemiology and Biostatistics in Health Care**

Overview of the methods in epidemiology and biostatistics commonly used in clinical research and practice. Addresses the evaluation of diagnostic procedures and the methodology for clinical description and trials and provides basic skills on critical reading of medical literature, based on these concepts. (30-0-2)

#### **PAO 5460—Life Support Procedures and Skills**

Introduction to the principles of advanced life support used in medical and surgical emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the student in developing the skills required to stabilize patients with life-threatening conditions. Includes certification in basic (BLS) and Advanced Cardiac Life Support (ACLS), as well as Pediatric Advanced Life Support (PALS). (24-20-2)

#### **PAO 5500—Clinical Medicine and Surgery I**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of disease entities in ophthalmology, otorhinolaryngology, dermatology, cardiology, pulmonology, and hematology/oncology. (126-0-8)

#### **PAO 5510—Clinical Medicine and Surgery II**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of common disease entities of major organ systems and primary care aspects of disease evaluation and treatment in gastroenterology, rheumatology, immunology, endocrinology, orthopedics, OB/GYN, geriatrics, and neurology. (156-0-10)

#### **PAO 5520—Clinical Medicine and Surgery III**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of disease entities of major organ systems. Lectures in primary care aspects of disease evaluation and treatment in pediatrics, nephrology,

emergency medicine, infectious diseases, and general surgery. (148-0-10)

#### **PAO 5540—Clinical Behavioral Medicine**

Common psychosocial problems and disorders encountered by health care professionals. Emphasizes the diagnosis and understanding of development of these behaviors, including the patient-clinician relationship, varieties of psychotherapy, communication skills, and appropriate intervention and treatment regimens. (44-0-3)

#### **PAO 5560—Clinical Procedures and Surgical Skills**

Lectures and laboratory practicum introducing the clinical procedures and surgical skills used in the clinical setting: aseptic technique, operating room protocol, injections, knot tying and suturing techniques, venipuncture, arterial puncture, intravenous catheterization, nasogastric intubation, and urinary catheterization and point of care ultrasound techniques. This course is a prerequisite for clinical rotations. (20-44-3)

#### **PAO 5605—Clinical Laboratory Medicine**

Clinical laboratory use, rationale for selecting common diagnostic tests, interpretation of results, correlation between results and disease processes, and tests not available in the primary care setting that are necessary for diagnosis, treatment, and patient care. Students will learn how to appropriately order and accurately interpret laboratory tests. These skills will help them diagnose common diseases related to major organ systems. (36-0-2)

#### **PAO 6310—Emergency Medicine**

Required six-week rotation in hospital emergency department teaches students to recognize, assess, and treat acute and life-threatening clinical problems. Emphasizes common primary care emergencies. (230-0-6)

#### **PAO 6320—Family Medicine**

Required six-week rotation in outpatient settings. Comprehensive primary care of the individual patient within the family unit. Emphasizes the primary care needs of patients in rural or inner-city communities. (240-0-6)

#### **PAO 6330—Internal Medicine**

Required six-week rotation in outpatient and/or inpatient settings, Diagnosis, treatment, and management of acute and chronic medical problems seen in the internal medicine practice. Emphasizes the adult, nonsurgical patient. (240-0-6)

#### **PAO 6340—Pediatrics**

Required six-week rotation in outpatient and/or inpatient settings teaches normal and abnormal growth and development, disease prevention, and basic health care in neonates through adolescence. Emphasizes primary care of the pediatric patient. (240-0-6)

### **PAO 6350—Prenatal Care and Gynecology**

Required six-week rotation in outpatient and/or inpatient settings teaches prenatal care, treatment, gynecological diagnosis, and management. Emphasizes primary care of the female patient including obstetrics. (240-0-6)

### **PAO 6360—General Surgery**

Required six-week rotation in outpatient and inpatient settings. Students learn to diagnose, treat, and manage the surgical patient. Emphasizes surgical entities commonly encountered in the primary care setting. (240-0-6)

### **PAO 6401—Clinical Elective I**

Elective, full-time, clinical rotation that provides an opportunity to investigate a clinical, medical, or surgical subspecialty area or gain more experience in primary care. (160-0-4)

### **PAO 6410—Behavioral Health**

Required six-week rotation in outpatient and/or inpatient settings focusing on behavioral and mental health. Students learn to recognize, manage, and treat behavioral and/or mental disorders including addictions, personality disorders, mood disorders, and psychotic disorders in the primary care setting. (240-60-6)

### **PAO 6406—Selective**

Choose one of the six following medical areas to take a six-week rotation in. (240-0-6)

#### **Orthopedics**

The six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Preceptorship is provided by an orthopedist credentialed at the clinical site. Primary emphasis will be on developing skills required to recognize and manage common problems seen in this specialty.

#### **Dermatology**

This six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Preceptorship is provided by a dermatologist credentialed at the clinical site. Primary emphasis will be on developing skills required to recognize and manage common problems seen in this specialty.

#### **Otorhinolaryngology**

This six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Preceptorship is provided by an otolaryngologist credentialed at the clinical site. Primary emphasis will be on developing skills required to recognize and manage common problems seen in this specialty.

#### **Geriatrics**

This six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Preceptorship is provided by a gerontologist credentialed at the clinical site. Primary emphasis will be on developing skills required to recognize and manage common problems seen in this specialty.

#### **Cardiology/Cardiothoracic Surgery**

The six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. The primary emphasis will be on patients with a cardiac or thoracic disorder that may or may not require surgical intervention. This rotation is highly demanding, with long hours and complex medical conditions. A high level of interest in this area and proven academic and clinical success are required.

#### **Neurology/Neurosurgery**

The six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. The primary emphasis will be on patients with a neurologic disorder that may or may not require surgical intervention. This rotation is highly demanding, with long hours and complex medical conditions. A high level of interest in this area and proven academic and clinical success are required.

#### **PAO 6498—Graduate Project I: Creation, Plan, and Preliminary Work**

With the guidance of a faculty adviser, students will use the skills acquired in Publication Skills and Medical Research (PAO 5412) to create a graduate project. The project features topics in clinical or administrative medicine and consists of a comprehensive literature review and evaluation and completion of a publishable review paper. The project allows the student to demonstrate his or her ability to research and compile information and to present that information in a clear, written form. **Fall semester (0-0-1)**

#### **PAO 6499—Graduate Project II: Draft of Components**

For additional information, please refer to course description for PAO 6498. **Winter semester (0-0-1)**

#### **PAO 6500—Graduate Project III: Final Paper and Poster Presentation**

For additional information, please refer to course description for PAO 6498. **Final summer semester (0-0-1)**

## Physician Assistant Program—Jacksonville

Physician assistants (PAs) serve as essential components of a medical system that continues to struggle to provide quality, affordable health care for all Americans. Their roles in the system will continue to grow as changes in health care indicate. Today, more than 100,000 individuals are in practice as PAs in the United States. PAs provide care that would otherwise be provided by physicians. PAs take medical histories, perform physical examinations, order and interpret tests, diagnose and treat illnesses, perform medical/surgical procedures, assist in surgery, and can write prescriptions in all states. PAs work in most medical specialties and in all types of communities. Many PAs practice family and internal medicine, and more than one-third are in towns with fewer than 50,000 residents. The PA profession is one of the fastest growing health care professions. According to the Bureau of Labor statistics (BLS) U.S. Department of Labor, as published in the 2016–2017 *Occupational Outlook Handbook*, employment of PAs is expected to grow 30 percent from 2014 to 2024.

It is the obligation of each physician/PA team to ensure that the PA's scope of practice is identified; that delegation of medical tasks is appropriate to the PA's level of competence; that the relationship with, and access to, the supervisory physician is defined; and that a process of performance evaluation is established. Adequate responsible supervision of the PA contributes to both high-quality patient care and professional growth.

The Physician Assistant Program offers an innovative program that lasts 27 months. Upon successful completion of study, students will be awarded the Master of Medical Science Degree in Physician Assistant. The curriculum includes rigorous instruction in basic science subjects, followed by clinical medicine, physical diagnosis, clinical laboratory medicine, clinical pathophysiology, clinical procedures and surgical skills, electrocardiography, pharmacology, radiology, and others. Students also take courses that include health care law and ethics, epidemiology and biostatistics, research methodology, and cultural issues in health care.

During the clinical year of study, the student participates in clinical rotations. These rotations include family medicine, internal medicine, pediatrics, gynecology and prenatal care, emergency medicine, behavioral medicine, and surgery, all complemented by two elective rotations. NSU graduates are prepared to work in many clinical areas, both in primary care and specialty medicine.

### Accreditation

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted **Accreditation—Continued** status to the Nova Southeastern

**University—Jacksonville Physician Assistant Program** sponsored by Nova Southeastern University—Jacksonville. Accreditation—Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA *Standards*.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the *Standards*. The approximate date for the next validation review of the program by the ARC-PA will be **March 2022**. The review date is contingent upon continued compliance with the Accreditation *Standards* and ARC-PA policy.

### Vision Statement

Our vision is to be recognized as a preeminent PA education program, which offers student-centered education that produces compassionate and competent health care providers.

### Mission Statement

Our mission is to prepare physician assistant students to provide high-quality, patient-centered care.

### Core Values: DICE

Diversity  
Integrity  
Community  
Excellence

### Admissions Requirements

Prospective students are selected by the Committee on Admissions (COA), which considers the overall qualities of the applicant. Areas of consideration include interpersonal skills, personal motivation, knowledge and understanding of the PA profession, academic performance and level of achievement, life experiences, quality and length of prior health care experience, and recommendations/evaluations. Personal interviews are offered to the most qualified applicants to assess interpersonal and communication skills, maturity, integrity, altruistic attitude, and commitment to the PA profession.

1. Applicants must have a minimum cumulative and a minimum science GPA of 3.0 on a 4.0 grading scale at the time of application, and must maintain that GPA throughout matriculation to be considered. Successful applicants in the past have, typically, had cumulative GPAs in the range of 3.3–3.5, GRE scores (verbal, quantitative, and analytical) in the 40th percentile or higher in each of the three categories, and letters of recommendation from individuals with whom the applicant has had a professional working relationship in the health care field.

2. Prior to matriculation, applicants must have received a baccalaureate degree from a regionally accredited college or university.

3. The college requires the students to earn a grade of C (2.0) or better in each of the following required courses:

- college math (3 semester hours)
- English (6 semester hours, including 3 of English composition)
- humanities/arts (3 semester hours)
- social sciences (9 semester hours)
- general biology (or zoology), including laboratory (4 semester hours)
- microbiology, including laboratory (4 semester hours)
- general chemistry I and II, including laboratory (8 semester hours)
- human anatomy and human physiology (6 semester hours)
- biochemistry (3 semester hours)
- human genetics (3 semester hours)
- Medical Terminology (1 semester hour)

Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical, and social sciences or in the humanities.

The following courses are recommended:

- biochemistry laboratory (1 semester hour)
- organic chemistry and laboratory (4 semester hours)
- anatomy laboratory (1 semester hour)
- physiology laboratory (1 semester hour)
- Introduction to Statistics (3 semester hours)

4. Graduates of foreign institutions where English is not the primary language of instruction must present transcripts showing at least 18 semester hours (or equivalent quarter hours) of study from a regionally accredited college or university in the United States. Of these 18 semester hours,

- 3 semester hours must be in English composition (courses do not include ESOL)
- 3 semester hours must be in English literature (courses do not include ESOL)
- 3 semester hours must be in public speaking (courses do not include ESOL)

The remaining 9 semester hours can be any courses of the applicant's choosing.

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test to

the Office of Admissions. The test must have been taken within the past five years and must be taken early enough for official scores to be received in the admissions office by the supplemental application due date of February 15. Applications will not be considered complete without GRE scores. Testing information for the GRE may be obtained from [gre.org](http://gre.org) or by telephone at (609) 921-9000.

Prior health care experience is **highly recommended** and is considered for admission. Those applicants who have prior health care experience must submit verifiable information about their experience.

### Computer Requirements

Upon admission, all students are required to have a laptop computer and printer. **The computer must have the following minimum specifications:**

- 1.5 GHz minimum processor
- 1 GB RAM
- video and monitor capable of 1024 x 768 resolution or better
- CD-ROM or DVD drive
- full duplex sound card and speakers
- DSL or CABLE modem
- Internet connection with private Internet service provider (ISP) for access from home to the Internet
- Windows XP or above or Macintosh with Virtual Machine and Windows
- Microsoft Office 2003 or newer with PowerPoint, Word, and Excel minimum or compatible office suite
- Surge suppressor
- DVD/RW or CD/RW
- wireless Internet capability and wireless router

### Application Procedures

#### 1. Apply to CASPA

The Physician Assistant Program participates in the Centralized Application Service for Physician Assistants (CASPA) for the receipt and processing of all applications. CASPA takes no part in the selection of students. CASPA applications are submitted online at [caspaonline.org](http://caspaonline.org) or by writing to

CASPA  
P.O. Box 9108  
Watertown, MA 02471

The CASPA application deadline is December 1 in order to be considered for admission in May.

## 2. Send transcripts and letters of recommendation/evaluation to CASPA

All official college transcripts from all undergraduate, graduate, and professional institutions attended must be sent directly from the institutions.

Two letters of recommendation/evaluation must be sent to CASPA. One letter must be from a physician assistant and one must be from another health care professional. Recommendations submitted by relatives, friends, personal health care providers, or personal friends of the family are not acceptable.

## 3. Report GRE scores directly to CASPA

Official Graduate Record Exam (GRE) scores must be admitted directly to CASPA as part of the CASPA application. The school code number for NSU's PA—Jacksonville program is 0952. The GRE must have been taken in the last five years and must be taken early enough for official scores to be available by the supplemental application deadline of January 15.

## 4. Complete Supplemental Application

Once the CASPA application has been received by Nova Southeastern University, a supplemental application will be made available online. Your complete supplemental application must be received no later than January 15 in order to be considered for admission for the June entering class. Once we receive your GRE scores and supplemental application, your file will be reviewed. The applicant will not be considered for a possible interview until all of these requirements have been received by the EPS.

### Personal Interviews

Once your application is complete, the Committee on Admissions (COA) will decide whether or not your application is strong enough to warrant an invitation for a personal interview. Interviews for the Jacksonville PA program are conducted at the NSU campus in Jacksonville, Florida, and are by invitation only. An invitation to interview is not a guarantee of admission. Notice of acceptance or action by the COA will be on a "rolling" or periodic schedule; therefore, early completion of the application is in the best interest of the applicant.

### Current College Coursework

All science prerequisites must be completed by the end of the fall semester prior to matriculation. If, at the time of application, coursework is in progress or anticipated, please identify these courses on the supplemental application.

### Transcripts

All applicants who are accepted must submit official transcripts from all schools attended to the NSU EPS Physician Assistant Admissions Office prior to matriculation. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

## Undergraduate/Physician Assistant Dual Admission Program—Jacksonville

Nova Southeastern University's Dr. Pallavi Patel College of Health Care Sciences has established an articulation agreement with Florida State College of Jacksonville for a select number of highly motivated, qualified students interested in pursuing professional studies in the Physician Assistant Program. Candidates must maintain a 3.0 grade point average during the undergraduate years and achieve acceptable scores on the Graduate Record Examination (GRE).

The students will apply for admission to the PA program via CASPA. The CASPA application, supplemental application, and GRE scores must be received by NSU's Office of Admissions by the posted deadlines. Personal interviews are offered to the most qualified applicants to assess interpersonal and communications skills, maturity, altruistic attitude, and commitment to the PA profession. There is no guarantee of automatic admission to the PA program.

For more information and requirements, contact

Florida State College of Jacksonville  
501 West State Street, Office 401H  
Jacksonville, Florida 32202

(904) 632-3388

### Tuition and Fees

- Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (<http://healthsciences.nova.edu/pajacksonville/faq.html>). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually
- A clinical support charge of \$400 will be assessed in each of the three semesters of clinical training.
- Acceptance fee is \$500. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be credited to the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- Deposit is \$500. This is due February 15, under the same terms as the Acceptance Fee.



The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Applicants should have specific plans for financing 27 months of professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses. Each student is required to carry adequate health insurance. Students may avail themselves of the insurance plan obtainable through the university.

Due to the demands of the PA curriculum, the program discourages any outside employment.

### **Requirements for Graduation**

In order to be eligible to graduate from the Physician Assistant Program, students shall

- successfully complete all academic and clinical courses and degree requirements
- have satisfactorily met all financial and library obligations
- attend, in person, the commencement program, at which time the degree is conferred

### **Academic Dismissal in the Physician Assistant Program**

See the suspension/dismissal section of the student handbooks.

### **Readmission Policy in the Physician Assistant Program**

In selected cases, and only with the approval of the department chair and college dean, a student may be allowed to be noncompetitively matriculated with the next first-year class. It is emphasized that this only refers to those few students with special academic or personal issues.

### **Course of Study**

The Physician Assistant Program curriculum is completed following a baccalaureate degree from a regionally accredited college or university in the United States. The comprehensive curriculum, completed in a consecutive manner, is oriented to primary care and prepares the student to practice in a wide variety of clinical settings. The first 15 months of study consist of basic sciences and clinically related didactic courses. All courses are required and must be successfully completed before advancing to the clinical year. During this time frame, students are generally in class from Monday through Friday, 8:00 a.m. to 5:00 p.m., although there are occasional evening and/

or weekend hours. Because of its highly integrated and compact curriculum, the PA program requires matriculants to complete the entire curriculum at this campus. No advanced placement, transfer of credit, or credit for experiential learning will be granted.

The clinical year is devoted to 12 months of clinical training with required clinical rotations in family medicine, emergency medicine, pediatrics, prenatal care/gynecology, surgery, behavioral health, and internal medicine. Students must also complete two elective rotations, for a total of nine clinical rotations. The required rotations and one of the elective rotations are six weeks in length. The remaining elective rotation is four weeks in length.

Each required rotation has assigned readings and learning objectives. At the end of each required rotation, a written, comprehensive subject examination is administered and must be passed. During rotations, students will be supervised by licensed practitioners and will actively participate in patient assessments, perform common laboratory procedures, interpret common diagnostic examinations, and help manage common medical problems. The work hours during clinical rotations are set by the preceptor and can include evening and weekend hours. Students are required to work a minimum of 40 hours per week, however, many rotation sites require students to work substantially more hours per week.

Upon completion of the course of study, students will be awarded the Master of Medical Science degree in Physician Assistant. Graduates will be eligible to take the Physician Assistant National Certification Examination (PANCE) administered by the National Commission on Certification of Physician Assistants.

The role of the physician assistant requires a high-level of expertise and responsibility. The applicant must possess the ability and desire to complete a rigorous academic and clinical program and make a commitment to continued learning.

## Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Jacksonville

Start Date:	May
Length:	27 months
Degree:	Master of Medical Science (M.M.S) in Physician Assistant
Didactic:	15 months
Clinical:	12 months

First Semester—Summer I (May–August)			Lecture	Lab	Credit Hours
PAJ	5506	Cultural Issues in Health Care	14	0	1
PAJ	5000	Anatomy	46	38	4
PAJ	5001	Pharmacodynamics	14	0	1
PAJ	5002	Introduction to the PA Profession	14	0	1
PAJ	5003	Fundamentals of Medical Imaging	14	0	1
PAJ	5100	Physiology	44	0	3
PAJ	5300	Physical Diagnosis I	42	26	4
PAJ	5401	Medical Terminology	0	50	2
<b>Total Hours</b>			<b>188</b>	<b>114</b>	<b>17</b>

Second Semester—Fall (August–December)			Lecture	Lab	Credit Hours
PAJ	5504	Legal and Ethical Issues in Health Care	27	0	2
PAJ	5006	Electrocardiography	16	2	1
PAJ	5101	Clinical Pathophysiology I	18	0	1
PAJ	5200	Microbiology	45	0	3
PAJ	5310	Physical Diagnosis II	26	22	3
PAJ	5410	Pharmacology I	26	0	2
PAJ	5500	Clinical Medicine and Surgery I	112	0	8
PAJ	5600	Clinical Laboratory Medicine I	16	0	1
<b>Total Hours</b>			<b>286</b>	<b>24</b>	<b>21</b>

Third Semester—Winter (January–May)			Lecture	Lab	Credit Hours
PAJ	5102	Clinical Pathophysiology II	26	0	2
PAJ	5320	Physical Diagnosis III	40	25	4
PAJ	5420	Pharmacology II	54	0	4
PAJ	5510	Clinical Medicine and Surgery II	112	0	8

PAJ	5520	Clinical Medicine and Surgery III	112	0	8
PAJ	5540	Clinical Behavioral Medicine	42	0	3
PAJ	5610	Clinical Laboratory Medicine II	28	0	2
<b>Total Hours</b>			<b>414</b>	<b>25</b>	<b>31</b>

<b>Fourth Semester—Summer II Advanced Didactic (May–August)</b>			Lecture	Lab	Credit Hours
PAJ	5005	Clinical Genetics	22	0	2
PAJ	5507	Clinical Pharmacology	40	0	3
PAJ	5508	Complementary Medicine and Nutrition	28	0	2
PAJ	5512	Epidemiology/Interpretation of the Medical Literature	38	0	3
PAJ	5560	Life Support Procedures and Skills	24	20	2
PAJ	5008	Health Promotion and Disease Prevention	30	0	2
PAJ	5009	PA and Health Care Dynamics	26	0	2
PAJ	5570	Clinical Procedures and Surgical Skills	48	30	4
<b>Total Hours</b>			<b>256</b>	<b>50</b>	<b>20</b>

<b>Clinical Curriculum: Second Year (August–August)</b>			Weeks	Contact Hours	Credit Hours
PAJ	6310	Emergency Medicine	6	240	6
PAJ	6320	Family Medicine	6	240	6
PAJ	6330	Internal Medicine	6	240	6
PAJ	6340	Pediatrics	6	240	6
PAJ	6350	Prenatal Care and Gynecology	6	240	6
PAJ	6360	General Surgery	6	240	6
PAJ	6375	Behavioral Medicine	6	240	6
PAJ	6380	Clinical Elective II	6	240	6
PAJ	6390	Clinical Elective III	4	160	4
PAJ	6600	Graduate Project	0	45	3
<b>Total Hours</b>			<b>52</b>	<b>2,125</b>	<b>55</b>

Curriculum is subject to change as directed by the program.

## Physician Assistant—Jacksonville Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and semester hours.

### PAJ 5000—Anatomy

This course covers the gross structures of the human body. It integrates topographic and radiographic anatomy to stress the application and importance of clinical anatomy. Student will develop the knowledge of human anatomy necessary for the practice of the profession. (46-38-4)

### PAJ 5001—Pharmacodynamics

This course will provide the student with a thorough understanding of the basic pharmacodynamic and pharmacokinetic principles. Emphasis will be on basic terminology, receptor theory, pathways, absorption, distribution, elimination, and pharmacological effects. **Prerequisite for PAJ 5410, 5420, and 5507 (14-0-1)**

### PAJ 5002—Introduction to the Physician Assistant Profession

This course introduces key concepts regarding the PA profession, including an overview of the profession and its organizations, the history of the profession, the current status of the profession, physician assistant education, and current and future roles of the physician assistant. (14-0-1)

### PAJ 5003—Fundamentals of Medical Imaging

This course introduces key concepts for the understanding of normal medical diagnostic imaging. Emphasis is placed on images of normal human body structures and organs. (14-0-1)

### PAJ 5401—Medical Terminology

Use of medical language for appropriate and accurate communication in patient care. Students acquire a medical vocabulary, knowledge of medical terminology, and terminology reference material. (0-50-2)

### PAJ 5005—Clinical Genetics

This course provides an up-to-date, clinically relevant genetics course to prepare PA students for medical practice in the age of genomics. Areas of focus include molecular and developmental genetics; family history with pedigree risk analysis; inheritance patterns; genetic testing and screening; cancer genetics; complex diseases; pharmacogenetics; gene therapy; genetic ethical, legal, and social issues (ELSI) impact on primary care; and a current review of the Human Genome Project (HGP) and its affect on medicine. (22-0-2)

### PAJ 5006—Electrocardiography

This course provides the basics for learning to interpret 12-lead ECG tracings and applying those principles to interpret the ECG tracings of common cardiac disease. (16-2-1)

### PAJ 5008—Health Promotion and Disease Prevention

This course focuses on wellness through preventative interventions and services. Epidemiology, risk factors, health screening, and community resources for a variety of health issues are presented. Emphasis is placed on the community and health care practitioner's efforts to protect against disease and environmental hazards, as well as individual responsibility for one's health. (30-0-2)

### PAJ 5009—PA and Health Care Dynamics

This course focuses on the current status and issues regarding the physician assistant profession within the context of the United States medical system and today's health care workforce. The course discusses the structures and administrative principles in health care organizations, the role of the practicing PA in unique environments such as rural and underserved medicine, reimbursement for services rendered, quality assurance, federal health care programs, reduction of medical errors, and other issues involving patient care. (26-0-2)

### PAJ 5100—Physiology

Clinically relevant physiologic principles of the major organ systems covered in Clinical Anatomy. It will include the pathological changes that occur in human physiology in the disease process. **Prerequisite for PAJ 5101, 5102, 5500, 5510, 5520, 5600, and 5610 (44-0-3)**

### PAJ 5101—Clinical Pathophysiology

This course covers pathological changes seen in disease states. It uses a major body system/organ approach. The etiology and progression from the normal physiological state to the diseased state with resultant clinical signs and symptoms is taught. (18-0-1)

### PAJ 5102—Clinical Pathophysiology II

This course introduces the student to pathophysiological concepts that form the biologic basis of disease. It builds on the knowledge gained in human anatomy and physiology courses. Physiological concepts will be reviewed and emphasized in order for the student to fully appreciate the progression from normal physiologic state to acute and chronic diseased state with its resultant clinical signs and symptoms. This course builds on PAJ 5101. (26-0-2)

### PAJ 5200—Microbiology

The course emphasizes the relationship of microbes to human disease and the host-immune response. Characteristics and properties of clinically significant bacteria, viruses, fungi, and selected parasites, as well as the prevention, control, and diagnostic laboratory tests of their associated specific infectious diseases, will be discussed. (45-0-3)

### **PAJ 5300—Physical Diagnosis I**

The Physical Diagnosis I course is an introduction to clinical medicine. Students will acquire the knowledge and skills essential to perform a complete, head-to-toe physical examination. Emphasis is placed on normal physical findings. A combination of lectures, discussions, case studies, and performance skills labs will be used to present and practice the necessary concepts and skills. Lab sessions are used to optimize teaching of concepts. The student will be required to demonstrate competency-based learning during the performance of the required procedures and skills. This course prepares the student to perform a complete medical history, identifying appropriate communication skills needed for interactions with patients, families, and colleagues. **Prerequisite for PAJ 5310 and 5320 (42-26-4)**

### **PAJ 5310—Physical Diagnosis II**

This course will build upon the skills learned in Physical Diagnosis I and will cover the essential skills for performing both complete and focused medical interviews and physical examinations. Using the skills developed in Physical Diagnosis I, students learn to accurately integrate and record historical and physical findings in the correct written format. This course introduces the student to the concept of medical problem solving. Emphasis is on the correlation of historical information and physical findings to the process of formulating a differential diagnosis and treatment plan. Through case presentations and medical simulations, students will use knowledge acquired from previous and concurrent didactic courses to develop their problem solving skills. **Prerequisite for PAJ 5320 (26-22-3)**

### **PAJ 5320—Physical Diagnosis III**

This course is a continuation of PAJ 5310 and PAJ 5320. Small-group and laboratory presentations will be used to refine the medical history concepts and physical examination skills acquired in Physical Diagnosis I and II. Instructional methods, including supervised clinical experience and patient simulations, will facilitate the students' integration of clinical information in order to diagnose disease and record historical and physical findings in written format. The course will expand on the skills essential for performing a thorough medical interview and physical examination and will enhance medical documentation skills. This course also continues to develop medical problem-solving skills. Emphasis is on correlation of historical information, physical findings, and pertinent laboratory results to formulate a diagnosis. Through case presentations and medical simulations, the student will also use knowledge acquired from previous and concurrent didactic courses to develop these skills. **(40-25-4)**

### **PAJ 5410—Pharmacology I**

Understanding the basis for pharmacologic intervention in patient care is the foundation for treatment of disease. This course begins an in-depth study of the pharmacodynamics of drugs used in the automatic nervous, renal, and cardiovascular systems. Mechanisms of drug action, clinical uses, side effects, contraindications and drug interactions, and pharmacokinetic considerations for special patient populations are discussed. **Prerequisite for PAJ 5507 (26-0-2)**

### **PAJ 5420—Pharmacology II**

Mechanisms of action, clinical uses, side effects, contraindications, drug interactions, and pharmacokinetics of drugs utilized in the treatment of diseases of the major organ systems will be discussed. Treatment of HIV, geriatric and neonatal pharmacology, the pharmacological principles of nutrition, over-the-counter agents, toxicology, drugs of abuse, prescription writing, and evaluation of drug literature will also be gone over. **Prerequisite for PAJ 5507 (54-0-4)**

### **PAJ 5500—Clinical Medicine and Surgery I**

This course will encompass the etiology, clinical manifestations, appropriate diagnostic evaluation, and management of selected disease entities. **(112-0-8)**

### **PAJ 5504—Legal and Ethical Issues in Health Care**

This course introduces the role that ethics and the law play in the practice of health care. Principles and concepts in determining correct actions both legally and ethically are reviewed. Topics include solving an ethical dilemma, ethical implications involved in genetic engineering, the impaired clinician, conflicts between providers, conflicts between clinician and patient, euthanasia, risk management, confidentiality, informed consent, patients' directives, documentation, and domestic violence. **(27-0-2)**

### **PAJ 5506—Cultural Issues in Health Care**

This course offers an introduction to the skills and insights necessary in promoting health and dealing with illness in diverse populations. Issues discussed include the need for effective communication—with an understanding of societal and cultural factors and how they impact on health care efforts—and use of the health care system. **(14-0-1)**

### **PAJ 5507—Clinical Pharmacology**

At the completion of this course, students will be able to appropriately prescribe medications in various clinical settings. Preparation for appropriate prescribing and administration of medicines is accomplished by studying drug classifications, pharmacodynamic actions, and the rationale for therapeutic use of prescription and nonprescription medications. In addition, students will be able to describe the potential advantages and disadvantages of specific therapeutic regimens, universal indications and

contraindications for usage, dosing schedules, and the relative cost of commonly prescribed medications. Students will administer a variety of medications using patient simulators and will observe the clinical response. Common errors involving prescription writing will be discussed and practical exercises will require students to accurately write prescriptions and treatment orders. (40-0-3)

#### **PAJ 5508—Complementary Medicine and Nutrition**

This course is a survey of human nutrition in health care and the principles for maintaining good health through nutrition. It addresses health hazards associated with dietary deficiencies, obesity, fad dieting, food contamination, diet management of selected diseases, and functional roles of vitamins and minerals. Additionally, this course will address introductory concepts, procedures, education, and licensing in alternative and complementary medicine. (28-0-2)

#### **PAJ 5510—Clinical Medicine and Surgery II**

This course is a continuation of Clinical Medicine and Surgery I. Common disease entities of major organ systems and primary care aspects of disease evaluation and treatment are discussed. (112-0-8)

#### **PAJ 5512—Epidemiology/Interpretation and Evaluation of Medical Literature**

This course is designed to introduce the student to the process of interpretation and evaluation of the medical literature. The components of published medical papers and physician assistant-authored research papers are evaluated in this course. (38-0-3)

#### **PAJ 5520—Clinical Medicine and Surgery III**

This course is a continuation of Clinical Medicine and Surgery II. It will include disease entities of major organ systems. Lectures in primary care aspects of disease evaluation and treatment will be given. (112-0-8)

#### **PAJ 5540—Clinical Behavioral Medicine**

Common psychosocial problems and disorders encountered by health care professionals are discussed. The course material emphasizes the diagnosis and understanding of the development of these behaviors, including the patient-clinician relationship, varieties of psychotherapy, communication skills, and appropriate intervention and treatment regimens. (42-0-3)

#### **PAJ 5560—Life Support Procedures and Skills**

Introduction to the principles of advanced life support used in medical and surgical emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the student in developing the skills required to stabilize

patients with life-threatening conditions. Includes certification in basic (BLS) and Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). (24-20-2)

#### **PAJ 5570—Clinical Procedures and Surgical Skills**

Lectures and laboratory practicum introducing the clinical procedures and surgical skills used in the clinical setting: aseptic technique, operating room protocol, injections, knot tying, and suturing techniques, venipuncture, arterial puncture, intravenous catheterization, nasogastric intubation, and urinary catheterization. (48-30-4)

#### **PAJ 5600—Clinical Laboratory Medicine I**

Clinical laboratory utilization; rationale for selecting common diagnostic tests; interpretation of results; correlation between results and disease processes; and tests not available in the primary care setting that are necessary for diagnosis, treatment, and patient care are discussed. (16-0-1)

#### **PAJ 5610—Clinical Laboratory Medicine II**

This course is a continuation of Clinical Laboratory Medicine I. Students will learn how to appropriately order and accurately interpret laboratory tests. These skills will help them diagnose common diseases related to major organ systems. (28-0-2)

#### **PAJ 6310—Emergency Medicine**

Required six-week rotation in hospital emergency department teaches students to recognize, assess, and treat acute and life-threatening clinical problems. Emphasizes common primary-care emergencies. (240-0-6)

#### **PAJ 6320—Family Practice**

Required six-week rotation in outpatient settings. The rotation focuses on comprehensive primary care of the individual patient within the family unit. Emphasizes the primary-care needs of the patients in rural and inner-city communities. (6-240-6)

#### **PAJ 6330—Internal Medicine**

Required six-week rotation in outpatient and/or inpatient settings. The rotation focuses on the diagnosis, treatment, and management of acute and chronic medical problems seen in the internal medicine practice. The emphasis is on the adult nonsurgical patient. (6-240-6)

#### **PAJ 6340—Pediatrics**

Required six-week rotation in outpatient/inpatient settings. The rotation focuses on the normal and abnormal growth and development, disease prevention, and health care of the child from neonate through adolescence. It emphasizes the primary care of the pediatric patient. (6-240-6)

### **PAJ 6350—Prenatal Care and Gynecology**

Required six-week rotation in outpatient and/or inpatient settings that teaches prenatal care and treatment and gynecological diagnosis and management. It emphasizes the primary care of the female patient and includes obstetrics. (6-240-6)

### **PAJ 6360—General Surgery**

Required six-week rotation in outpatient and/or inpatient settings. The students will learn to diagnose, treat, and manage the surgical patient. It emphasizes the surgical conditions commonly encountered in the primary-care setting. (6-240-6)

### **PAJ 6375—Behavioral Medicine**

This required, six-week rotation in outpatient and/or inpatient settings focuses on behavioral and mental health. Students learn to recognize, manage, and treat behavioral and/or mental disorders including addictions, personality disorders, mood disorders, and psychotic disorders in the primary care setting. (6-240-6)

### **PAJ 6380—Clinical Elective II**

Six-week elective, full-time clinical rotation that provides an opportunity to investigate a medical or surgical subspecialty area or gain more experience in primary care. Each elective may be taken sequentially or separately, but not at the same clinical site. (6-240-6)

### **PAJ 6390—Clinical Elective III**

This four-week elective rotation will be completed at the end of the clinical year. Elective rotations provide an opportunity to investigate a medical or surgical subspecialty area or gain more experience in a required discipline. (4-160-4)

### **PAJ 6600—Graduate Project**

With the guidance of a faculty adviser, students will use the skills acquired in Epidemiology and Interpretation of the Medical Literature to create a graduate project. The project features topics in clinical or administrative medicine and consists of a comprehensive literature review and evaluation and completion of a publishable review paper. The project allows the student to demonstrate his or her ability to research and compile information and to present that information in a clear, written form. (0-45-3)

## **Sources of Additional Information**

Disclaimer: Links to non-NSU Internet sites are provided for your convenience and do not constitute an endorsement.

- For information on a career as a physician assistant, contact

American Academy of Physician Assistants  
2318 Mills Road, Suite 1300  
Alexandria, Virginia 22314  
[aapa.org](http://aapa.org)

- For a list of accredited programs and a catalog of individual physician assistant training programs, contact

Physician Assistant Education Association  
300 North Washington Street  
Suite 710  
Alexandria, Virginia 22314-2544  
(703) 548-5538  
[paeaonline.org](http://paeaonline.org)

- For eligibility requirements and a description of the Physician Assistant National Certifying Examination, contact

National Commission on Certification of  
Physician Assistants, Inc.  
1200 Findley Road, Suite 100  
Johns Creek, Georgia 30097  
(678) 417-8100  
[nccpa.net](http://nccpa.net)

- For information on employment, employment projections, and compensation statistics, contact

U.S. Bureau of Labor Statistics  
Postal Square Building  
2 Massachusetts Avenue, NE  
Washington, D.C. 20212-0001  
[bls.gov](http://bls.gov)

## Department of Speech-Language Pathology

### Master of Science in Speech-Language Pathology

The Master of Science in Speech-Language Pathology (M.S.) Program focuses on training speech-language pathologists to provide a full range of services to communicatively disordered clients in a variety of settings. The program provides scientifically based academic and clinical curricula to foster critical thinking and application of best practices. Course content is research based and prepares the student to meet the requirements for the Certificate of Clinical Competence awarded by the American Speech-Language-Hearing Association (ASHA).

#### Accreditation

This program is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of ASHA.

#### Admissions Requirements

Prior to matriculation, applicants must have received a minimum of a baccalaureate degree from a regionally accredited college or university and a minimum cumulative GPA of 3.2 on a 4.0 grading scale.

All qualifying applicants will have an application interview. Once admitted, all students must successfully complete a mandatory orientation on the Fort Lauderdale/Davie Campus.

Prior to matriculation, applicants must also have successfully completed (meaning, earned grades equivalent to 3.0 or better) all of the following Communication Sciences and Disorders prerequisite courses:

- An introductory course in the field of communication sciences and disorders (3 credits)
- Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)
- Phonetics (3 credits)
- Neuroanatomy and Physiology (3 credits)
- Speech and Language Development (3 credits)
- Audiology and Aural Rehabilitation (3 credits)

#### International Students

International students living in the United States must present verification of student visa or residency status. Due to the limited availability of ASHA-certified supervisors in other countries, students who live outside of the United

States will **not** be eligible for admission to the M.S. program. Furthermore, students accepted to the program may not relocate outside of the United States before the completion of the degree.

#### Application Procedures

All prospective students must complete an online application through the Communication Sciences and Disorders Application Services (CSDCAS) (<https://csdcas.liaisoncas.com>) and submit a completed application with a \$50, nonrefundable fee (required for each application submitted to Nova Southeastern University).

Admissions decisions are based on degrees earned at regionally accredited institutions or an officially approved equivalent, such as an evaluation by one of the National Association of Credential Evaluation Services (NACES) approved agencies. The evaluation must include a course-by-course analysis and list all course subjects with United States semester credits and a GPA on a 4.0 scale.

Applicants may be provisionally admitted based on a preliminary review of unofficial transcripts and/or program-specific admissions requirements. This admission, however, includes a condition that final and official transcripts, documents, and all other requirements for full admission must be received within 90 calendar days from the official start date of the term. If these final and official transcripts, documents, and/or requirements are not received by that time, the student will not be allowed to continue to attend class. Registration will be prohibited and other services may be suspended.

#### Tuition and Fees

Master of Speech-Language Pathology tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website ([healthsciences.nova.edu/slp/master-speech-language-pathology.html](http://healthsciences.nova.edu/slp/master-speech-language-pathology.html)). An NSU student services fee of \$450 is required per semester, not to exceed \$1,350 annually.

#### Requirements for Graduation

To be eligible for graduation, all students must

- successfully complete (with grades of B- or better) all required courses
- successfully complete the required clinical experiences totaling a minimum of 400 accrued hours, including 25 hours of clinical observation



- successfully complete the required capstone course
- successfully complete the required portfolio
- maintain a cumulative grade point average (CGPA) of 3.0 or higher
- successfully demonstrate the 2014 Standards and Implementation Procedures for the Certificate of Clinical Competence in Speech-Language Pathology (Standard IV: Knowledge Outcomes), required by ASHA
- complete the Praxis II Exam adopted by ASHA for the purposes of certification in speech-language pathology
- complete the application for degree and satisfy all Dr. Pallavi Patel College of Health Care Sciences and Nova Southeastern University financial obligations

### Background Checks

Level I and Level II background checks are required for clinical practicum and externship placements. Some citations contained in the background checks may prevent a student from being assigned or may result in a student being denied placement at clinical sites. A student who cannot be placed at required clinical sites due to information of concern on his or her background check may not be able to complete the program.

### Computer Requirements

Throughout the program, students will be required to conduct online library research, communicate via NSU email, and use word-processing programs for writing papers and clinical reports. Students are required to own a computer and obtain an Internet service provider (ISP) account.

## Master of Science in Speech-Language Pathology Curriculum Outline

Core Courses (42 credits)			Credits
SLP	6000	Diagnosis of Language and Speech Disorders	3
SLP	6011	Language and Learning Disabilities in School-Age Children and Adolescents	3
SLP	6012	Communication Disorders in Infancy Through Preschool	3
SLP	6015	Clinical Processes	3
SLP	6020	Language Disorders in Adults	3
SLP	6025	Augmentative and Alternative Communication	3
SLP	6030	Voice Disorders	3
SLP	6040	Fluency Disorders	2
SLP	6052	Motor Speech Disorders in Adults	2
SLP	6053	Pediatric Feeding and Motor Speech Disorders	2
SLP	6055	Dysphagia	3
SLP	6060	Articulation and Phonological Disorders	3
SLP	6070	Research Methods	3
SLP	6075	Seminar in Professional Issues in Speech-Language Pathology	3
SLP	6091	Multicultural and Counseling Issues	3
SLP	6200	Capstone	0

Electives (6 credits)			Credits
SLP	6013	Autism Assessment: A Communication-Based Perspective	3
SLP	6014	Autism Spectrum Disorders	3
SLP	6021	Cognitive Communication Disorders	3
SLP	6037	Craniofacial Anomalies	3
SLP	6045	Augmentative and Alternative Communication in Educational Settings	3
SLP	6057	Medical Aspects of Communication Disorders	3
SLP	6080	Directed Research	1–6
SLP	6201/ 6202	Special Topics	1–3
SLP	6203	Organization and Management of School-Based Speech-Language Pathology Programs	3

Clinical Practicums, Labs, and Externships (5 credits)			Credits
SLP	6005	Diagnostics II Practicum	1
SLP	6101	Clinic Lab I Practicum	1
SLP	6102	Clinic Lab II Practicum	1
SLP	6110	Externship: Adult	1

(And one of the following pediatric externships)

SLP	6120	Externship: School	1
SLP	6130	Externship: Pediatric Non-School	1

Total Credits for Degree Completion: 53

## Master of Science in Speech-Language Pathology Course Descriptions

### Core Courses

#### SLP 6000—Diagnosis of Language and Speech Disorders

The course will provide procedures and techniques to assess speech and language status. The overall aim of the course is to build on the student's understanding of the assessment process in communication disorders. Students are to develop the ability to interpret assessment information and to formulate appropriate diagnosis of the patients/clients we serve. A noncredit lab is included. (3 credits)

#### SLP 6011—Language and Learning Disorders in School-Age Children and Adolescents

This course addresses the etiology, diagnosis, and treatment of language-learning delay/disorders, including developmental and acquired disorders, affecting school-age children through adolescence. Emphasis will be placed on a communication process model of evaluation and intervention with the implication of this integrated approach to facilitate reading, writing, speaking, listening, and thinking. The importance of the functional interrelationships among linguistic, cognitive, and affective functions and the social contexts within which they occur

will be stressed. A variety of assessment and treatment procedures for use with this diverse clinical population will be discussed. Presentation of the paradigm shift from a traditional deficit model to an emergent literacy model with collaborative strategies to design and conduct curriculum-based assessment and interventions will be covered. **Prerequisite:** SLP 6012 (3 credits)

#### **SLP 6012—Communication Disorders: Infancy Through Preschool**

This course covers identification, assessment, and intervention principles and procedures for young children who display or are at-risk for socio-communicative linguistic deficits. Emphasis is placed on family-centered, early-intervention, service delivery and the integrated intervention model for facilitation of communication and language skills. There will also be discussion of collaborative strategies and multidisciplinary teaming models for facilitating effective parent-professional partnerships. (3 credits)

#### **SLP 6015—Clinical Processes**

This course will provide a base of knowledge and fundamental skills needed for beginning supervised clinical practice. It will review the basic aspects of delivery of treatment services for communication disorders, including communication skills, interpersonal skills, behavioral management skills, intervention strategies and processes, data management, and clinical writing skills. Emphasis will be placed on basic clinical intervention processes common to a variety of disorder areas. **Prerequisites:** SLP 6011, SLP 6020, and SLP 6060 (3 credits)

#### **SLP 6020—Language Disorders in Adults**

This course provides a knowledge base for evaluation and treatment of disorders of language in adults, including aphasia, closed-head injury, right hemisphere damage, and dementia. **Prerequisite:** SLP 6070 (3 credits)

#### **SLP 6025—Augmentative and Alternative Communication**

This course will review the basic aspects of the field of augmentative communication, including aided and unaided symbols, strategies, and techniques. An overview of augmentative communication assessment and intervention principles and procedures will be presented. This course will address the needs of individuals with little or no functional speech across the life span, including etiologies such as severe aphasia, autism, cerebral palsy, dual sensory impairment, intellectual disability, progressive neurological diseases, and traumatic brain injury. **Prerequisite:** SLP 6012 and SLP 6020 (3 credits)

#### **SLP 6030—Voice Disorders**

This course reviews etiology and pathophysiology; case history; perceptual, acoustic, endoscopic, and aerodynamic diagnostic procedures; intervention approaches; and

therapy techniques for individuals with functional, neurogenic, psychogenic and organic voice disorders and resonance disorders. **Prerequisite:** SLP 6070 (3 credits)

#### **SLP 6040—Fluency Disorders**

Etiology, diagnosis, and management of children and adults with disorders of fluency (e.g., developmental stuttering, neurologically based stuttering, cluttering, and other nonfluent speech conditions) will be studied. (2 credits)

#### **SLP 6052—Motor Speech Disorders in Adults**

This course provides education and training in the assessment and management of motor speech disorders in adults. It has discussion of the nature, etiology, diagnosis, and management of motor speech disorders with emphasis on differential diagnosis and treatment. **Prerequisites:** SLP 6060 and SLP 6070; cannot take consecutively with SLP 6053 (2 credits)

#### **SLP 6053—Pediatric Feeding and Motor Speech Disorders**

This course provides education and training in the assessment and management of feeding and motor speech disorders from infancy to adolescence. This course includes discussion of the nature, etiology, differential diagnosis, and management using evidence-based practices of feeding and motor speech disorders in a variety of clinical environments. **Prerequisites:** SLP 6060 and SLP 6070; cannot take consecutively with SLP 6052 (2 credits)

#### **SLP 6055—Dysphagia**

This course provides information about normal anatomy and physiology of the swallow. Using an evidence-based model, information about the evaluation and treatment of swallowing disorders is provided. Common etiologies for dysphagia (e.g., neurogenic and head and neck cancer) are addressed for the adult population. An overview of pediatric dysphagia is provided. Current issues and controversial topics are discussed in a framework of questions students should consider. Examples of ethical questions in the management of dysphagia are presented. Students are afforded the opportunity to view fiberoptic endoscopic evaluation of swallowing (FEES). Video views of normal and abnormal swallows through video fluoroscopic evaluation are provided through a noncredit required lab. **Prerequisites:** SLP 6052 and SLP 6053 (3 credits)

#### **SLP 6060—Articulation and Phonological Disorders**

This course provides a knowledge base for normal and disordered speech sound development. Theories of assessment and intervention are discussed and application, analysis, and comparison is stressed for all theories and approaches presented. A variety of procedures for identification and remediation of articulatory and phonologic disorders are presented. Traditional therapeutic

techniques and current diagnostic and intervention strategies are highlighted. (3 credits)

#### **SLP 6070—Research Methods**

This course provides exposure to critical analysis of the field's literature with respect to research design and statistical application. (3 credits)

#### **SLP 6075—Seminar in Professional Issues in Speech-Language Pathology**

The purpose of this course is to increase students' awareness and understanding of current professional issues pertaining to such matters as standards of ethics, scope of practice, legislative mandates affecting the professions, professional service delivery systems, health care reimbursement issues, state licensure, national certification, state teacher certification requirements, state-accomplished practices for educators, state education standards, job opportunities and interview strategies, participation in professional organizations, professional advocacy, and HIV/AIDS awareness. **Prerequisite:** SLP 6101 (3 credits)

#### **SLP 6091—Multicultural and Counseling Issues**

This course will provide a forum for discussion regarding issues in the provision of services to multicultural populations. Counseling approaches for use with clients and/or families affected by communication problems will be explored through effective interpretation, information dissemination, and discussion. **Prerequisite:** SLP 6015 (3 credits)

#### **SLP 6200—Capstone**

Capstone is an online course designed to assist students in reviewing major content areas in the field of speech-language pathology in preparation for the national examination adopted by the American Speech-Language-Hearing Association (ASHA) for purposes of certification in speech-language pathology. It addresses approximately 18 major topic areas covering normal and disordered processes, professional issues, research methodologies and other content important to the profession. Students progress through the course at their own pace, reviewing online course materials, participating in discussion boards, and contributing to synchronous chats. **Students must take this class with their first externship experience.** (0 credit)

### **Clinic Courses**

#### **SLP 6005—Diagnostics II Practicum**

Emphasis in this course is on analysis and interpretation of data and the impact on differential diagnosis. Lab class meetings are required. **Prerequisite:** SLP 6000 (1 credit)

#### **SLP 6101—Clinical Lab I Practicum**

This course has dual components. Students will provide treatment to assigned patients as well as attend weekly class meetings. Participation in a practicum involving

direct patient contact will occur with supervised clinical practice performed in the treatment of speech, language, and hearing disorders. Development and application of appropriate treatment plans, collaborative supervisory meetings, self-analysis skills, research, and completion of written documentation is expected. Discussions on professional topics such as prevention, portfolio development, child/elder abuse and neglect, and case studies will be covered. **Prerequisite:** SLP 6015 (1 credit)

#### **SLP 6102—Clinic II Practicum**

In this practicum experience, students will move along the supervisory continuum working toward increased independence. Self-analysis of clinical skills and enhancement of acquired skills will be emphasized. Lab class meetings are required. **Prerequisite:** SLP 6101 (1 credit)

#### **SLP 6110—Externship: Adult**

The adult externship requires a full-time placement (based on a minimum of 32 hours/week for an entire semester) in an adult facility. The student will participate in all activities associated with an SLP position, including assessment and treatment of adults. Students will be supervised by an SLP who is ASHA certified and state licensed. **Prerequisites:** SLP 6005 and SLP 6102 (1 credit)

### **(All students choose ONE from the following pediatric externships.)**

#### **SLP 6120—Externship: School**

The school externship requires a full-time placement (based on a minimum of 32 hours/week for an entire semester) in a school setting. Students will participate in all activities associated with a school-based SLP position, including assessment and treatment of students in a pre-K–grade 12 school setting. Students will be supervised by an ASHA-certified, state-licensed, school-based SLP. **Prerequisites:** SLP 6005 and SLP 6102 (1 credit)

#### **SLP 6130—Externship: Pediatric Non-School**

The pediatric externship requires a full-time placement (based on a minimum of 32 hours/week for an entire semester) in a pediatric facility. The student will participate in all activities associated with an SLP position, including assessment and treatment of children. Students will be supervised by an SLP who is ASHA certified and state licensed. **Prerequisites:** SLP 6005 and SLP 6102 (1 credit)

### **Electives**

**(All students choose TWO of the following.)**

#### **SLP 6013—Autism Assessment: A Communication-Based Perspective**

This course will provide information about critical issues in assessing communication and language in children and adults with autism spectrum disorders (ASD). This course will focus on implementing effective evidence-

based assessment strategies in order to develop appropriate communication goals and strategies for individuals with ASD. Lectures, case reports, videotaped demonstrations, and hands-on learning activities will be completed. **Prerequisites:** SLP 6000 and SLP 6011 (3 credits)

#### **SLP 6014—Autism Spectrum Disorders**

This course will provide information and discussions about critical issues in teaching communication and language to children and adults with autism spectrum disorders (ASD). It will focus on implementing effective assessment and intervention strategies as well as developing appropriate communication programs for individuals with ASD. Lectures, case reports, videotaped demonstrations, and hands-on learning activities will be completed. **Prerequisites:** SLP 6011, SLP 6025, and SLP 6070 (3 credits)

#### **SLP 6021—Cognitive Communication Disorders**

This course provides a knowledge base for adult and pediatric, acquired and developmental, cognitive communication disorders. Topics include attention, memory, reasoning/problem solving, executive function, learning, processing, and language. The diagnosis and treatment of these deficits in patients at many levels of recovery will be discussed. **Prerequisites:** SLP 6011 and SLP 6020 (3 credits)

#### **SLP 6037—Craniofacial Anomalies**

This course provides a study of etiology, assessment, and remediation of communicative impairments in children and adults with craniofacial anomalies. Specific emphasis will be placed on articulatory and resonance disorders resulting from cleft lip and palate and velopharyngeal insufficiency. **Prerequisite:** SLP 6030 (3 credits)

#### **SLP 6045—Augmentative and Alternative Communication in Educational Settings**

This course focuses on the implementation of augmentative and alternative communication (AAC) in educational settings. Learners will gain an understanding of the legal foundations of providing AAC devices and services in school settings. The course addresses strategies for AAC services that can be used to provide access to the general education curriculum for students with significant communication challenges. Language assessment and intervention strategies for AAC communicators are discussed. Issues and strategies to teach reading and writing skills are presented along with strategies for facilitating the development of social skills and friendships. **Prerequisite:** SLP 6025 (3 credits)

#### **SLP 6057—Medical Aspects of Communication Disorders**

The emphasis of this course will be to enhance the student's understanding of the relationships between speech-language pathologists, medical disciplines, and allied health disciplines. Understanding medical terminology, governing bodies of health care organizations, medical ethical dilemmas, and report writing for the medical model of treatment will be significant focuses of this course. **Prerequisite:** SLP 6015 (3 credits)

#### **SLP 6080—Directed Research**

This course provides students with an opportunity to develop clinically relevant research skills and gain hands-on experiences with research practices. Students work collaboratively with selected faculty members to plan and conduct their research projects. The scope and depth of the project varies according to the number of credits for which the course is taken. Students must secure faculty permission in advance of registering for this course. **Prerequisite:** SLP 6070 (1–6 credits)

#### **SLP 6201 and SLP 6202—Special Topics**

These courses offer advanced study of selected theoretical, clinical, or professional issues in speech pathology and audiology. (Elective—may be taken for credit, CEU, or recertification.) (1–3 credits)

#### **SLP 6203—Organization and Management of School-Based Speech-Language Pathology Programs**

This course will address the challenges facing school-based speech-language pathologists. Topics will include legislative mandates, current issues in education and the impact of these issues on the traditional roles of school-based speech-language pathologists, organization and management of school speech-language pathology programs, active participation on the educational team, service delivery models for diverse populations, use of technology in schools, treatment outcomes and accountability measures, marking services in the schools and the community, and creative program ideas. **Prerequisites:** SLP 6000, SLP 6011, and SLP 6060 (3 credits)

## Doctor of Speech-Language Pathology (SLP.D.) Program

The Department of Speech-Language Pathology offers the Doctor of Speech-Language Pathology (SLP.D.) degree program. The post-master's SLP.D. degree program is a rigorous and scientifically based, 53-credit, academic curriculum that is designed to enhance the continued academic education of speech-language pathologists pursuing an advanced doctoral degree.

Within the curriculum, the faculty incorporates current research, ethical decision-making, and models of best practice to foster knowledge, leadership, problem-solving skills, and research. Doctoral students are encouraged to analyze, synthesize, and apply research-based theory to their current work environment and through the development of the applied dissertation.

The program fulfills a commitment to the field of speech-language pathology by providing practicing clinicians with a variety of forums to expand their breadth of knowledge and clinical skills. It does this by allowing a flexible schedule for obtaining doctoral education and providing an environment that nurtures the development of current practitioners and future leaders.

### Program Outcomes

The SLP.D. graduate will be able to do the following:

1. Demonstrate knowledge learned in the program by applying it to real settings.
2. Conduct an independent research investigation that contributes to the general body of knowledge in a specific field or profession.
3. Solve diverse problems using information and skills acquired in the program to create solutions.
4. Make informed decisions based on ethical and legal principles.
5. Formulate scholarly arguments supported by academic resources.
6. Engage in lifelong learning and self-assessment.

### Admissions Requirements

Prospective students are selected by the Committee on Admissions, which considers the overall qualities of applicants and their suitability for this course of study. Areas of consideration include application content, academic record, ASHA certification and state licensure, letters of recommendation, and a personal interview. A personal interview is required with two members of the Committee on Admissions.

The Department of Speech-Language Pathology has the following requirements for applicants.

- Prior to matriculation, applicants must have completed a master's degree in Speech-Language Pathology from a regionally accredited college or university and a CAA accredited program.

- Applicants must obtain a cumulative master's degree GPA at or above a 3.2 on a 4.0 scale to be eligible for admission.

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the Dr. Pallavi Patel College of Health Care Sciences. The college reserves the right, and the student, by his or her act of matriculation, concedes to the college the right to require his or her withdrawal any time the college deems it necessary to safeguard its standards of scholarship, conduct, and compliance with regulations or for such other reasons as are deemed appropriate. The dean and the chair of the speech-language pathology department reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

### Application Procedures

All applicants must submit or be responsible for the submission of

1. a completed admission application packet, including a \$50, nonrefundable application fee made payable to Nova Southeastern University
2. official transcripts sent directly from all previously attended undergraduate, professional, and graduate institutions to  
  
Nova Southeastern University  
Enrollment Processing Services  
Dr. Pallavi Patel College of Health Care Sciences  
Doctor of Speech-Language Pathology (SLP.D.) Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-2282
3. an evaluation for U.S. institutional equivalence for all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)
4. Coursework taken at foreign institutions must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)

Josef Silny & Associates  
7101 SW 102 Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)

Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • *ece.org*

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to NSU's Enrollment Processing Services.

5. a complete résumé or CV
6. two professional letters of recommendation by two different individuals who can attest to the applicant's ability to succeed in a doctoral program
7. valid documentation of the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP) and a copy of his or her current state SLP licensure
8. written responses to questions/essays provided in the application
9. a test score report showing that the applicant received a scaled score 391–396 on the Miller Analogies Test (MAT) or GRE scores of 300 (combined Verbal and Quantitative scales only)

The test must have been taken within the past five years.

10. All applicants must have a personal interview and must show evidence of computer skills through coursework or self-study prior to the end of the first term. Students may obtain instruction through the NSU Student Microcomputer Laboratory or other training facilities.

### **Tuition and Fees**

Doctor of Speech-Language Pathology tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (*healthsciences.nova.edu/slp/doctor-speech-language-pathology.html*). An NSU student services fee of \$1,350 is required annually.

### **Additional Program Expenses**

Doctoral candidates will be responsible for the purchase of textbooks and for the cost of travel to classes during the summer residency, as well as for other needs typically associated with advanced study. Material fees may be charged as necessary. If a student relocates, it is the student's financial responsibility to reestablish Integrated Service Digital Network (ISDN) lines.

### **Computer Requirements**

In order to access the university's computing resources, all Nova Southeastern University students must provide their own Internet access service through a suitable Internet service provider (ISP). Tablets and smartphones, while very useful, may not be sufficient for all program uses. Additional minimum computer requirements can be found at <https://www.nova.edu/portal/oit/policies/secure/forms/equipment-standards.pdf>. It is highly recommended that students have access to a desktop or laptop consistent with the following:

- a recent generation of operating systems of Windows: Windows 7, SP1, or higher or Macintosh: Mac OS X 10.6 or MAC OS X 10.7
- Microsoft Office 2013 or more recent version of the Microsoft Office software to include Word, PowerPoint, and Excel
- Internet broadband access
- a browser, such as Internet Explorer 11.0 or a more recent version, Firefox 44 or a more recent version, or Chrome 48 or a more recent version
- headphones, a microphone, a camera, and videoconferencing capabilities

### **Requirements for Graduation**

To complete the Doctorate in Speech-Language Pathology program a student must

- attend the mandatory summer residency
- complete all required coursework
- attain an overall 3.0 GPA
- complete an applied dissertation
- submit a degree application form and payment of diploma fee
- fulfill all financial obligations to the university

**All students must submit a degree application to [nova.edu/registrar/instructions](https://www.nova.edu/registrar/instructions).**

## Doctor of Speech-Language Pathology (SLP.D.) Curriculum Outline (53 credits minimum)

Core Courses (26 credits)			Credits
SLPD	7000	Technology and Instrumentation in Communication Sciences	1
SLPD	7030	Gerontology	2
SLPD	7040	Supervision	3
SLPD	7060	Genetics	2
SLPD	7070	Pharmacology	2
SLPD	7075	Counseling	2
SLPD	7080	Business Management and Leadership	2
SLPD	7200	Neuroscience/Neuropsychology and Communication Sciences	3
SLPD	7210	Advanced Seminar in Pediatric Development	3
SLPD	7220	Advanced Seminar in Voice and Swallowing	3
SLPD	7250	Advanced Seminar in Augmentative and Alternative Communication (AAC)	3

Research Courses (12 credits)			Credits
HPH	7300	Biostatistics I	3
HPH	7400	Research Design	3
HPH	7410	Qualitative Research Design	3

*Choose one of the following*

HPH	7310*	Biostatistics II	3
HPH	7700	Test and Measurements	3
HSP	9002	Survey Methodology	3

\*Replaces ARC 8913 Research Elective.



### Applied Dissertation (12 credits)

The applied dissertation is a detailed, accurate, and cohesive account of a scholarly investigation designed to answer a research question directed toward the improvement of practice in the field of speech-language pathology. Research is distinguished by a theory-to-practice model encompassing a diversity of disciplines. Each student is assigned a faculty committee to facilitate and supervise the process.

There are three benchmarks in the completion of the applied dissertation: (1) the concept paper, (2) the dissertation proposal and Institutional Review Board (IRB) approval, and (3) the final report.

			Credits
SLPD	8966	Applied Dissertation I—Concept Paper	2
SLPD	8967	Applied Dissertation II—Proposal	5
ARC	8968	Applied Dissertation III—Dissertation Final Report	5

### Continuing Dissertation Services

If the program is not completed within 24 months, continuing dissertation services will begin on the 25th month. Students must enroll in ADS 8090 each semester between the 25th and 36th months of their program. In addition, students must enroll themselves in ADS 8091 each semester beginning the 37th month of their program in order to receive dissertation services from their committee chair and committee member until the completion of their applied dissertation.

			Credits
SLPD	8090	Applied Dissertation Services I	1
SLPD	8091	Applied Dissertation Services II	1

## Doctor of Speech-Language Pathology (SLP.D.) Course Descriptions

### Year One

#### Fall Semester (5 credit hours)

##### SLPD 7000—Technology and Instrumentation in Communication Sciences

This course provides candidates with the SLP.D. program's orientation. This orientation includes an overview of the distinct areas related to doctoral studies: applied research, distance library, student services, and technology. In addition, this course presents advanced applications in the use of computer hardware and software in communication sciences and disorders. Doctoral candidates will receive hands-on experience in the use, application, and configuration of software for distance-learning technologies for management of clients and for business issues. (1 credit)

##### SLPD 7030—Gerontology

This course will provide students with an overview of gerontology. The older adult population often present with complex, interacting issues. Thus, a holistic approach to

patient care will be considered, encompassing biological, social, psychological, and cultural aspects related to aging. Analysis of day-to-day functioning of the aging patient will be covered. An emphasis will be placed on differentiation between normal aging processes and pathological changes related to speech pathology and communication disorders. Learning will take place via class lectures and discussions, experimental exercises, written case studies, student presentations, and panel discussions. Discussion of ethical issues related to aging will augment the learning process. (2 credits)

##### SLPD 7075—Counseling

The emphasis of this course is on counseling approaches for use with clients with communication disorders and/or their families. Doctoral candidates will explore theories of counseling with an emphasis on management of individuals with communication disorders and their families. Doctoral candidates will experiment with different approaches to interacting with clients and their families individually and

in groups. The cultural impact on the counseling process will be addressed. Doctoral candidates will participate in role-play situations for use with clients demonstrating a variety of audiologic and/or speech-language problems. (2 credits)

### **Winter Semester (5 credit hours)**

#### **SLPD 7080—Business Management and Leadership**

Doctoral candidates will learn business management principles as they relate to the conduct of speech-language or related professional practice in a variety of settings. Legal and ethical issues in practice management will be covered. Doctoral candidates preparing for personal and professional development will assess the skills and behaviors of the leader of change agent in terms of their own potential for growth and future leadership positions. (2 credits)

#### **SLPD 7220—Advanced Seminar in Voice and Swallowing**

This course is a doctoral-level course exploring best practices in voice and swallowing disorders. It is not designed to develop voice and swallowing clinicians, nor is it designed to impart the full breadth of information available in the areas of voice and swallowing disorders. Rather, this course is designed to enhance the students' comprehension of the specialty areas of voice and swallowing disorders that were taught to them at the master's degree level, expand their knowledge base of best practices in voice and swallowing disorders, and develop a working sense of the scope of practice in voice and swallowing. (3 credits)

### **Summer Semester (8 credit hours)**

#### **HPH 7400—Research Design**

This course will provide students with a simple understanding of basic methods and approaches used in health care research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretation of research findings. It will prepare students to critically evaluate published literature, and to design sound research studies. The course will be both theoretical and applied. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design a study to address a health-related issue of their choice. (3 credits)

#### **HPH 7410—Qualitative Research Design**

This course will focus primarily on the knowledge and skill competencies needed to conduct qualitative research successfully. In this pursuit, students will immerse themselves in the epistemological, theoretical, ethical, methodological, and procedural understanding of qualitative research. They will apply this knowledge to

the conceptualization and conduct of qualitative research, report the findings of the research in the form of a research article, and appraise the quality of such qualitative research products. Upon completion of the course, students will demonstrate that they have mastered the competencies needed to create, plan, and complete a qualitative research dissertation. (3 credits)

#### **SLPD 8966—Applied Dissertation I—Concept Paper**

The content of Applied Dissertation Service I—Concept Paper focuses on developing a preliminary literature review and formulating research questions. The committee chair and committee member roles are discussed. This service will culminate in the completion of the first corresponding benchmark: the concept paper. Credit for this seminar will be assigned following approval of the concept paper. (2 credits)

### **Year Two**

### **Fall Semester (8 credit hours)**

#### **SLPD 7060—Genetics**

This course will provide students with an overview of genetics. Doctoral candidates will be exposed to a general overview of genetics and investigate the spectrum of genetic syndromes common to clients with communication disorders. Doctoral candidates will study the embryologic development with an emphasis on normal and abnormal or interrupted development at various stages and outcomes. (2 credits)

#### **SLPD 7200—Neuroscience/Neuropsychology and Communication Sciences**

Neurological foundations of speech-language and cognitive disorders will be presented. The emphasis will be a study of neuropathological conditions and the speech-language disorders that result from these conditions. (3 credits)

#### **HPH 7300—Biostatistics I**

The application of quantitative techniques has expanded rapidly in medical decision-making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with knowledge of quantitative techniques. The course will cover descriptive statistics; parametric, group-comparison statistics; and basic, nonparametric statistics. It will also provide an introduction to linear modeling. (3 credits)

### **Winter Semester (7 credit hours)**

#### **SLPD 7070—Pharmacology**

The goal of this course is to introduce the doctoral candidates to the advanced science and clinical pharmacology that impacts the practice of speech-language

pathology. The clinical use and understanding of the pharmacodynamics, pharmacokinetics, and the potential positive and negative outcomes of medications will be emphasized. Lectures, videos, and hands-on learning activities will be explored during the course. Doctoral candidates will learn the general principles of drug action, particularly as related to communicative function. The classes of drugs used in clinical practice will be examined with emphasis on activity, mode of action, side effects, toxicity, and drug interactions. Case studies in the fields of speech-language pathology and audiology will be presented. (2 credits)

### **Research Elective**

Students have the opportunity to select one of the three courses listed below, related to the research area of their dissertation topic. (3 credits)

#### **HPH 7310—Biostatistics II**

The aim of this course is to enable students to appreciate the richness of statistical science and to invite them to the concept of probabilistic thinking. Statistics is the science of the future. Any technique that they are going to learn will help them to understand the unknown better, and in turn, will increase their success in other courses and in future professional careers. Principles of statistical inference build upon the course of Biostatistics I. As such, a prerequisite for enrolling in this course is satisfactory completion of Biostatistics I. The goals of this course are threefold: (1) introduce the basic concepts of probability and methods for calculating the probability of an event; (2) assist students in developing an understanding of probability theory and sampling distributions; and (3) familiarize students about inferences involving one or two populations ANOVA, regression analysis, and chi-square tests. **Prerequisite:** HPH 7300 Biostatistics I (3 credits)

#### **HPH 7700—Test and Measurement**

This course provides a foundation in the basic principles of measurement with a focus on how to assess and control for error through research design methods and statistical analysis. Students will explore test construction and methods and parsimonious data analysis methods to develop an understanding for designing instruments and assessment tools. A focus on issues specific to measurement error in the medical sciences will also be examined throughout the course. (3 credits)

#### **HSP 9002—Survey Methodology**

This course introduces students to a set of principles of survey methodology that are the basis of standard practices in the field. It provides guidelines for developing survey objectives, designing survey studies, sampling respondents, and administering surveys. Emphasis is on the skills and resources needed to design and conduct a survey. (3 credits)

### **Summer Semester (8 credit hours)**

#### **SLPD 7210—Advanced Seminar in Pediatric Development**

Theories and application of cognitive, social, psychological, and cultural development of children and adolescents will be examined. Current thinking will augment classical theory. Application of current thinking as well as therapeutic, teaching, and care-giving practices stemming from these ideas will be stressed. (3 credits)

#### **SLPD 8967—Applied Dissertation II—Proposal**

The content of Applied Dissertation Service II—Dissertation Proposal emphasizes the formulation and writing of the dissertation proposal and the process for Institutional Review Board (IRB) approval. Methodology and content for each of the proposal chapters are defined, including a thorough discussion of the role of the literature review to support or refute the dissertation topic. This service, focusing on scientific inquiry, will culminate in the completion of the second corresponding benchmark: the applied dissertation proposal. Credit for this seminar will be assigned following approval of the proposal. **Prerequisite:** SLPD 8966 (5 credits)

### **Year Three**

#### **Fall Semester (7 credit hours)**

##### **SLPD 7250—Advanced Seminar in Augmentative and Alternative Communication (AAC)**

This study area provides a discussion of the critical issues in augmentative and alternative communication and assistive technology, with a focus on self-determination, family-centered practices, and AAC outcomes. Students will gain experience with non-electronic communication displays, various input devices, and low-tech communication devices, as well as high-technology voice output communication aids. Current issues in ethics, funding, and the impact of culture on AAC are presented. A discussion of recent trends and future needs, as well as strategies for keeping up with new technology and a rapidly expanding knowledge base will be included. (3 credits)

##### **SLPD 7040—Supervision**

The identification and analysis of the processes of supervision along the continuum of supervision from support personnel to peer will be examined. Topics will include planning and executing the supervisory conference, data collection procedures, and evaluation. The research in the field of supervision will be examined with an emphasis on practical application. The impact of cultural diversity on supervision will be addressed. (3 credits)

### **SLPD 8090—Applied Dissertation Services I**

The applied dissertation is a detailed, accurate, and cohesive account of a scholarly investigation designed to answer a research question directed toward the improvement of practice in the field of speech-language pathology. Research is distinguished by a theory-to-practice model encompassing a diversity of disciplines. Each student is assigned a faculty committee to facilitate and supervise the process. **(1 credit)**

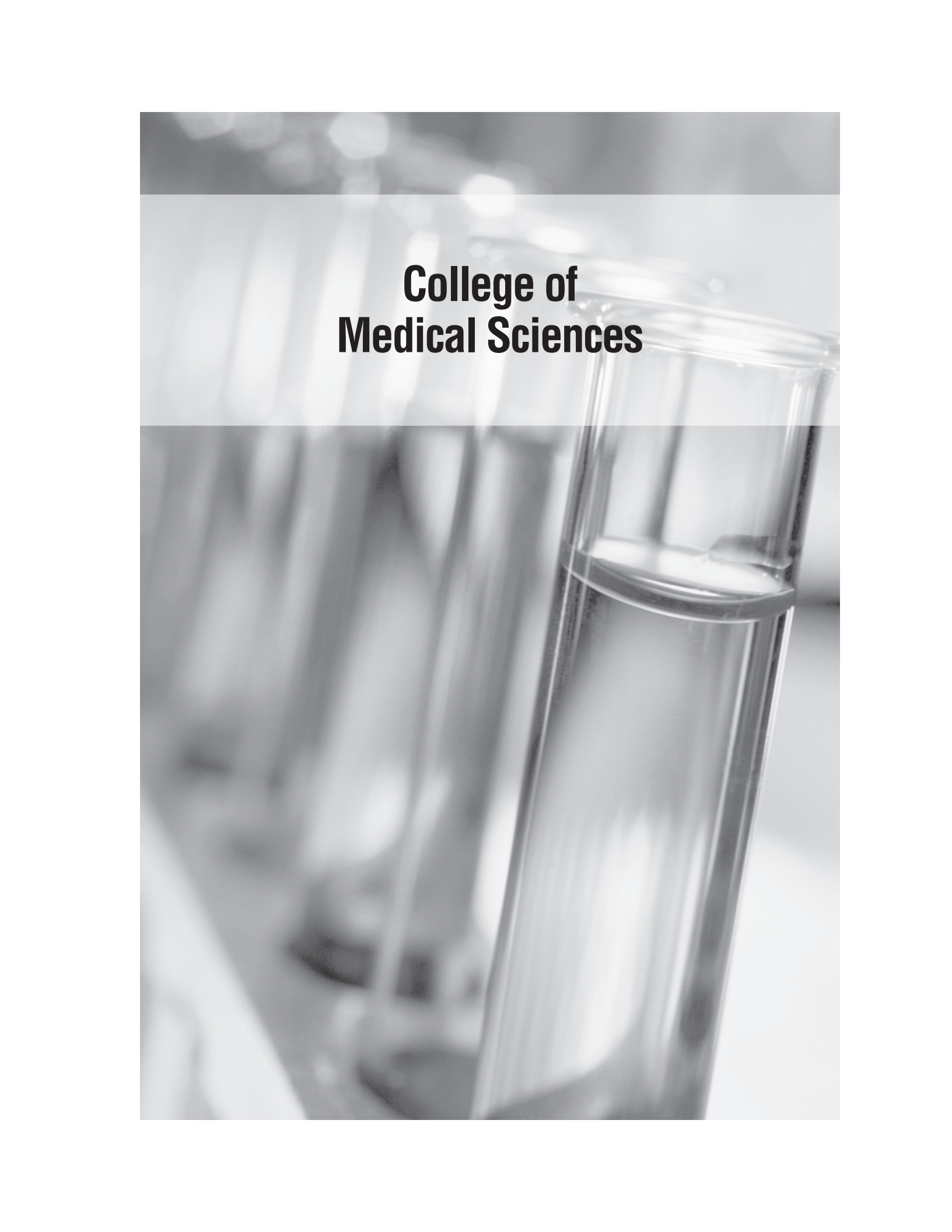
### **SLPD 8091—Applied Dissertation Services II**

This course provides dissertation services for continuing doctoral students previously enrolled in SLPD 8090 who did not complete the applied dissertation. SLPD 8091 is also for currently enrolled students who are entering the 37th month of the doctoral program. Students are responsible for registering for SLPD 8091. Service fees will apply. **(1 credit)**

### **Winter Semester (5 credit hours)**

#### **SLPD 8968—Applied Dissertation—Final Report**

Applied Dissertation Service III involves data collection and implementation, the applied dissertation (i.e., final report), and the final approval process. Content and format issues, as well as recommendations for further research, are highlighted. Dissemination of the dissertation and possible outlets for publication are covered. This service will culminate in the completion of the third corresponding benchmark: the applied dissertation. Credits for this service will be assigned following approval of the applied dissertation. **Prerequisite:** SLPD 8967 **(5 credits)**

A black and white photograph of several test tubes in a rack. The test tubes are filled with a clear liquid. The text "College of Medical Sciences" is overlaid in the center of the image in a bold, black, sans-serif font.

**College of  
Medical Sciences**



# College of Medical Sciences



Harold E. Laubach,  
B.S., M.S., Ph.D.  
Dean

## Mission Statement

The mission of the College of Medical Sciences is to train students in the basic medical sciences and to prepare them for careers in health care and higher education. In accordance with this mission, the College of Medical Sciences offers a Master of Biomedical Sciences degree and provides basic science instructors for the colleges within the Health Professions Division.

## Administration

**Harold E. Laubach, B.S., M.S., Ph.D.**  
Dean

**Lori B. Dribin, B.A., M.S., Ph.D.**  
Assistant Dean for Student Affairs

**Wayne A. Schreier, B.S., M.S., Ph.D.**  
Assistant Dean for Academic Affairs

## Degree Programs

In line with its mission, the College of Medical Sciences currently offers a Master of Biomedical Sciences (M.B.S.) degree program.

## Accreditation

While there is no specific accreditation process for basic science or medical sciences, this portion of our educational process has always been evaluated by visiting accreditation teams of the several professions and has always received highest grades and commendation.

## Admissions Requirements

In order to be considered for admission into the master's program, the student must meet the following requirements:

- completion of a bachelor's degree from a regionally accredited college or university
- completion of 3 semester hours with a minimum 2.0 grade point average in biochemistry
- completion of 8 semester hours with a minimum 2.0 grade point average in each of the following: general biology, general chemistry, organic chemistry, and general physics, all with laboratory, as well as 6 semester hours of English
- a minimum cumulative GPA of 2.5 on a 4.0 scale.
- submit scores from one of the following: the Medical College Admission Test (MCAT) or the Dental Admission Test (DAT)

Scores may not be more than three years old.

It should be noted that many criteria, in addition to academic credentials, play a role in the admissions process to professional schools. While the biomedical science program does provide an opportunity for the student to demonstrate academic capability, it does not ensure admission to any professional school. Admission to the graduate program or completion of courses will not guarantee admission to any other program of Nova Southeastern University.

## Application Procedures

Candidates for admission must submit

1. a completed application form along with a \$50, nonrefundable application fee (Application deadline is April 1.)
2. official transcripts of all undergraduate, graduate, and professional coursework, submitted directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Medical Sciences, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

3. official reports of standardized test scores such as the MCAT or DAT, not more than three years old

4. one letter of recommendation from a preprofessional advisory committee, or, if this does not exist, two letters may be substituted from instructors who can testify to the student's characteristics, integrity, application, and aptitude in science (If an applicant has been in the work world for a considerable period of time, two letters of recommendation may be substituted from employers who can testify to the student's characteristics, integrity, application, and aptitude in science.)

Upon receipt of the completed application and required credentials, the committee on admissions will select those applicants to be interviewed. All applicants who are eventually accepted into the program must be interviewed. An invitation to appear for an interview should not be construed by the applicant as evidence of acceptance.

The dean of the College of Medical Sciences is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

The admission process to the graduate program in biomedical sciences is not related in any way to the admission process of any other program at Nova Southeastern University.

### **Schedule of Application for Admission Cycle**

Applications will be accepted starting January 1, and the deadline is April 1 of the year of matriculation.

### **Core Performance Standards for Admission and Progress**

The Nova Southeastern University Health Professions Division is pledged to the admission and matriculation of qualified students. Consistent with all federal and state laws, rules, regulations, and/or local ordinances (e.g., Title VII, Title VI, Title III, Title II, Rehab Act, ADA, Title IX, and the Florida Civil Rights Act), it is the policy of Nova Southeastern University not to engage in discrimination or harassment against any individuals because of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations, and to comply with all federal and state nondiscrimination, equal opportunity, and affirmative action laws, orders, and regulations. Any such acts are unacceptable and strictly prohibited by the university.

Regarding those students with verifiable disabilities, the university will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards (core performance standards) as set forth herein, with or without reasonable accommodation. In adopting these standards, the university believes it must keep in mind the ultimate safety of the patients whom its graduates will eventually serve, as well as the efficacy and safety in

the learning environment. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions. Any exceptions to such standards must be approved by the dean of a student's particular college, based upon appropriate circumstances.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data.

Honor and integrity of the health professions student and health care professional is essential and depends on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty members, and patients who come under the student's care or contribute to his or her training and growth, as well as members of the general public. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU, each student subscribes to, and pledges complete observance to, NSU's Student Code of Conduct Policies. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

Candidates for degrees offered by the Health Professions Division must have, with or without reasonable accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Candidates for admission and progression must be able to perform these abilities and skills in a reasonably independent manner.

### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause/effect relationships in clinical situations and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive,



and challenging learning environment. Examples include, but are not limited to, identifying cause/effect relationships in clinical situations, developing treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration.

### **Interpersonal Communication**

Candidates and students must be able to interact and communicate effectively, with respect to policies, protocols, and process—with faculty and staff members, students, and administration—during the student's educational program. Communication includes not only speech, but also reading and writing. Candidates and students must also be able to communicate effectively and efficiently in all written forms. They must have interpersonal abilities sufficient to interact with individuals; families; and groups from a variety of social, emotional, cultural, and intellectual backgrounds.

Students must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written and practical exams.

### **Motor Skills**

Candidates and students must have sufficient motor function to execute movements reasonably required to use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Examples include, but are not limited to, calibration and use of equipment, grasping and manipulating small objects/instruments, and using a computer keyboard.

### **Strength and Mobility**

Candidates and students must have the physical ability to move sufficiently from room to room and to maneuver in small places.

### **Hearing**

Candidates and students must have sufficient auditory ability to monitor and assess health needs.

### **Visual**

Candidates and students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration.

Students must be able to see fine detail; focus at a variety of distances; and discern differences and variations in color, shape, and texture that are necessary to differentiate normal and abnormal soft and hard tissues. Students

must also possess the visual acuity to read charts, records, radiographs, small print, and handwritten notations.

### **Tactile**

Candidates and students must have sufficient tactile ability for physical assessment. Students must be able to use tactile senses to diagnose directly by palpation and indirectly by sensations transmitted through instruments.

### **Sensory**

Candidates and students must be able to acquire a predetermined level of required information through demonstrations and experiences in basic science courses. Such information includes, but is not limited to, information conveyed through a) physiologic and pharmacologic demonstrations, b) microscopic images of microorganisms and tissues in normal and pathologic states, and c) demonstration of techniques using anatomical models. Students must be able to acquire information from written documents and to evaluate information presented as images from digital platforms, paper, films, slides, or video. They must be able to benefit from electronic and other instrumentation that enhances visual, auditory, and somatic sensations needed for examination or treatment.

### **Behavioral and Social Attributes**

Candidates and students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; and the ability to take responsibility for their own actions with respect to policies, protocols, and process with faculty and staff members, students, and administration during the student's educational program. Candidates and students must be able to physically tolerate taxing workloads, adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, diversity, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and education process.

### **Tuition and Fees**

1. Tuition for 2018–2019 (subject to change by the board of trustees) will be posted on our website (*medsciences.nova.edu*). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. Additionally, an equipment/lab fee of \$100 is required of all first-year biomedical science students.

2. Acceptance fee is \$500. This fee is required to reserve the accepted applicant's place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in case of withdrawal. It is payable within two weeks of the applicant's acceptance.

3. Preregistration fee is \$500, due within two weeks of remittance of acceptance fee, under the same terms as the acceptance fee.

The first semester's tuition and fees, less the \$1,000 previously paid, are due on or before registration day. Tuition for the subsequent semester is due on or before registration day for that semester. Students will not be admitted until their financial obligations have been met.

### Transfer of Credits

Transfer credit of no more than 6 semester hours and waiver policies will be granted at the discretion of the dean, but shall be in accordance with the educational mission and objectives of the College of Medical Sciences.

### Dismissal

Grounds for dismissal from the College of Medical Sciences include, but are not limited to

- the student fails a course during any semester (final course grade is less than a C or below 70 percent)
- the student earns a final course grade of a C (70–79 percent) in a course being repeated
- the student earns a final course grade of a C (70–79 percent) in more than seven hours of classroom courses in any semester or overall, regardless of whether the course was repeated
- the student exceeds the five-year limit for completing all graduation requirements for the Master of Biomedical Sciences program, exclusive of any approved leave of absence or withdrawal in good standing
- the student faces circumstances of a legal, moral, behavioral, ethical, or academic nature that, in the opinion of the dean, warrant such action, or if, in the dean's opinion, there are factors that would interfere with or prevent the student from meeting appropriate professional standards

### Suspension

A student may be suspended (removed from academic enrollment and/or revocation of all other privileges or activities and from the privilege to enter the campus for a specified period of time) if, in the opinion of the dean, the student has not attained satisfactory academic performance and/or has deviated significantly from the standards of behavior established by the College of Medical Sciences.

### Readmission Following Suspension

If a student is suspended from the College of Medical Sciences, he or she may return to the college when, in the opinion of the dean, he or she can present adequate evidence that the conditions and/or factors that caused the suspension have changed significantly so that there is a reasonable expectation that the student can perform

satisfactorily if permitted to resume his or her studies. Readmission will be solely at the discretion of the dean. The student's prior academic record will remain part of his or her overall academic record and will be recorded on the permanent transcript. A suspended student will be withdrawn from all courses and receive a *W* on his or her transcript.

### Graduation Requirements

Degrees are awarded when the faculty believes the students have attained sufficient maturity of thought and proficiency as demonstrated by satisfactory completion of a prescribed number of courses.

To receive a degree, a student must fulfill the following requirements:

- be of good moral character
- satisfactorily pass all required courses
- complete a minimum of 36 semester hours of coursework for the Master of Biomedical Sciences degree
- satisfactorily complete the program requirements for the degree, including all assignments, with a minimum 3.0 GPA percent and with no course grade below a B (below 80 percent)
- have satisfactorily met all financial and library obligations
- attend in person the commencement program, at which time the degree is awarded

### Course of Study

The master of biomedical sciences is a full-time degree program that is completed in two years. Students are admitted in August every year. The program includes four semesters of on-campus study. All students are required to earn a final course grade of B (80 percent) or higher to satisfactorily complete the course. Coursework is completed along with students in the professional programs and select coursework is offered by the College of Medical Sciences. Many of the courses offered in the College of Medical Sciences are taught to students within other HPD colleges. Students will enroll in the seminar course each semester.

### Student Organization

The College of Medical Sciences Student Government Association is the official voice of all students in the college. The organization is open to all students and welcomes participation from the student body. Its responsibilities include expressing student opinions and dispensing funds for student activities.

## 2018–2019 Curriculum Outline—Master of Biomedical Sciences (M.B.S.)

### MEDICAL TRACK

First Year—Fall			Credits
ANA	5714	Medical Histology	3
ANA	5727	Gross Anatomy	6
BCH	5715	Medical Biochemistry	5.5
PHS	5723	Medical Physiology I	3
MBS	5701	Seminar I	1

First Year—Winter			Credits
ANA	5723	Neuroanatomy	3
MIC	5727	Medical Microbiology I	5.5
MIC	5031	Medical Microbiology II	1.5
PHS	5724	Medical Physiology II	4
MBS	5702	Seminar II	2

Second Year—Fall			Credits
PCO	5504	Pharmacology I	4
PTH	5500	General Pathology	3
MBS	5703	Seminar III	1
		Elective Course(s)	1–6

Second Year—Winter			Credits
PCO	5503	Pharmacology II	3
MBS	5704	Seminar IV	2
		Elective Course(s)	1–6

Second Year—Elective Courses			Credits
ANA	6700	Special Topics in Anatomy	1–6
BCH	6700	Special Topics in Biochemistry	1–6
MIC	6700	Special Topics in Microbiology	1–6
PTH	6700	Special Topics in Pathology	1–6
PCO	6700	Special Topics in Pharmacology	1–6
PHS	6700	Special Topics in Physiology	1–6

DENTAL TRACK

<b>First Year—Fall</b>			Credits
ANA	5713	Histology	3
ANA	5744	Gross Anatomy	5
BCH	5735	Biochemistry and Nutrition	5
MIC	1710	Dental Microbiology I	3
MBS	5701	Seminar I	1

<b>First Year—Winter</b>			Credits
ANA	5500	Neuroanatomy	3
PHS	5500	Physiology	4
MIC	1711	Dental Microbiology II	2
MBS	5702	Seminar II	2

<b>Second Year—Fall</b>			Credits
PCO	5504	Pharmacology I	4
PTH	5500	General Pathology	3
MBS	5703	Seminar III	1
		Elective Course(s)	1–6

<b>Second Year— Winter</b>			Credits
PCO	5503	Pharmacology II	3
MBS	5704	Seminar IV	2
		Elective Course(s)	1–6

<b>Second Year—Elective Courses</b>			Credits
ANA	6700	Special Topics in Anatomy	1–6
BCH	6700	Special Topics in Biochemistry	1–6
MIC	6700	Special Topics in Microbiology	1–6
PTH	6700	Special Topics in Pathology	1–6
PCO	6700	Special Topics in Pharmacology	1–6
PHS	6700	Special Topics in Physiology	1–6

## College of Medical Sciences Course Descriptions

The college offers courses for graduate credit within the other Health Professions Division colleges. Each course can be found listed under the appropriate college. Courses are identified by their College of Medical Sciences course number, with specific college-designation and number. Courses are titled in accordance with their titles in their specific college, and may bear no relationship with other courses in this list.

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and credit hours.

### Anatomy

#### ANA 5500—Neuroanatomy

The study of the structure and function of the spinal cord, brain stem and cerebrum. Primary emphasis is on major motor and sensory pathways, spinal and cranial nerves, and integrative mechanisms of the central nervous system. Laboratory studies include the use of CAT and MRI scans. (36-18-3)

#### ANA 5713—Histology

The study of microscopic and submicroscopic anatomy of the cells, tissues, and organs of the body combining lecture and laboratory. (36-36-3)

#### ANA 5714—Medical Histology

The study of the microanatomy of the cells, tissues, and organs of the body; correlating structure; and function. (36-36-3)

#### ANA 5723—Neuroanatomy

The study of the structure and function of the spinal cord, brain stem, and cerebrum. Primary emphasis is on major motor and sensory pathways, spinal and cranial nerves, and integrative mechanisms of the central nervous system. Laboratory studies include the use of CAT and MRI scans. (36-18-3)

#### ANA 5727—Gross Anatomy

The study of the structure and function of the human trunk, extremities, head, and neck. Course includes laboratory dissection of cadavers. (80-72-6)

#### ANA 5744—Gross Anatomy

The study of the structure and function of the human body. Emphasis on the detailed anatomy of the head and neck region. (56-54-5)

#### ANA 6700—Special Topics in Anatomy

Topics and hours to be coordinated by anatomy faculty member and student. (1 to 6 credit hours)

### Biochemistry

#### BCH 5715—Medical Biochemistry

Introduces functions of the important carbohydrates, lipids, nucleic acids, proteins, and properties of enzymes. Covers the pathways of normal metabolism and their controls. Genetics is introduced. DNA replication, transcription, and translation are discussed. Includes hemostasis with details of coagulation factors, nutrition and biochemical aspects of digestive, visual, musculoskeletal, and endocrine systems. (86-0-5.5)

#### BCH 5735—Biochemistry

Introduces the structures and functions of the carbohydrates, lipids, nucleic acids, and proteins. Covers the pathways of normal metabolism and their controls, as well as nutrition, digestion, and absorption. Includes biochemical aspects of the dental, neural, visual, respiratory, musculoskeletal, and endocrine systems. (72-0-5)

#### BCH 6700—Special Topics in Biochemistry

Topics and hours to be coordinated by biochemistry faculty member and student. (1 to 6 credit hours)

### Microbiology

#### MIC 1710—Dental Microbiology I

Basic aspects of infections of the oral cavity, oral microbial ecology, and normal flora involving bacteria, fungi, and viruses are covered. (54-0-3)

#### MIC 1711—Dental Microbiology II

Essential principles of innate and acquired immunity including the immune response at mucosal surfaces, immune dysfunctions, and transplantation immunology are presented. (36-0-2)

#### MIC 5727—Medical Microbiology I

Comprehensive study of immunology and of disease producing micro-organisms. Covers the taxonomy, epidemiology, pathogenesis, diagnosis, and treatment of human pathogens. (102-0-5.5)

#### MIC 5031—Medical Microbiology II

Comprehensive study of disease producing micro-organisms covering the taxonomy, epidemiology, pathogenesis, diagnosis, and treatment of human fungal and parasitic pathogens. (24-0-1.5)

#### MIC 6700—Special Topics in Microbiology

Topics and hours to be coordinated by microbiology faculty member and student. (1 to 6 credit hours)

## **Pathology**

### **PTH 5500—General Pathology**

The course is to provide the student with the basic pathologic processes of human disease, to include a scientific foundation in the etiology, pathogenesis, pathology, morphologic alterations, and adverse effects of human disease. (54-0-3)

### **PTH 6700—Special Topics in Pathology**

Topics and hours to be coordinated by pathology faculty member and student. (1 to 6 credit hours)

## **Pharmacology**

### **PCO 5504—Pharmacology I**

Introduces basic receptor theory, pharmacokinetics, and basic principles of drug action. Discusses mechanisms of action, indications, contraindications, and adverse reactions of drugs affecting major organ systems. (50-0-4)

### **PCO 5503—Pharmacology II**

A continuation of PCO 5504—Pharmacology I, with particular emphasis on drugs used in oral medicines and dentistry as well as oral manifestations of systemic drugs. (48-0-3)

### **PCO 6700—Special Topics in Pharmacology**

Topics and hours to be coordinated by pharmacology faculty member and student. (1 to 6 credit hours)

## **Physiology**

### **PHS 5500—Physiology**

The purpose of this course is to provide the student with an understanding of the physical and chemical factors and processes responsible for the development, progression, and procreation of life. The course will be presented from an organ-systems approach. The areas covered will be basic cellular physiology, skeletal muscle, the cardiovascular system, the nervous system, the renal system, the respiratory system, the gastrointestinal system, and the endocrine system. The mechanisms of physiological and pathological processes and clinical conditions relevant to oral health will also be discussed. (56-0-4)

### **PHS 5723—Medical Physiology I**

This course reviews the physiological functions and regulation of the major human organ systems. Topics covered in the first semester include cell physiology, membranes and membrane transport mechanisms, electrophysiology, muscle physiology, the autonomic nervous system, and cardiovascular physiology. (47-0-3)

### **PHS 5724—Medical Physiology II**

This is the second part of a two-part physiology course. As with the first part, the material will be presented using an organ-systems approach. This course will include the study of the respiratory, renal, nervous, endocrine, reproductive, and gastrointestinal systems. (65-0-4)

### **PHS 6700—Special Topics in Physiology**

Topics and hours to be coordinated by physiology faculty member and student. (1 to 6 credit hours)

## **Core Courses**

### **MBS 5701—Seminar I**

The purpose of this course is to expose graduate students to the field of qualitative research and the critical analysis of research findings. Students work collaboratively with faculty members, observe research seminars, and provide relevant feedback. Formatted as a discussion-based course, students are expected to complete assigned readings and to participate in class activities. (1 credit hour)

### **MBS 5702—Seminar II**

The purpose of this course is to provide a forum for students to generate and discuss ideas on issues related to a variety of research topics. Students are given an opportunity to integrate their knowledge, skills, and practical experience gained in Seminar I. Under the guidance of faculty members, students are expected to present research findings to an audience of fellow students and faculty members and to discuss relevant issues. (2 credit hours)

### **MBS 5703—Seminar III**

The purpose of this course is to expose graduate students to the field of qualitative research and the critical analysis of research findings. Students work collaboratively with faculty members, observe research seminars, and provide relevant feedback. Formatted as a discussion-based course, students are expected to complete assigned readings and to participate in class activities. (1 credit hour)

### **MBS 5704—Seminar IV**

The purpose of this course is to provide a forum for students to generate and discuss ideas on issues related to a variety of research topics. Students are given an opportunity to integrate their knowledge, skills, and practical experience gained in Seminar III. Under the guidance of faculty members, students are expected to present research findings to an audience of fellow students and faculty members and to discuss relevant issues. (2 credit hours)

# College of Dental Medicine







# College of Dental Medicine



Linda Niessen,  
D.M.D., M.P.H., M.P.P.  
Dean

## Mission Statement

To educate future dentists and to improve oral health through patient-centered care, academic excellence, research, leadership, and commitment to the communities we serve, particularly the special needs and underserved populations.

## Administration

Linda Niessen, D.M.D., M.P.H., M.P.P.  
Dean

Abby J. Brodie, D.M.D., M.S.  
Associate Dean for Academic Affairs

Steven Kaltman, D.M.D., M.D.  
Assistant Dean for Extramural and Hospital Affairs

Peter Keller, D.D.S.  
Executive Associate Dean for Academic and  
Clinical Resources

Steven M. Kelner, D.M.D., M.S.  
Associate Dean for Institutional Affairs

Jodi Kodish-Stav, D.D.S.  
Acting Associate Dean for Clinical Services  
Associate Dean for Clinical Informatics

Hal Lippman, D.D.S.  
Executive Associate Dean for Admissions and Student  
and Clinical Affairs

Ana Karina Mascarenhas, Dr.P.H., M.P.H., B.D.S.  
Associate Dean for Research

William B. Parker, D.D.S.  
Associate Dean for Advanced Education

## Dental Medicine

If you are considering a career in dentistry, your education will focus on producing a competent, confident, and mature professional. You will be trained to function as a highly qualified primary care practitioner capable of delivering comprehensive dental care to patients of all ages.

For the highly trained and skilled dentist, career opportunities are almost limitless. The options can be fulfilling and rewarding. The skilled dentist may choose to practice individually in urban, suburban, or rural environments; join an established, respected, and successful practice; or may choose public service in governmental agencies or the military. The skilled dentist may opt to specialize with additional advanced education in such fields as endodontics, oral pathology, oral surgery, orthodontics, pediatric dentistry, periodontology, prosthodontics, public health dentistry, or oral radiology.

For rewards so great, the training is extensive and complete. The nationally recognized faculty of Nova Southeastern University College of Dental Medicine (NSU-CDM) will prepare you to take your place as a leader among oral health care providers. A dynamic career awaits a committed individual.

## Accreditation

Our predoctoral programs in dentistry and postdoctoral programs in advanced education in general dentistry, endodontics, orthodontics, oral and maxillofacial surgery, periodontology, pediatric dentistry, and prosthodontics are accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611.

## Facilities

The College of Dental Medicine uses the facilities of a \$75 million physical plant of the university's Health Professions Division. A separate building consisting of 70,500 square feet of space is for the sole use of the College of Dental Medicine and houses a clinic providing modern dental care; a postgraduate student dental clinic; a faculty intramural practice; a clinical simulation laboratory; laboratory facilities to support the clinics; seminar rooms; research laboratories; and offices for the dean, faculty members, administration, and staff members.

## Predoctoral Program

### **Core Performance Standards for Admissions and Progress for all College of Dental Medicine Students and Residents**

The Nova Southeastern University Health Professions Division and the NSU College of Dental Medicine are pledged to the admission and matriculation of qualified students and wish to acknowledge awareness of laws that prohibit discrimination against anyone on the basis of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations. Regarding those students with verifiable disabilities, the university will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards (core performance standards) as set forth herein, with or without reasonable accommodation. In adopting these standards, the university believes it must keep in mind the ultimate safety of the patients whom its graduates will eventually serve, as well as the efficacy and safety in the learning environment. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions. Any exceptions to such standards must be approved by the dean of the student's particular college, based upon appropriate circumstances.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data. Honor and integrity of the health professions student and health care professional are essential and dependent upon the exemplary behavior of the individual health care provider in his or her relations with patients, faculty and staff members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, staff and faculty members, members of the general public, and patients who come under the student's care or contribute to his or her training and growth. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU, each student subscribes to, and pledges complete observance to, NSU's Student Code of Conduct Policies. A violation of these standards is an

abuse of the trust placed in every student and could lead to suspension or dismissal. Candidates for degrees offered by the Health Professions Division must have, with or without reasonable accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Candidates for admission and progression must be able to perform these abilities and skills in a reasonably independent manner.

### **Intellectual, Conceptual, Integrative, and Qualitative Abilities**

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause/effect relationships in clinical situations and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. Examples include, but are not limited to, identification of cause/effect relationships in clinical situations, development of treatment plans, transferring knowledge from one situation to another, evaluating outcomes, problem solving, prioritizing, and using short- and long-term memory. They must be able to think quickly and accurately in an organized manner, despite environmental distractions. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration.

### **Visual**

Candidates and students must have visual ability sufficient for observation, assessment, and rendering of treatment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. Dental medicine students must have sufficient visual ability to use dental instruments. It is necessary to have adequate visual capabilities for proper evaluation and treatment integration. Candidates and students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment. Students must be able to read and write prescriptions, consultation letters, patient information, and dental product information. Dental medicine students must be able to observe a patient accurately, at a distance and close up, interpreting nonverbal communications, while performing dental

procedures or administering medications. A student must be able to perform dental examinations and treatments that require the use of sight and touch. The student must be able to see fine detail, focus at a variety of distances, and discern differences and variations in color, shape, and texture that are necessary to differentiate normal and abnormal soft and hard tissues. A student must also possess the visual acuity to read charts, records, radiographs, diagnostic images, small print, and handwritten notation.

### **Tactile**

Candidates and students must have sufficient tactile ability for physical assessment. Dental medicine students must be able to deliver appropriate treatment using high technology equipment, such as dental drills and surgical instruments. The student must be able to use tactile senses to diagnose directly by palpation and indirectly by sensations transmitted through instruments. Examples include, but are not limited to, detection of dental hard and soft tissue conditions, use of hand instruments, and performance of palpation for purposes of intra and extra oral exam.

### **Sensory**

Dental medicine students must be able to acquire information through demonstrations and experiences in basic science and dental science courses. This information includes, but is not limited to, information conveyed through a variety of mechanisms, such as microscopic images of microorganisms and tissues in normal and pathologic states, demonstration and skill exercises of techniques using dental models, etc. A student must be able to acquire information from written documents and to evaluate information presented as images from digital platforms, paper, films, slides, or video. A student must be able to benefit from electronic and other instrumentation that enhances visual, auditory, and somatic sensations needed for examination or treatment.

### **Behavioral and Social Attributes**

Candidates and students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; the ability to take responsibility for their own actions—with respect to policies, protocols, and process—with students, faculty and staff members, patients, patient surrogates, and administration during the student's educational program; the prompt completion of all responsibilities attendant to the diagnosis, care, and treatment of patients; and the development of mature, sensitive, and effective relationships with the patients.

Candidates and students must be able to physically tolerate taxing workloads, to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, diversity, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and during the students' education process.

### **Admissions Requirements**

The College of Dental Medicine selects students based on preprofessional academic performance, Dental College Admission Test (DAT) scores, personal interview, written application, and letters of evaluation.

1. Prior to matriculation, applicants must have completed a minimum of 90 semester hours of coursework at a regionally accredited college or university. Not more than 60 semester hours from community or junior college will be applied to the 90-semester hour minimum.

2. Students should have a cumulative grade point average (GPA) of 3.25 or higher on a 4.0 scale. In addition, students should have a science grade point average of 3.25 or higher on a 4.0 scale. Students must have earned a grade of 2.0 or better in each of the following required courses:

- Biology with lab (8 semester hours)
- Chemistry with lab (8 semester hours)
- Organic chemistry with lab (8 semester hours)
- Physics with lab (8 semester hours)
- Biochemistry (3 semester hours)
- Microbiology (3 semester hours)
- English (6 semester hours)

### **Suggested Additional Preparation**

Courses should be selected to give students as broad and liberal an education as possible. However, applicants are encouraged to take these specific upper division courses in advanced sciences: anatomy, physiology, cell biology, molecular biology, histology, genetics, and immunology.

Courses in social sciences, principles of management, accounting, communication, foreign languages, art, and sculpture may contribute to a broad educational background.

Upon review of a student's individual record, the Committee on Admissions may require additional coursework and testing as a condition of acceptance. The dean may evaluate an applicant's qualifications and modify requirements in unusual circumstances. Inquiries should be directed to

Nova Southeastern University  
Health Professions Division  
Dental Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018  
(954) 262-1101 • 877-640-0218

### Transfer of Credit Policy

Circumstances may warrant that a student enrolled in one dental school seeks to transfer to another institution. Credits may only be transferred from a dental school accredited by the Commission on Dental Accreditation. The Office of the Associate Dean for Academic Affairs will evaluate a prospective transfer student's coursework, which must be comparable to that of Nova Southeastern University College of Dental Medicine (NSU-CDM).

- Transfer students from another dental school will be required to complete, at minimum, their last two years of instruction at the college granting the dental degree (i.e., NSU-CDM).

Transfer credits will be given consideration based upon the student's academic standing, as well as documentation from the dean or dean's designee of previous dental school(s).

- Credit is only given for completed courses with a grade of 70 percent (*C*) or better from the applicant's previous dental school(s).

Any dental student wishing to apply for transfer to Nova Southeastern University College of Dental Medicine must

1. make a formal application to Nova Southeastern University College of Dental Medicine
2. meet all the predoctoral admission requirements, which include submitting official transcripts of all college work (including dental school transcripts); DAT scores; National Board scores, if taken; and two letters of evaluation (No transfer student will be accepted without an interview.)
3. be in good standing at the student's current institution, as documented by a letter from the dean of that institution
4. supply a letter of recommendation from a faculty member of the transferring dental school
5. supply a written statement outlining the reasons for the request for transfer

Transfer applicants can refer to the NSU website for the Transfer Credit for Graduate and Professional Programs Policy. Decisions on transfers are made by the dean's office. The decision will be based on factors which include, but are not limited to, academic record, circumstances leading to the transfer request, available space, and compliance with admissions standards.

### Application Procedures

1. Nova Southeastern University College of Dental Medicine uses the American Association of Dental Schools Application Service (AADSAS). AADSAS takes no part in the selection of students. The application deadline for the AADSAS application is December 1 for the class entering in August.

Applications are available from

American Association of Dental Schools  
Application Service (AADSAS)  
1625 Massachusetts Ave., NW  
Suite 600  
Washington, D.C. 20036-2212  
(202) 667-1886 • 800-353-2237

Applicants may also obtain their application through [adea.org](http://adea.org). Candidates may choose to either fill out an electronic application or download a paper application.

Materials to be mailed to AADSAS include the following:

- AADSAS application
  - an official transcript from the registrar of each college or university in which the student was enrolled (mailed directly by the college to AADSAS)
  - Dental College Admission Test (DAT) scores
  - an evaluation by a preprofessional health adviser or committee from the applicant's undergraduate institution. If this evaluation cannot be provided, three individual letters of evaluation are required from undergraduate instructors, two from science instructors, and one from a liberal arts instructor. If possible, these letters should be from faculty members who know the applicant's scholastic abilities and personal character. Otherwise, they should be from people (nonrelatives) who can provide an evaluation to the Committee on Admissions.
  - a letter of evaluation from a dentist is highly recommended but not required.
2. The applicant will be required to provide the following materials to the Office of Admissions by December 31:
- the supplemental application (electronically submitted to the College of Dental Medicine)
  - a nonrefundable application fee of \$50

Upon receipt of the completed application and the required credentials, the Committee on Admissions will select applicants for interview. Those selected will be notified in writing of the time and place. All applicants who are admitted by the college must be interviewed, but an invitation to appear for an interview should not be construed as evidence of acceptance. Notice of acceptance or other action by the Committee on Admissions will be on a “rolling” or periodic schedule; therefore, early completion of the application is in the best interest of the student.

Final official transcripts, covering all of the applicant’s work, must be forwarded to Nova Southeastern University, Enrollment Processing Services, College of Dental Medicine Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

Incomplete applications will not be considered. If your file will not be complete prior to the deadline, please attach a statement to the NSU-CDM Supplemental Application for Admission explaining what documents will be submitted after the deadline and the reason for their delay. Decisions to review late applications are at the discretion of the Committee on Admissions.

### **Tuition and Fees**

- Tuition for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (*dental.nova.edu*). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. Eligible students must request in-state tuition on application. For tuition purposes, a student’s Florida residency status (in-state or out-of-state) will be determined at initial matriculation and will remain the same throughout the entire enrollment of the student at NSU. Accordingly, tuition will not be adjusted as a result of any change in residency status after initial enrollment registration.
- Acceptance fee is \$1,000. This fee is required to reserve the accepted applicant’s place in the entering first-year class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. Candidates accepted on or after December 1 have 30 days to pay their acceptance fee. Candidates accepted on or after January 1 have 30 days to pay their acceptance fee. Applicants accepted on or after February 1 are required to submit their acceptance fee within 15 days. Applicants accepted after March 15 must pay their acceptance fee immediately.

- Preregistration fee is \$1,000 and is due March 15, under the same terms as the acceptance fee.
- A microscope fee of \$125 per year is required of all four-year predoctoral program students.

The first semester’s tuition and fees, less the \$2,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

### **Expenses and Financial Aid for Four-Year Predoctoral Programs**

Students should anticipate the following approximate expenses for books and learning materials:

- first year—\$2,000
- second year—\$1,800
- third year—\$1,700
- fourth year—\$1,600

Students should anticipate the following approximate expenses for instruments and equipment:

- first year—\$13,000
- second year—\$10,200
- third year—\$4,200
- fourth year—\$3,200

It is extremely important that applicants be committed to meeting their financial responsibilities during their four years of training. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is mandated that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the medical and hospital insurance plans obtainable through the university.

Students will need to access an electronic device to meet program requirements. The university has computer labs; however, it is recommended that students have an electronic device of their choice.

## International Dental Graduate Program

The College of Dental Medicine has a limited number of openings for graduates of non-U.S. dental schools who wish to earn a U.S. dental degree in order to qualify for licensure in the United States.

### Admissions Requirements

The College of Dental Medicine selects students based on academic records; letters of evaluation; a computer-generated minimum score of 80 in the Test of English as a Foreign Language (TOEFL), a score of 6.0 on the International English Language Testing System (IELTS), or a score of 54 on the Pearson Test of English—Academic; a pass score on Part I of the National Board Dental Examination; a translated GPA of the American equivalent of a 3.0; a personal interview; and a psychomotor bench test. The psychomotor bench test may include the following: Canadian wax carving examination, typodont tooth preparation and restoration in amalgam, and typodont tooth preparation for a full metal crown. Procedures in the bench test are subject to change.

In order to participate in the bench test, a qualifying score on the TOEFL, IELTS, or Pearson Test of English—Academic exam and the National Board of Dental Examination, Part I, must be received by the Office of Admissions prior to the date of the bench test examination.

All materials needed for the above will be provided by NSU-CDM. The fee for this psychomotor bench test will be \$2,500. This fee is in addition to the tuition for the IDG program, should the applicant be selected for admission.

In order to qualify, the applicant must have received, prior to matriculation in this International Dental Graduate Program, a D.M.D., D.D.S., or their equivalent, from a non-U.S. dental school.

### Application Procedures

1. The applicant should mail the following materials to the Enrollment Processing Services (EPS) by January 1.

- the completed College of Dental Medicine application form for the International Dental Graduate Program
- a nonrefundable application fee of \$50
- applicant's official score from the Test of English as a Foreign Language (TOEFL), if applicable
- applicant's official score from the International English Language Testing System (IELTS), if applicable
- applicant's official score from the Pearson Test of English—Academic, if applicable

2. The applicant must arrange for one official transcript to be sent directly to the EPS by January 1 ONLY if coursework was taken at a U.S. institution.

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Attn: Documentation Center  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, College of Dental Medicine Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

3. Please request that the secretary of the National Board of Dental Examiners forward your scores for Part I and Part II (if taken) of the examination to the Office of Admissions. The National Board of Dental Examiners is located at 211 East Chicago Avenue, Chicago, Illinois 60611.

4. Three letters of evaluation are required. They must be completed by dental school faculty members who are well acquainted with the applicant's abilities or by individuals who can provide information relevant to the applicant's potential.

All materials should be sent to

Nova Southeastern University  
Enrollment Processing Services  
College of Dental Medicine, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

## Tuition and Fees

- Tuition for 2018–2019, 39-month, IDG program (subject to change by the board of trustees without notice) will be posted on our website (*dental.nova.edu*).
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- Acceptance/Preregistration fee is \$2,000. This fee is required to reserve the accepted applicant's place in the entering, first-year, international, dental graduate class. This advance payment will be deducted from the tuition payment due upon registration, but it is not refundable in the event of withdrawal.

The first semester's tuition and fees, less the \$2,000 previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

## Expenses and Financial Aid for Three-Year Predoctoral Programs

Students should anticipate the following approximate expenses for books and learning materials:

- first year—\$1,800
- second year—\$1,700
- third year—\$1,600

Students should anticipate the following approximate expenses for instruments and equipment:

- first year—\$23,900
- second year—\$6,900
- third year—\$6,900

Students will need to access an electronic device to meet program requirements. The university has computer labs; however, it is recommended that students have an electronic device of their choice.

It is extremely important that applicants be committed to meeting their financial responsibilities during their three years of training. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is mandated that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

For all predoctoral students, the purpose of the Student Financial Assistance Program at Nova Southeastern

University is to help as many qualified students as possible to complete their health professions education. Various loans, scholarships, and grants are available to qualified students to help ease the high cost of a health professions education. These financial assistance programs are described in a variety of separate university publications.

Opportunities for a limited number of part-time work assignments may be available. However, the demands of a program of professional study limit the number of hours a student can work.

## Policies Related to Academic and Student Affairs

The policies regarding suspension, dismissal, readmission and other academic and student policy issues are described in the *College of Dental Medicine Predoctoral Student Handbook*, which is revised, updated, and distributed annually to all predoctoral dental medicine students.

## Graduation Requirements

To receive a D.M.D. degree from the College of Dental Medicine, every student must fulfill the following requirements:

- be of good moral character
- have demonstrated the ethical, personal, behavioral, and professional attributes deemed necessary for the successful and continued study and practice of dental medicine including sound judgment and decision making
- have satisfactorily passed all required didactic and clinical courses and clinical rotations in the CDM curriculum
- have demonstrated ongoing and full-time learning of continued and comprehensive patient care, and attended all classes through the last day of his or her predoctoral program
- have satisfactorily completed all clinical requirements, experiences, and competency examinations
- have completed all coursework in the College of Dental Medicine within four years from the date of matriculation (exclusive of any approved leave of absence in good standing)
- have successfully completed all assigned curriculum requirements for the D.M.D. degree with a numerical average of 70 percent or higher for students graded on a numerical grade system, and a GPA of C (2.0) or higher for students graded on the alpha letter system

- have passed the National Board Dental Examination (NBDE) Part I.
- have satisfactorily met all financial and library obligations
- have attended, in person, the commencement program at which the D.M.D. degree is awarded
- have complied with any other university or Health Professions Division graduation requirements

Degrees are not awarded solely upon the completion of any prescribed number of courses or upon passing a prescribed number of examinations but, in addition, when the faculty believes that the student has attained sufficient maturity of thought and proficiency. **Matriculation and enrollment do not guarantee the issuance of a degree without satisfactorily meeting the aforementioned curriculum and degree requirements.**

### Course of Study

The College of Dental Medicine embodies a comprehensive didactic and group practice clinic model curriculum designed to graduate competent and compassionate clinicians devoted to comprehensive primary care of each patient.

The college is closely allied with Nova Southeastern University's College of Osteopathic Medicine and the other health professions colleges of the NSU Health Professions Division, in proximity as well as in academic collaboration.

Early introduction into clinical settings under the preceptorship of faculty members will enable the student to achieve a better understanding of the dynamics of the patient/dentist relationship. It also will reinforce classroom instruction in basic and behavioral sciences to allow for management and delivery of quality dental health care as a component of total body health.

Students will be taught the importance of teamwork in an efficient, modern health care delivery system.

### 2018–2019 Curriculum Outline

Calculations based on an 18-week semester (subject to change)

Fall 2018—D1, Class of 2022			Contact	Laboratory	Credit Hours
CDM	1000	Anatomy Lecture/Laboratory	48	34	5
CDM	1015	Clinical Experience Rotation I	2	6	1
CDM	1025	Dental Biochemistry and Nutrition	84	0	5
CDM	1030	Histology	36	36	3
CDM	1050	Ethics and Professionalism I	18	0	1
CDM	1070	Periodontology I (continued in Winter 2019—D1)	7	0	1
CDM	1205	Primary Care and Public Health I (continued in Winter 2019—D1)	8	0	1
CDM	1110	Microbiology	45	0	3
CDM	1135	Introduction to Dental Record Keeping (EHR I) (continued in Winter 2019—D1)	1	2	1
CDM	1203	Evidence-Based Dentistry I	8	0	1
CDM	1155	Integrated Restorative Dental Sciences (IRDS) Lecture I	74	0	5
CDM	1156	Integrated Restorative Dental Sciences (IRDS) Laboratory I	0	146	4



<b>Winter 2019—D1, Class of 2022</b>			Contact	Laboratory	Credit Hours
CDM	1016	Clinical Experience Rotation II (continued in Summer 2019—D1)			1
CDM	1051	Ethics and Professionalism II	14	0	1
CDM	1070	Periodontology I (continued from Fall 2018—D1)	12	0	1
CDM	1111	Immunology	30	0	2
CDM	1120	Physiology	58	0	4
CDM	1125	Pathology I	35	0	2
CDM	1130	Neuroanatomy Lecture/Laboratory	36	18	3
CDM	1135	Introduction to Dental Record Keeping (EHR I) (continued from Fall 2018—D1)	0	3	1
CDM	1160	Oral Histology	18	0	1
CDM	1185	Introduction to Clinical Periodontology	0	8	1
CDM	1205	Primary Care and Public Health I (continued from Fall 2018—D1)	8	0	1
CDM	1255	Integrated Restorative Dental Sciences (IRDS) Lecture II	57	0	4
CDM	1266	Integrated Restorative Dental Sciences (IRDS) Laboratory II	0	108	4

<b>Summer 2019—D1, Class of 2022</b>			Contact	Laboratory	Credit Hours
CDM	1016	Clinical Experience Rotation II (continued from Winter 2019—D1)	1	15	1
CDM	1357	Case-Based Integrated Restorative Sciences III Lecture and Laboratory	8	53	3
CDM	2050	Endodontics Lecture (continued in Fall 2019—D2)			1
CDM	2060	Endodontics Laboratory (continued in Fall 2019—D2)			1
CDM	2005	Craniofacial Growth and Development	10	0	1
CDM	2135	Essentials of the Electronic Health Record (EHR II)	0	8	1
CDM	2501	Periodontology Clinic (continued in Fall 2019—D2)			1
CDM	2125	Pathology II	20	0	1.5
CDM	2025	IDG Integrated Restorative Dentistry Lecture and Lab	23	67	5
CDM	2185	IDG Clinical Periodontology Orientation	2	8	1

CDM	2175	QA/Recare Clinical Rotation I (continued in Fall 2019—D2)			1
CDM	2110	Radiology I	16	0	1

**Fall 2018—D2, Class of 2021**

			Contact	Laboratory	Credit Hours
CDM	2010	Pharmacology I	62	0	4
CDM	2030	Periodontology II	18	0	1
CDM	2040	Pharmacology, Analgesia, and Local Anesthesia I	18	0	1
CDM	2050	Endodontics Lecture (continued from Summer 2018—D1)	24	0	1
CDM	2060	Endodontics Laboratory (continued from Summer 2018—D1)	0	93	2
CDM	2070	Fixed Prosthodontics Lecture I	36	0	2
CDM	2080	Fixed Prosthodontics Laboratory I	0	108	2
CDM	2081	Introduction to Pediatric Dentistry	18	0	1
CDM	2085	Introduction to Special Needs Dentistry	36	0	2
CDM	2095	Preclinical Removable Prosthodontics Lecture I	36	0	2
CDM	2096	Preclinical Removable Prosthodontics Laboratory I	0	108	1
CDM	2101	Dental Biomaterials Lecture II	18	0	1
CDM	2175	QA/Recare Clinical Rotation I (continued from Summer 2018—D1) (continued in Winter 2019—D2)			1
CDM	2280	Internal Medicine for Dentists	36	0	2
CDM	2501	Periodontology Clinic (continued from Summer 2018—D1) (continued in Winter 2019—D2)			1
CDM	2505	Radiology Preclinical Laboratory (continued in Winter 2019—D2)			1
CDM	2001	Honors Peer Tutoring II			1

**Winter 2019—D2, Class of 2021**

			Contact	Laboratory	Credit Hours
CDM	2120	Oral and Maxillofacial Diagnosis I	18	0	1
CDM	2130	Pharmacology II	48	0	3
CDM	2140	Introduction to Oral Medicine	18	0	1
CDM	2150	Oral and Maxillofacial Surgery I	18	27	1
CDM	2160	Periodontology III	18	0	1

CDM	2170	Pharmacology, Analgesia, and Local Anesthesia II	18	0	2
CDM	2175	QA/Recare Clinical Rotation I (continued from Fall 2018—D2)	5	15	1
CDM	2180	Pediatric Dentistry Lecture	36	0	2
CDM	2190	Pediatric Dentistry Laboratory	0	54	1
CDM	2197	Preclinical Removable Prosthodontics Lecture II	22	0	2
CDM	2198	Preclinical Removable Prosthodontics Laboratory II	0	22	1
CDM	2200	Orthodontics Lecture/Laboratory	36	36	3
CDM	2241	Introduction to Comprehensive Treatment Planning	18	0	1
CDM	2242	Comprehensive Treatment Planning in the EHR	10.5	10.5	1
CDM	2250	Endodontics Clinical Lecture	18	0	1
CDM	2260	Fixed Prosthodontics Lecture II	8	0	1
CDM	2270	Fixed Prosthodontics Laboratory II	0	32	1
CDM	2501	Periodontology Clinic (continued from Fall 2018—D2)			1
CDM	2505	Radiology Preclinical Laboratory (continued from Fall 2018—D2)	0	9	1
CDM	2995	Clinical Practice of Dentistry Fundamentals	13	40	2
CDM	2001	Honors Peer Tutoring II			1

**Summer 2019—D2, Class of 2021**

			Contact	Laboratory	Credit Hours
CDM	2999	Clinic Prerequisite Orientation	35	0	1
CDM	3000	Applied Patient Care Foundations I (continued in Fall 2019—D3)			1
CDM	3500	Clinical Restorative Dentistry I (continued in Fall 2019—D3)			1
CDM	3410	Clinical Fixed Prosthodontics I (continued in Fall 2019—D3)			1
CDM	3411	Clinical Removable Prosthodontics I (continued in Fall 2019—D3)			1
CDM	3501	Clinical Periodontology I (continued in Fall 2019—D3)			1
CDM	3503	Clinical Periodontology Rotation (continued in Fall 2019—D3)			1
CDM	3621	Clinical Endodontics I (continued in Fall 2019—D3)			1

CDM	3507	Clinical OMFS Rotation I (continued in Fall 2019—D3)			1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued in Fall 2019—D3)			1
CDM	3650	Clinical Radiology I (continued in Fall 2019—D3)			1
CDM	3200	Laboratory and Clinical Applications of Occlusion	8	10	1
CDM	3175	QA/Recare Clinical Rotation II (continued in Fall 2019—D3)			1
CDM	3277	CAD/CAM Restorative Dentistry	8	24	1
CDM	3605	Orthodontic Clinical Comanagement Program			1
CDM	2001	Honors Peer Tutoring II			1

**Fall 2018—D3, Class of 2020**

			Contact	Laboratory	Credit Hours
CDM	3010	Oral and Maxillofacial Diagnosis II	18	0	1
CDM	3020	Oral Medicine	18	0	1
CDM	3030	Periodontology IV	18	0	1
CDM	3040	Oral and Maxillofacial Surgery II	18	0	1
CDM	3120	Implant Restorative Dentistry Lecture	18	0	1
CDM	3130	Cosmetic Dentistry Lecture	16	0	1
CDM	3131	Cosmetic Dentistry Laboratory	0	24	1
CDM	3175	QA/Recare Clinical Rotation II (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3410	Clinical Fixed Prosthodontics I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3411	Clinical Removable Prosthodontics I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3000	Applied Patient Care Foundations I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3500	Clinical Restorative Dentistry I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3501	Clinical Periodontology I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1

CDM	3503	Clinical Periodontology Rotation (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3507	Clinical OMFS Rotation I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3530	Evidence-Based Dentistry in Clinical Practice	18	0	1
CDM	3621	Clinical Endodontics I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3605	Orthodontic Clinical Comanagement Program (continued in Winter 2019—D3)			1
CDM	3650	Clinical Radiology I (continued from Summer 2018—D2) (continued in Winter 2019—D3)			1
CDM	3001	Honors Peer Tutoring III			1

<b>Winter 2019—D3, Class of 2020</b>			Contact	Laboratory	Credit Hours
CDM	3011	Oral and Maxillofacial Diagnosis III	18	0	1
CDM	3021	Common Oral Conditions	18	0	1
CDM	3080	Behavioral Science	36	8	2
CDM	3090	Introduction to the Dental Profession	18	0	1
CDM	3140	Special Needs Dentistry	18	0	1
CDM	3175	QA/Recare Clinical Rotation II (continued from Fall 2018—D3)	5	50	2
CDM	3241	Comprehensive Treatment Planning	18	0	1
CDM	3260	Masticatory System Disorders: A Multidisciplinary Approach	31	0	2
CDM	3410	Clinical Fixed Prosthodontics I (continued from Fall 2018—D3)			11
CDM	3411	Clinical Removable Prosthodontics I (continued from Fall 2018—D3)			11
CDM	3000	Applied Patient Care Foundations I (continued from Fall 2018—D3)			13
CDM	3500	Clinical Restorative Dentistry I (continued from Fall 2018—D3)			10
CDM	3501	Clinical Periodontology I (continued from Fall 2018—D3)			2

CDM	3503	Clinical Periodontology Rotation (continued from Fall 2018—D3)	0	20	1
CDM	3507	Clinical OMFS Rotation I (continued from Fall 2018—D3)	0	50	1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Fall 2018—D3)	0	18	1
CDM	3605	Orthodontic Clinical Comanagement Program (continued from Fall 2018—D3)	0	30	1
CDM	3621	Clinical Endodontics I (continued from Fall 2018—D3)	0	12	1
CDM	3650	Clinical Radiology I (continued from Fall 2018—D3)	0	42	2
CDM	3001	Honors Peer Tutoring III			1

**Summer 2019—D3, Class of 2020**

			Contact	Laboratory	Credit Hours
CDM	4501	Clinical Periodontology II (continued in Fall 2019—D4)			1
CDM	4500	Clinical Restorative Dentistry II (continued in Fall 2019—D4)			1
CDM	4410	Clinical Fixed Prosthodontics II (continued in Fall 2019—D4)			1
CDM	4411	Clinical Removable Prosthodontics II (continued in Fall 2019—D4)			1
CDM	4621	Clinical Endodontics II (continued in Fall 2019—D4)			1
CDM	4505	Clinical Dental Urgent Care Rotation (continued in Fall 2019—D4)			1
CDM	4507	Clinical OMFS Rotation II (continued in Fall 2019—D4)			1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued in Fall 2019—D4)			1
CDM	4555	Dental Auxiliary Utilization (continued in Fall 2019—D4)	1		1
CDM	4650	Clinical Radiology II (continued in Fall 2019—D4)			1
CDM	4611	Community Dentistry Rotation (continued in Fall 2019—D4)			1
CDM	4700	Extramural Primary Care Rotation (continued in Fall 2019—D4)			1
CDM	4175	QA/Recare Clinical Rotation III (continued in Fall 2019—D4)			1
CDM	4002	Applied Patient Care Foundations II (continued in Fall 2019—D4)			1

CDM	403E	Advanced Elective in Endodontics (continued in Fall 2019—D4)			1
CDM	4222	Laser Dentistry Elective	8	0	1
CDM	400H	Honors Endodontics (continued in Fall 2019—D4)			1
CDM	402H	Periodontal Honors (continued in Fall 2019—D4)			1
CDM	408H	Honors Program in Oral and Maxillofacial Surgery (continued in Fall 2019—D4)			1
CDM	412H	Honors Program Prosthodontics (continued in Fall 2019—D4)			1
CDM	414H	Honors Program in Orthodontics and Dentofacial (continued in Fall 2019—D4)			1
CDM	416H	Honors Special Needs Dentistry (continued in Fall 2019—D4)			1
CDM	404H	Oral Medicine Honors (continued in Fall 2019—D4)			1
CDM	3001	Honors Peer Tutoring III			1

**Fall 2018—D4, Class of 2019**

			Contact	Laboratory	Credit Hours
CDM	4060	Practice Management	16	0	1
CDM	4120	Regional Board Prep Course (continued in Winter 2019—D4)	5	10	1
CDM	4170	Oral Manifestations of Disease	16	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4240	Advanced Comprehensive Treatment Planning	18	0	1
CDM	4410	Clinical Fixed Prosthodontics II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4411	Clinical Removable Prosthodontics II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4500	Clinical Restorative Dentistry II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4501	Clinical Periodontology II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4002	Applied Patient Care Foundations II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1

CDM	4505	Clinical Dental Urgent Care Rotation (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4507	Clinical OMFS Rotation II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4555	Dental Auxiliary Utilization (starts in Summer—D3; continued in Fall 2018—D4) (continued in Winter 2019—D4)			1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4611	Community Dentistry Rotation (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4621	Clinical Endodontics II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4650	Clinical Radiology II (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4700	Extramural Primary Care Rotation (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	4999	Advanced Techniques in Pain and Anxiety Control	18	0	1
CDM	403E	Advanced Elective in Endodontics (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	400H	Honors Endodontics (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	402H	Honors Program in Periodontics (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	410H	Honors Program in Pediatric Dentistry (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	412H	Honors Program in Prosthodontics (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	408H	Honors Program in Oral and Maxillofacial Surgery (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1



CDM	416H	Honors in Special Needs Dentistry (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	404H	Oral Medicine Honors (continued from Summer 2018—D3) (continued in Winter 2019—D4)			1
CDM	3001	Honors Peer Tutoring III			1

**Winter 2019—D4, Class of 2019**

			Contact	Laboratory	Credit Hours
CDM	4120	Regional Board Prep Course (continued from Fall 2018—D4)	0	72	1
CDM	4501	Clinical Periodontology II (continued from Fall 2018—D4)			2
CDM	4500	Clinical Restorative Dentistry II (continued from Fall 2018—D4)			11
CDM	4621	Clinical Endodontics II (continued from Fall 2018—D4)			2
CDM	4002	Applied Patient Care Foundations II (continued from Fall 2018—D4)			13
CDM	4410	Clinical Fixed Prosthodontics II (continued from Fall 2018—D4)			11
CDM	4411	Clinical Removable Prosthodontics II (continued from Fall 2018—D4)			11
CDM	4020	Clinical Oral Medicine Case Presentations	16	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Fall 2018—D4)	3	14	1
CDM	4505	Clinical Dental Urgent Care Rotation (continued from Fall 2018—D4)	0	45	1
CDM	4507	Clinical OMFS Rotation II (continued from Fall 2018—D4)	0	50	1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Fall 2018—D4)	0	28	2
CDM	4555	Dental Auxiliary Utilization (continued from Fall 2018—D4)		48	1
CDM	4611	Community Dentistry Rotation (continued from Fall 2018—D4)			1
CDM	4650	Clinical Radiology II (continued from Fall 2018—D4)			1
CDM	4700	Extramural Primary Care Rotation (continued from Fall 2018—D4)	0	75	7
CDM	400H	Honors Endodontics (continued from Fall 2018—D4)	10	0	1

CDM	402H	Periodontal Honors (continued from Fall 2018—D4)	42	4	3
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued from Fall 2018—D4)	36	0	2
CDM	404H	Oral Medicine Honors (continued from Fall 2018—D4)	48	0	1
CDM	412H	Honors Prosthodontics (continued from Fall 2018—D4)	54	0	1
CDM	403E	Advanced Elective in Endodontics (continued from Fall 2018—D4)	14	0	1
CDM	425E	Forensic Odontology Elective	8	4	1
CDM	426E	Cone Beam CT Elective	4	0	1
CDM	410H	Honors Pediatric Dentistry (continued from Fall 2018—D4)	22	0	2
CDM	408H	Honors Program in Oral and Maxillofacial Surgery (continued from Fall 2018—D4)			1
CDM	416H	Honors in Special Needs Dentistry (continued from Fall 2018—D4)			2
CDM	4001	Honors Peer Tutoring IV			1

## College of Dental Medicine Course Descriptions

### Interdisciplinary Biomedical Sciences

**Anatomy**—Chair and Professor: **N. Lufti** | Professors: **L. Dribin, A. Mariassy, C. Purvis, R. K. Yip** | Associate Professor: **P. Greenman** | Assistant Professor: **A. Ahmadi** | Instructor: **D. McNally**

#### CDM 1000—Anatomy Lecture/Laboratory

This course includes a general study of anatomical and functional features of the major systems of the human body with a more detailed study of the anatomy and function of the head and neck regions. Radiographic anatomy is presented in detail throughout the entire course. Laboratory sessions include the study of prosected human cadavers.

#### CDM 1030—Histology and Embryology Lecture/Laboratory

In this course, the microscopic anatomy of cells, tissues, and organs of the body is presented and correlated with their functions. Basic physiological concepts and relevant areas in pathology are presented. This course includes an introduction to human embryology, with an emphasis on weeks one through eight. The laboratory sessions include the study of tissue specimens with light microscopes.

#### CDM 1130—Neuroanatomy Lecture/Laboratory

This course will introduce students to structural, functional, and developmental features of the human nervous system with an emphasis on clinical concepts. It serves as an introduction to neurology. Laboratory sessions include the study of human brain and spinal cord specimens and brain scans.

**Biochemistry**—Chair and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam**

#### CDM 1025—Dental Biochemistry and Nutrition

This course includes concepts and principles of biochemistry of normal and pathologic human life processes. In addition, the principles of nutrition, biochemical roles of dietary constituents, digestion, and absorption are discussed.

**Microbiology**—Chair and Professor: **K. Davis** | Professor **H. Laubach** | Associate Professors: **J. Costin, M. Demory Beckler, B. Mayi, S. Prasad, A. Wrench**

#### CDM 1110—Microbiology

Presents basic medical aspects of bacteriology, virology, and mycology, and includes taxonomy, morphology, epidemiology, growth cycles, pathogenesis, and treatment. Emphasizes oral microbial ecosystems and biofilms.

#### CDM 1111—Immunology

This course presents basic knowledge of the cellular, molecular, and biochemical aspects of the immune system and immune responses, including how the various components integrate and work together to control infectious organisms. It includes how disturbances in the immune system can lead to disease, and how the system can be controlled therapeutically.

**Pathology**—Chair and Assistant Professor: **E. Murdock** | Professors: **B. Jones, A. B. Trif** | Assistant Professor: **A. Vila**

#### CDM 1125 and 2125—Pathology I and II

Covers the basic pathologic processes of human disease, with a scientific foundation in etiology, pathogenesis, morphologic alterations, and effects of diseases of the organ systems. Emphasizes bone pathology and relevant disease states that affect the orofacial region.

**Pharmacology**—Chair and Associate Professor: **M. Parker** | Professors: **T. Panavelil, C. Powell** | Associate Professors: **A. Levy, P. Rose, M. Zhao**

#### CDM 2010—Pharmacology I

Introduces pharmacological concepts and principles, clinical indications, contraindications, risks, complications, and toxicity of drugs and pharmacological agents.

#### CDM 2130—Pharmacology II

Particular emphasis on the drugs and drug interactions important to the dentist as well as the principles and concepts of pharmacology and pharmacological actions and drug interactions.

**Physiology**—Chair and Professor: **W. Schreier** | Professors: **H. Mayrovitz, Y. Zagvazdin** | Associate Professor: **L. Lyons** | Assistant Professor: **A. Mashukova**

#### CDM 1120—Physiology

This course reviews the physiological functions and regulation of the major human organ systems. Topics covered include basic cellular physiology, skeletal muscle, the cardiovascular system, the nervous system, the renal system, the respiratory system, the gastrointestinal system, and the endocrine system. Topics with direct relevance to dentistry, oral health, and disease are integrated into the content of the course. Specific examples include structural changes of the cell membranes in pemphigus vulgaris, the effect of local anesthetics on ionic current, and the effects of metabolic imbalances on oral health. The mechanisms of relevant physiological and pathological processes in a variety of clinical conditions are discussed.

**Behavioral Science**—College of Psychology faculty member: K. Lit

#### **CDM 3080—Behavioral Science**

This course provides dental students with interviewing strategies, communication skills and an introduction to the theories and research pertaining to anxiety with specific interventions geared to reduce tension and fear. Students will be exposed to various interviewing and communication techniques as well as theories regarding the etiology of anxiety. Students will gain familiarity with psychological and physiological indices of arousal. It is the goal of this course to acquaint dental students with well established interventions including progressive muscle relaxation, systematic desensitization, biofeedback, hypnosis, and the relationship of anxiety/stress to pain syndromes.

#### **Department of Cariology and Restorative Dentistry—**

Chair and Associate Professor: **A. Galka** | Predoctoral Co-Clinical Director and Associate Professor: **A. Farhangpour** | Postgraduate Program Director and Assistant Professor: **A. Amini** | Associate Professors: **S. Antonson, D. Araujo Della-Bona, A. Brodie, E. Kilinc** | Assistant Professors: **L. Brown, E. Chiang, P. Fleisher, R. Gaines, J. Garber, M. Georgescu, T. Gonzalez, H. Gordon, M. Gutierrez, S. Hack, F. Jimenez, J. Kodish-Stav, H. Lippman, V. Noce, P. Papatzimas, P. Pugliese, H. Quinton, J. Rodriguez, M. Schweizer, L. Shapiro, R. Vogel** | Adjunct Faculty Members: **S. Berger, R. Chhadva, E. Fellows, T. Franklin, T. Leonard, N. Levy, S. Sadati, J. Shiffman, B. Tandy, J. Velazquez, G. Wallach**

#### **CDM 1015—Clinical Experience Rotation I**

This clinical rotation in the D1 fall semester provides the student with early exposure and experience in the professional clinical dental environment, including observation of diagnostic methods, dental procedures, and patient-student-faculty interaction. D1 students are instructed in basic dental assisting skills and infection control principles, and may have the opportunity to implement these skills while assisting D3 and D4 students in the CDM predoctoral clinics. The content and experience in this course will be integrated with the content in the following courses: Ethics and Professionalism and Multidisciplinary Introduction to Record Keeping.

#### **CDM 1016—Clinical Experience Rotation II**

This clinical rotation in the D1 winter and D2 summer semesters gives the student continued and expanded exposure to the clinical dental environment in the CDM clinics. During this rotation, the D1 student's knowledge of biomedical science, dental procedures, instrumentation, and record keeping is further integrated with the clinical setting. The content and experience in this course will be integrated with the content in the following courses: Ethics

and Professionalism and Multidisciplinary Introduction to Record Keeping.

#### **CDM 1135—Introduction to Dental Record Keeping (EHR I)**

This course gives first-year dental students hands-on experience in completing electronic dental treatment records. Students receive one lecture presentation on the importance and techniques of proper record keeping and one lecture on normal anatomic oral structures. One computer lab session is provided where students will learn components of the axiUm electronic health record, including recording of odontologic findings, clinical findings, codes, notes, and use of the personal planner. In the clinical setting, students create and complete a treatment record, including medical history, hard and soft tissue examination, and a treatment note, while working in pairs with classmates. The class is divided into three groups for ease of management in the clinic. Group assignments will be posted on Canvas. Students will be assigned to Group A, B, or C. They will attend the rotations as indicated in the course schedule

#### **CDM 1203—Evidence-Based Dentistry I**

Students will be introduced to the fundamentals of evidence-based dentistry (EBD) and study design. This will include introductory information on EBD and online computer searches for scientific information. Students will learn how to use the main EBD websites and clinical query searches on PubMed. Online databases and search strategies will be presented. Clinical research designs such as case-control, case series, case report, cohort studies, and randomized controlled trial will be introduced. Concepts of study design, research methods, and literature review will be emphasized and critically compared.

#### **CDM 1155—Integrated Restorative Dental Sciences I Lecture**

The IRDS I lecture course is an integrated program that includes objectives from the following disciplines: dental anatomy, fundamentals of occlusion, biomaterials, cariology, and operative dentistry. This course presents the anatomical and functional differences of teeth, how they relate to each other, and the application of this knowledge to various phases of dentistry. It presents the characteristics differentiating each tooth and the variations that can occur from one patient to the next. The course will introduce concepts of anatomy and normal function of the stomatognathic system. While learning about the medical model of caries management, students will be introduced to dental caries: disease, diagnosis, preventive and remineralization treatments, prognosis, and outcomes. Understanding the role of caries risk assessment in restorative decisions, students will apply principles of minimally invasive dentistry. Students will learn about dental biomaterials, material selection, preparation design, and restoration. The IRDS course integrates

the principles from these disciplines in order to prepare students for a comprehensive-care, competency-based, clinical curriculum.

#### **CDM 1156—Integrated Restorative Dental Sciences I Laboratory**

The IRDS I laboratory course is an integrated, hands-on program that runs concurrently with the lecture component and includes objectives from the following disciplines: dental anatomy, fundamentals of occlusion, dental biomaterials, cariology, and operative dentistry. This course presents the anatomical and functional differences of teeth, how they relate to each other, and the application of this knowledge to various phases of dentistry. It presents the characteristics differentiating each tooth and the variations that can occur from one patient to the next. The course will introduce concepts of anatomy and normal function of the stomatognathic system. Utilization of wax carving and add-on techniques are introduced. With an understanding of the role of caries risk assessment in restorative decisions and knowledge of the mechanical and physical properties of the dental materials, students will learn principles of cavity preparation; material selection; and proper use of amalgam, alginate, and gypsum. The IRDS I laboratory course integrates the principles from these disciplines in order to prepare students for a comprehensive-care, competency-based, clinical curriculum. Emphasis will be placed on teaching students how to develop the fine psychomotor skills that are necessary to practice dentistry.

#### **CDM 1255—Integrated Restorative Dental Sciences II Lecture**

The IRDS II course is an integrated program that includes objectives from the following disciplines: dental anatomy, fundamentals of occlusion, operative dentistry, dental biomaterials, cariology, and fixed prosthodontics. The course will continue building on concepts of anatomy and normal function of the stomatognathic system. While applying cariology principles, students learn about dental biomaterials; material selection; preparation; design; and proper use of amalgam, composite resin, glass ionomers, and casting metals (gold, etc.). This course will introduce the theory and principles of fixed prosthodontics, and its role in the overall treatment of the patient. The IRDS course integrates the principles from these disciplines in order to prepare students for a comprehensive-care, competency-based, clinical curriculum.

#### **CDM 1266—Integrated Restorative Dental Sciences II Laboratory**

The IRDS II laboratory course is an integrated, hands-on, simulation program and a continuation of the IRDS I laboratory course. It runs concurrently with the lecture component and includes objectives from the following disciplines: dental anatomy, fundamentals of occlusion, operative dentistry, dental biomaterials, cariology, and fixed prosthodontics. The IRDS course integrates the

principles from these disciplines in order to prepare students for a comprehensive-care, competency-based, clinical curriculum.

#### **CDM 1357— Case-Based Integrated Restorative Sciences III Lecture and Laboratory**

The IRDS III course is a continuation of the fall and winter IRDS courses. Course content from dental anatomy, fundamentals of occlusion, operative dentistry, dental biomaterials, cariology, prosthodontics, and record keeping are integrated into a case-based format utilizing knowledge and critical thinking skills obtained in the fall and winter semesters.

#### **CDM 2025—IDG Integrated Restorative Dentistry Lecture and Laboratory**

The lecture course presents the topic of diagnosis and treatment of carious lesions and other hard-tissue defects, principles of direct restorative dentistry, and fundamental concepts in the practice of restorative dentistry. The lecture component, in conjunction with the laboratory component, provides the foundation for the student to utilize the same knowledge and techniques that will be used in clinical application.

#### **CDM 2135—Essentials of the EHR (EHR II)**

The second first-year course is designed to build on Introduction to Dental Record Keeping (CDM 1135) by providing four hands-on computer lab sessions with a final examination. The student will practice using components of the electronic health record comprising recording of odontologic and clinical findings, entering procedure codes, completing patient record forms, writing chart notes, and using the personal planner.

#### **CDM 2175—QA/Recare Clinical Rotation I**

The D2 student will work together with the Quality Assurance Dental Faculty to perform the treatment completion exams and the annual examination and assessment of recare patients in the Davie Predoctoral Clinic. The student will be required to review the patient chart prior to the appointment and perform a systematic chart review. The student will have the opportunity to observe, record, and evaluate restorations and pathology with faculty member assistance. This clinical experience will allow the student to practice the skills that he or she has learned in the D1 Multidisciplinary Record Keeping course and to continue to observe dentist-patient communication and time management prior to participating in comprehensive patient care clinic.

#### **CDM 2241—Introduction to Comprehensive Treatment Planning**

This course is designed to introduce sophomore students to the didactic basis of dental treatment planning while combining and integrating the course didactics with computer training using the electronic health record

software system. The course will begin with the patient's screening admission process and will continue with the patient's data collection, including medical and dental histories, the extraoral and intraoral physical examination, and the evaluation of dental radiographs. Ultimately, students will gain a framework of reference from which to build a structured and systematic patient dental treatment plan that will ensure optimal patient care.

#### **CDM 2242—Comprehensive Treatment Planning in the EHR (EHR III)**

This sophomore-year course is designed to instruct students in using the knowledge from various dental disciplines to develop treatment plans for patient presentation using the electronic record software system that is currently used at NSU CDM. The hands-on, five-session, computer-based course guides the student to develop optimal, alternative, revised, and limited-care treatment plans based on information gathered from clinical findings. The plans are phased and sequenced according to patient needs with appropriate risks and benefits. A final examination using the electronic record software is used to assess student knowledge of developing optimal and alternative treatment plans.

#### **CDM 2999—Clinic Prerequisite Orientation**

This course will provide the student with clinic operations information, policies, protocols applicable to comprehensive-care clinics, and clinic rotations. Students will be oriented to the expectations of all clinical disciplines as they apply to comprehensive patient care and competency assessment and experiences. Students will also be oriented to the expectations of the Applied Patient Care Foundations courses and will be introduced to practice team leaders and patient care coordinators. Additionally, they will be required to complete recertification of BLS, Infection Control/Exposure Protocol, and technology updates; have passed NBDE Part I; and be responsible for any other clinic-related information, as needed.

#### **CDM 3175 and CDM 4175—QA/Recare Clinical Rotation II and III**

D3 and D4 students will perform periodic patient exams, including annual periodontal charting, medical/dental history review and update, caries risk assessment, and necessary radiographs for dental hygiene recare patients at the Davie clinic, and at off-site Comprehensive Care clinics. Students will review charts prior to clinic sessions in order to familiarize themselves with patients' previous care. Preventive treatment protocols will be reviewed and assessed for patient compliance, and restorative treatment outcomes will be observed and reviewed with faculty members. This will provide students with opportunities to duplicate the periodic dental hygiene treatment/dental exam experience of that in private practice.

#### **CDM 3241—Comprehensive Treatment Planning**

This course is designed to continue with the didactics of comprehensive dental treatment planning while integrating computer training using the electronic health record software system. The course will begin reviewing the patient's screening admission and data collection process and will continue with all the phases and sequencing of dental treatment planning. Practice management and ethical issues in treatment planning will also be discussed during the course. Students will have the opportunity to interact with faculty members and other classmates during patient case-based group discussions and seminars.

#### **CDM 3500—Clinical Restorative Dentistry I**

Under direct supervision of faculty members, in a team leader model, the student will incorporate the knowledge gained from didactic courses to provide comprehensive patient care. Following the medical model of caries management and principles of minimally invasive dentistry, the student will provide clinical services and dental restorations for patients using caries risk assessment, diagnosis, prevention, oral hygiene instruction, fluoride, sealants, laser diagnosis, remineralization techniques, tooth whitening procedures amalgam, resin composites, and glass ionomers. In addition to developing the student's skills in performing evidence-based restorative procedures, the overlying objectives of this course are restoration to health of the dental patient and the prevention of future dental caries for the patient.

#### **CDM 3000—Applied Patient Care Foundations I**

This course is designed to evaluate and assess the student's ability to provide comprehensive patient care in a professional and ethical manner utilizing sound clinical judgment. Proper patient management skills, including organization, preparedness, and the ability to work independently, will also be assessed. Record keeping and the ability to follow instructions are integral skills evaluated in this course as well.

#### **CDM 4002—Applied Patient Care Foundations II**

This course is designed to evaluate and assess the student's ability to provide comprehensive patient care in a professional and ethical manner utilizing sound clinical judgment. Proper patient management skills, including organization, preparedness, and the ability to work independently, will also be assessed. Record keeping and the ability to follow instructions are integral skills evaluated in this course as well.

#### **CDM 4120—Regional Board Preparation Course**

This course consists of a lecture and laboratory series that presents an overview of useful clinical techniques for students who will be taking various regional board dental examinations. The course presents didactic material as well as hands-on clinical simulation of examination parameters for procedures included in various regional board exams.

Successful completion of this course should assist students taking regional board exams, but does not guarantee a passing grade on any regional board examination taken by a student.

#### **CDM 4240—Advanced Comprehensive Treatment Planning**

This course is designed to build upon the foundations of comprehensive dental treatment planning for application to more advanced treatment planning cases. Students will have the opportunity to interact with faculty members and other classmates during patient case-based group discussions and seminars.

#### **CDM 4500—Clinical Restorative Dentistry II**

Under direct supervision of faculty members, in a team leader model, the student will gain more experience in providing comprehensive patient care. Following the medical model of caries management and principles of minimally invasive dentistry, the student will provide clinical services and dental restorations for patients using caries risk assessment, diagnosis, prevention, oral hygiene instruction, fluoride, sealants, laser diagnosis, remineralization techniques, tooth whitening procedures amalgam, resin composites, and glass ionomers. In addition to developing the student's skills in performing evidence-based restorative procedures, the overlying objectives of this course are restoration to health of the dental patient and the prevention of future dental caries for the patient.

#### **CDM 4555—Dental Auxiliary Utilization**

The Dental Auxiliary Utilization (DAU) rotation course is designed to train dental students in the application of the concepts of four-handed dentistry, dental team, and ergonomics learned starting from the D1 year in the effective delivery of dental services in a comfortable and minimum-stress environment. Application of these concepts can later be applied to private practice. The student should become familiar with what is expected and required of the assistant, as well as the requirements for the operator and the assistant to work efficiently and effectively in completing all procedures.

#### **Department of Community and Public Health Sciences**—Chair and Professor: **D. Ede-Nichols** |

Postgraduate Program Director and Assistant Professor: **A. Khatib** | Assistant Professor: **R. Block** | Clinical Instructor: **A. Bezerra** | Adjunct Faculty Members: **N. Browner, A. Burch, A. Epstein, R. Jabbar, J. Packer, H. Panahi, B. Schobert, E. Suzuki**

The community dentistry curriculum serves to introduce the pre- and postdoctoral student to the underserved population within our community—including patients with developmental, acquired, medical, and mental disabilities and the frail elderly. It also includes ethics, behavioral science, issues related to the dental profession,

and practice management. The curriculum integrates the didactic and clinical education by incorporating extramural rotations, externships, community health fairs, and residency programs. In addition, NSU-CDM has created the Henry Schein Special Needs Clinical Suite, whose state-of-the-art clinic is located on NSU's North Miami Beach Campus. This clinic allows for the enhancement of clinical training of students while providing much-needed dental care to these underserved populations.

#### **CDM 1050 and CDM 1051—Ethics and Professionalism I and II**

These courses will provide the student with an awareness of the ethical issues in the dental profession and expected behavior at the College of Dental Medicine. In addition, students will develop an understanding of the impact of various ethical issues and communication skills in dental education and clinical practice. The content in these courses will be integrated with the content in the following courses: Clinic Experience I and II and Multidisciplinary Introduction to Record Keeping.

#### **CDM 1205—Primary Care and Public Health I**

This course will introduce students to fundamentals of public health and its relevance in dentistry. Health care delivery systems, as well as oral health status and disparities across the population, will be discussed. Students will be instructed on legal and ethical principles applied to public health. In addition, students will be given the opportunity to develop their own strategic plan involving a dental health initiative.

#### **CDM 2085—Introduction to Special Needs Dentistry**

Introduction to Special Needs Dentistry is a didactic course that will define special needs patients, focus on their oral health needs, and present methodology for overcoming the lack of care in this patient population.

#### **CDM 3090—Introduction to the Dental Profession**

Practice management and organizational theory, economic theory, and practical aspects of managing a dental practice.

#### **CDM 3140—Special Needs Dentistry**

CDM 3140 is a semester-long didactic course that presents a curriculum that introduces the predoctoral student to the pathophysiology of disabilities. The course will also demonstrate the management tools and techniques necessary for the provision of dental care to this underserved population in both the academic arena and the private practice setting.

#### **CDM 4060—Practice Management**

The course is a continuum of information supporting the understanding of the dental profession, with an emphasis on the business of dentistry, practice management, and medical/legal issues. Discussions about various practice models, business entities, taxation, accounting, and insurance options will be presented.

#### **CDM 4611—Community Dentistry Rotation**

The community dentistry rotation is designed to complement the didactic course CDM 3140, presented in the winter semester of the D3 year. D4 students will use the didactic information to evaluate, assess, and provide treatment for individuals with developmental and acquired disabilities, medically and psychologically compromised patients, and the frail elderly. The D4 students will become familiar with the medical chart, responding to requests for dental consult, and the behavioral management issues of treating those with special needs.

#### **CDM 4700—Extramural Primary Care Rotation**

This course is intended to provide senior dental students with the opportunity to receive instruction in providing patient-centered primary oral health care for underserved populations, including medically compromised patients and those with limited access to oral health services. This presents an opportunity for the students at NSU-CDM to broaden their exposure to providing comprehensive dentistry in an extramural clinic environment. Students will also better understand the public health context for the care they will be providing. Students will complete a reflective observation activity at the end of their rotation. It may consist of reflective journaling, focus groups (face-to-face or electronic), a presentation, or case writing. This activity is intended to serve as a bridge between experiential and didactic learning, and to demonstrate critical thinking skills to prepare for and learn from service experiences.

#### **CDM 416H—Honors in Special Needs Dentistry**

Working alongside postgraduate residents, this elective honors program serves to train interested students in the provision of quality dental care for people with medical, psychological, and physical disabilities utilizing current accepted modalities such as behavior management, conscious sedation procedures and protocols, and operating room exposure.

**Department of Diagnostic Sciences**—Chair and Professor: **M. A. Siegel** | Vice Chair and Professor: **P. Bradley** | Associate Director and Associate Professor: **M. Hogge** | Professor: **L. Solomon** | Associate Professor: **L. Mejia** | Assistant Professor: **E. Choi** | Adjunct Professors: **J. Arenas, V. De Weijer, L. Haller, S. Kuriakose, S. Mescher, A. Orozco, P. Paez, D. Stern**

#### **CDM 1160—Oral Histology**

This course is designed to provide broad exposure to the basic embryologic development and histology of anatomic structures that form the maxillofacial complex. Lecture and electronic images of the soft and calcified tissues that comprise the oral cavity will be used to illustrate these principles. Clinical procedures that depend on the understanding of these structures will be introduced.

#### **CDM 2110—Radiology**

Lecture course with a preclinical laboratory exercise, in order to prepare the student for the performance of clinical oral and maxillofacial radiology technique. Infection control and safety for operator and patient is stressed.

#### **CDM 2120—Oral and Maxillofacial Diagnosis I**

Lecture and demonstration course covers extraoral techniques with special emphasis on digital imaging. Lectures cover radiographic interpretation of developmental anomalies, caries, periodontal disease, periapical disturbances, and other anomalies.

#### **CDM 2140—Introduction to Oral Medicine**

Didactic course builds on and incorporates the knowledge base gained in the basic medical sciences. Focuses on a comprehensive medical history and physical examination of the head and neck, evaluation of medical laboratory tests, management of the medically compromised patient, medical emergencies, and requirements of the Occupational Safety and Health Administration.

#### **CDM 2280—Internal Medicine for Dentists**

This lecture course will expose D2 students to the applied principles of diagnosis of the medically complex patient and the translation of these principles into clinical practice. Students will be exposed to lectures given in a review of systems format. All lectures will present a specific system/disorder with emphasis on definition, epidemiology, pathophysiology and complications, clinical presentation, medical management, and dental management. Concepts of antibiotic premedication and medical consultation will be introduced. Each lecture will reinforce previously encountered concepts of pathology and physiology, translate these concepts into a clinical venue, and then apply dental management techniques that are necessary to safely manage patients in a clinical practice.

#### **CDM 3010—Oral and Maxillofacial Diagnosis II**

Didactic course focuses on the etiology, clinical, histologic, and radiographic appearance and treatment of specific disease entities involving the head and neck. Differential diagnosis is emphasized, giving clinical relevance to the discipline.

#### **CDM 3011—Oral and Maxillofacial Diagnosis III**

Continuance of CDM 3010, Oral Pathology I, didactic course focuses on the etiology, clinical, and histologic appearance and treatment of specific disease entities involving the head and neck. Differential diagnosis is emphasized, giving clinical relevance to the discipline.

#### **CDM 3020—Oral Medicine**

Didactic course continues and builds on the knowledge base gained in the basic medical sciences and Introduction to Oral Medicine. A comprehensive study of both hard



and soft tissue lesions manifesting in the oral cavity and related head and neck structures is presented.

#### **CDM 3021—Common Oral Conditions**

A continuation of Introduction to Oral Medicine and Oral Medicine. The lectures are presented to develop the skills of interpreting a medical history through head and neck examinations and the dental management of the medically complex patient. The course will discuss the diagnosis and management of common oral and orofacial conditions as well as how to provide safe and effective oral health care for patients with life threatening medical disorders.

#### **CDM 3650 and CDM 4650—**

##### **Clinical Radiology I and II**

Students perform radiographic techniques and interpretations in a clinical setting.

#### **CDM 4020—Clinical Oral Medicine**

##### **Case Presentations**

Clinical manifestations of common systemic disorders are discussed to help students in making a tentative presumption diagnosis and developing a differential diagnosis. Each student will prepare a PowerPoint presentation on a patient with an oral soft tissue lesion for presentation to his or her class. Self assessment will be done at that time.

#### **CDM 4170—Oral Manifestations of Disease**

A case-based presentation of common conditions and diseases that patients will bring to the general practitioner. The goal is to review the physiology, clinical signs and symptoms, and the modifications to dental treatment that may be necessary. Also to be included are pharmacotherapeutics of common oral conditions, tobacco cessation, and recommendation for referrals to dental specialists.

#### **CDM 4404H—Oral Medicine Honors**

This honors course will allow students with a special interest in the discipline of oral medicine to increase their exposure to patient cases involving advanced decision-making and clinical management skills beyond the scope of the predoctoral curriculum.

#### **CDM 425E—Forensic Odontology Elective**

Forensic Odontology is an elective course offered to a limited number of D4 students. The course format is didactic and includes a lab component at the Medical Examiner's Office. Topics covered may include human identification, bite marks, mass disasters, and professional training, as well as other subjects.

#### **CDM 426E—Cone Beam CT Elective**

The basic concepts of cone beam CT (CBCT) are presented, including navigation through iCATVision software and clinical applications. Diagnosis of radiological findings is reviewed.

#### **CDM 4222—Laser Dentistry (Elective)**

The curriculum for this basic-level course includes education in the fundamental principles of laser use in dentistry, the use of lasers in multiple dental disciplines, and safety aspects of laser use.

**Department of Endodontics**—Chair and Associate Professor: **T. C. Sayin** | Postgraduate Program Director and Professor: **M. Flax** | Predoctoral Director and Professor: **R. Seltzer** | Associate Professor: **J. Zeim** | Assistant Professors: **C. Bonilla, I. Griffin, V. Manjarres** | Adjunct Faculty: **S. Berman, P. Duluc-Vega, I. Epelman, S. Goldstein, D. Gomez, A. Helfer, R. Herman, I. Moldauer, A. Moskow, C. Navarrete, J. Newman, J. Sainsbury, J. Schapiro, J. Silberman, A. Skidmore, R. Steiner**

#### **CDM 2050—Endodontics Lecture**

This course is an introduction to the theory and practice of endodontics. It presents the fundamental principles of the treatment of pulpal and periapical disease. Along with CDM 2060, it prepares the student to provide clinical endodontic treatment.

#### **CDM 2060—Endodontics Laboratory**

This course is an introduction to the actual treatment procedures required to treat pulpal disease. By carrying out procedures on extracted teeth from each tooth group, this course, along with CDM 2050, prepares the student to provide clinical endodontic treatment.

#### **CDM 2250—Endodontics Clinical Lecture**

This course serves to enhance the knowledge and understanding beyond the basic concepts for predoctoral students. The students' ability to apply these concepts to their own patients and to recognize situations that are beyond their skills, thus requiring referrals, are developed and emphasized.

#### **CDM 3621—Clinical Endodontics I**

Junior dental students are taught clinical endodontic treatment of single-rooted and multirouted teeth (premolars and molars). This includes diagnosing a tooth with pulpal problems as well as sequencing of endodontic treatment in the treatment plan. Proper documentation in the treatment record, anesthesia techniques, patient management, and root canal therapy are also discussed.

#### **CDM 4621—Clinical Endodontics II**

Senior dental students display proficiency and knowledge of anesthetic techniques, patient management, and endodontic treatment of single-rooted and multirouted teeth (premolars and molars). They also manage endodontic emergencies. The completion of competency requirements demonstrates that students have reached the level of "safe starter" to treat basic endodontic cases in the practice of general dentistry.

### **CDM 400H—Honors Endodontics**

The honors program offers students who are beginning their fourth year of dental school the opportunity to apply for honors courses in one of eight different specialties. Candidate selection will be based on the approval of the associate dean of academic affairs and the director of clinics, as well as criteria established by each participating department chair. Students who are selected will take part in postdoctoral-level seminars, case presentations, and research. Additionally, honors students will assist in the diagnosis, treatment planning, and care of complex patients. The specific format of each honors program course will be provided to students at the time their applications are submitted.

### **CDM 403E—Elective in Endodontics**

This course provides an opportunity for fourth-year students to continue their endodontic experience at a more advanced level. Students will participate in seminars that stress clinical situations and may also attend graduate seminars. Advanced elective students are encouraged to prepare and present a PowerPoint presentation as well. Students who have demonstrated superior clinical skills may be eligible to treat more challenging clinical cases.

**Department of Oral and Maxillofacial Surgery**—Chair and Professor: **S. Kaltman** | Postgraduate Program and Research Director and Associate Professor: **S. McClure** | Predoctoral Director and Assistant Professor: **A. Ospina** | Director of Pediatric Craniomaxillofacial Surgery and Associate Professor: **J. Portnof** | Associate Professor: **H. Lehrer** | Adjunct Professors: **E. Lopez, M. Ragan, A. Sclar** | Adjunct Associate Professors: **O. Borges, M. Harris, J. Kaltman, K. Kaner, R. Katz, K. Kim, T. Koyama, M. Krohn, M. Pikos, P. Richman, C. Schalit, D. Smith, T. Splaver, T. Tejera**

### **CDM 2040—Pharmacology, Analgesia, and Local Anesthesia I**

Didactic, lecture-oriented course that reviews the anatomy of the head and neck in relation to administration of local anesthesia. Topics covered include the pharmacology of local anesthetics and vasoconstrictors. Delivery and alternative anesthesia techniques are covered in this course.

### **CDM 2150—Oral and Maxillofacial Surgery I**

A didactic, lecture-oriented course that is reinforced with hands-on practical sessions and demonstrations. Fundamentally, the predoctoral program is designed to prepare the student in oral and maxillofacial surgery as it relates to the practice of general dentistry. The major objective of this course is to provide introductory information on the full scope of oral and maxillofacial surgery.

### **CDM 2170—Pharmacology, Analgesia, and Local Anesthesia II**

This is a didactic, lecture-oriented course that is reinforced with hands-on practical sessions and demonstrations, expanding on the background begun in CDM 2040. Topics include a review of local anesthesia techniques and basic information about alternative techniques of pain and anxiety control, such as oral sedation, nitrous oxide, IV sedation, and general anesthesia.

### **CDM 3040—Oral and Maxillofacial Surgery II**

Didactic, lecture-oriented course expanding on the background begun in the second semester of the sophomore year. Formal presentations to review the techniques of tooth extraction will be incorporated logically in sequence, incorporating pertinent review of the basic sciences. Hands-on instruction will be provided chairside. Students will also be exposed to more complex and modern practices in oral and maxillofacial surgery. This includes orthogenic surgery, TMJ surgery, pathology, and reconstruction surgery.

### **CDM 3507—Clinical OMFS Rotation I**

Third-year students are assigned to clinical rotations to observe and to provide surgical treatment for patients requiring dentoalveolar surgery and the management of odontogenic infections. Proficiency in patient evaluation and surgical techniques is stressed.

### **CDM 4505—Clinical Dental Emergency Rotation**

The fourth-year student will develop a systematic approach for evaluating a patient who presents with urgent dental or oral health concerns, acute pain, trauma, bleeding, infection, or swelling of the orofacial region. The student will complete a work-up of the patient's chief complaint; establish a diagnosis; present an emergency treatment plan and options; and, with patient-informed-consent, provide the treatment or an appropriate referral. Students on rotation will participate in a grand-rounds summary at the close of each session to review specific patients and techniques.

### **CDM 4507—Clinical OMFS Rotation II**

Fourth-year students are assigned to clinical rotations to observe and to provide surgical treatment for patients requiring dentoalveolar surgery and the management of odontogenic infections. Proficiency in patient evaluation and surgical techniques is stressed. The student will be required to demonstrate competency in routine tooth extraction, flap elevation for more difficult extractions, and other minor oral surgical procedures.

### **CDM 4999—Advanced Techniques in Pain and Anxiety Control**

The goal of this course is to introduce the wide spectrum of pain and anxiety control available in dentistry. During this course, the student will establish a basic understanding of the additional techniques available to the dental

practitioner to cope with the problems of anxiety and fear commonly found in dental patients, including current prescribing practices. The advanced techniques learned are not only used for the purpose of aiding the fearful dental patient, but also in prevention of medical emergencies in the dental office by attenuating the potentially harmful effects associated with the stress response. Hands-on instruction will be provided.

#### **CDM 408H—Honors Program in Oral and Maxillofacial Surgery**

This honors course will expand the clinical knowledge and experience of the D4 predoctoral student in oral and maxillofacial surgery, including providing the opportunity to participate in and be exposed to patients that require more difficult surgical extractions or implants and bone-grafting surgery, as well as those with impacted teeth, odontogenic infections, or oral pathologic lesions. Students will also learn how to manage medically compromised patients. The student will be able to participate in didactic conferences and rounds at the hospital and observation and assisting in the operating room. He or she will also be involved in emergency department patient management.

#### **Department of Orthodontics and Dentofacial Orthopedics**

—Chair and Professor: **A. Lifshitz** | Director of Predoctoral Orthodontics and Dentofacial Orthopedics and Assistant Professor: **C. Lin** | Interim Director of Postgraduate Orthodontics and Dentofacial Orthopedics and Associate Professor: **R. Singer** | Clinic Director and Associate Professor: **S. Real** | Associate Professor: **S. Khatami** | Assistant Professor: **G. Contasti** | Adjunct Faculty Members: **M. Cooper, J. Coro, J. Ginzler, E. Gross, A. Kapit, B. Matza, M. Meister, P. Palacios, R. Shults**

#### **CDM 2005—Craniofacial Growth and Development**

This course is intended to be an introductory course in craniofacial growth and development. Introductory and general concepts of somatic and craniofacial growth will be presented. Theories of craniofacial growth and development, the method of directional descent of the maxillary and mandibular complex, and correlation with the development of the occlusion will be included.

#### **CDM 2200—Orthodontics Lecture/Laboratory**

The orthodontics lecture course is designed to teach students to assess normal and abnormal growth and development, diagnosis and classification of malocclusion, and differentiation between limited and comprehensive orthodontic treatment. The orthodontics laboratory course is designed to teach principles and concepts used in treatment in orthodontics and dentofacial orthopedics. Laboratory skills are taught in orthodontic mechanotherapy, enabling students to participate in the clinical experience.

#### **CDM 3605—Orthodontic Clinical Comanagement Program**

The predoctoral student will work with the postgraduate orthodontic student in all phases of orthodontic care including examination, diagnostic record taking, analysis, diagnosis, differential diagnosis, and treatment planning. The predoctoral student will join the postgraduate student in the postgraduate clinic for patients' orthodontic appointments, assisting in all phases of clinical care.

#### **CDM 414H—Honors Program in Orthodontics and Dentofacial Orthopedics**

This optional Honors course provides the interested student with an opportunity to further his or her knowledge in limited, co-management orthodontic treatment with postgraduate residents and their patients through attendance at postgraduate diagnostic conferences and continued learning of orthodontic diagnosis and treatment planning.

#### **Department of Pediatrics**

—Chair and Professor: **R. Ocanto** | Predoctoral Director and Assistant Professor: **A. Noguera** | Postgraduate Director and Assistant Professor: **J. Chin** | Associate Professors: **J. Larumbe, O. Padilla** | Assistant Professors: **U. Kandalam, M. Kim, V. Oramas** | Adjunct Faculty Members: **D. Arnold, S. Ashley, N. Feliciano, C. Kitaigorodsky, S. Schwartz, E. Stelnicki, J. Vargas**

#### **CDM 2081—Introduction to Pediatric Dentistry**

This course is a primer on the diagnosis and treatment planning of primary and mixed dentition patients. Emphasis will be placed on dental disease, etiology, and prevention, recognition and management of disorders common in childhood. This course prepares students for the second semester didactic and laboratory experience in pediatric dentistry.

#### **CDM 2180—Pediatric Dentistry Lecture**

Provides the student with an overview of "normalcy" as well as the most common disorders and conditions in children. Diagnosis and treatment planning of pediatric patients with primary, transitional, and permanent dentitions are emphasized. This includes behavior management techniques, the development and morphology of the dentition, oral surgery and oral pathology, restorative and preventive procedures and materials, pulpal and periodontal therapy, traumatic injuries, space management, and oral habits. This course prepares students for their clinical interactions with children.

#### **CDM 2190—Pediatric Dentistry Laboratory**

The pediatric dentistry simulation laboratory sessions provide the student with basic knowledge and understanding of cavity preparation and restoration exercises with a variety of materials in the primary

dentition. In addition, space maintenance and space analysis are reviewed during these laboratory sessions.

#### **CDM 3525—Clinical Pediatric Dentistry Rotation I**

This course includes the clinical application of preclinical pediatric dentistry skills in children and adolescents. All patients are treated in a comprehensive care format with emphasis in: 1) behavioral guidance; 2) record keeping, comprehensive diagnosis, and treatment planning; 3) prevention, including caries and risk assessment; and 4) restorative dentistry including composite and amalgam restorations in primary and mixed dentition. All clinical treatment is accomplished under the direct supervision of faculty members from the Department of Pediatric Dentistry.

#### **CDM 4525—Clinical Pediatric Dentistry Rotations II**

Clinical application of pediatric dentistry preclinical skills and clinical skills acquired during the D3 year are accomplished in a population of indigent children attending extramural dental clinics in South Florida. All patients are treated in a comprehensive care format with emphasis in: 1) behavioral guidance; 2) record keeping, comprehensive diagnosis, and treatment planning; 3) prevention, including caries and risk assessment; 4) restorative dentistry including composite and amalgam restorations in primary and mixed dentition, anterior composites, pulp therapy, and stainless steel crowns; and 5) interceptive orthodontics (space analysis and maintenance). All clinical treatment is accomplished under the direct supervision of faculty members from the Department of Pediatric Dentistry.

#### **CDM 410H—Honors Program in Pediatric Dentistry**

This course has been designed with the purpose of exposing D4 students to activities that will enhance their knowledge and skills in pediatric dentistry, specifically in the areas of didactic and clinical expertise.

**Department of Periodontology**—Department Chair and Associate Professor: **M. Hernandez** | Postgraduate Director, and Associate Professor: **T. Koutouzis** | Predoctoral Director and Associate Professor: **S. Drukteinis** | Professors: **T. Kawai, P. Murray** | Associate Professors: **D. Bronstein, S. Vardar** | Assistant Professors: **L. Bascéanu, B. Garcia, A. Movila, M. Roth** | Clinical Instructor: **C. Coleman** | Adjunct Associate Professors: **M. Forrest, J. Ganeles, T. Kang** | Adjunct Assistant Professors: **D. Boden, N. Dalal, B. Engle, F. Figueroa, M. Forrest, I. Freedman, I. Garazi, D. Genet, I. Ginsberg, D. Glassman, A. Goldstein, A. Horowitz, G. Jacobson, T. Kang, M. Liebman, S. Malik, E. Muller, L. Ostroff, S. Ross, L. Shapiro, L. Sushner** | Adjunct Clinical Hygienists: **M. Cercy, R. Charin, M. Contreras,**

**J. Dozoretz, T. Farfan, J. Hernandez, L. Hochman, L. Jones, S. Kong, A. Lopez, E. Mellman, S. Salzman, M. Sepe, R. Shamet, J. Turcotte, N. Vult** | Visiting Professors: **S. Stahl, J. Suzuki**

#### **CDM 1070—Periodontology I**

This course provides an overview of periodontology and defines basic terminology. The relationship of anatomical structures relative to the periodontium; recognition and assessment of health and disease of the periodontium; introduction to histology of the gingival crevice in health, disease, and periodontal pathology; and the interrelationship between gingival microbiota, the formation of dental plaque, and gingival disease are discussed. Comprehensive periodontal examination and transcription of clinical and radiographic findings into records are also gone over, as well as an introduction to periodontal diagnoses.

#### **CDM 1185—Introduction to Clinical Periodontology**

Gives students the opportunity to apply the knowledge learned in Periodontology I and additional lectures in Periodontology II, which involve understanding and application of clinical data collection, examination of the periodontium, and instrumentation techniques. Students are required to apply their knowledge first on mannequins in simulation lab and then with their classmates.

#### **CDM 2030—Periodontology II**

Review of normal structures: anatomic and histologic. The earliest gingival inflammatory lesion: clinical signs and symptoms. Gingivitis: clinical features, underlying etiology, microbial shifts, and diagnosis and rationale for treatment. Clinical, microbiologic, and histologic alterations in response to local irritants, host responses, inflammation and loss of attachment. The gingival and periodontal abscess, the gingival lesion in AIDS, necrotizing ulcerative gingivitis, and herpetic gingivostomatitis.

#### **CDM 2160—Periodontology III**

This course discusses etiology, histopathology, and treatment of various periodontal lesions; phase I nonsurgical periodontal treatment planning; and options available for the treatment of acute, chronic, aggressive, and refractory periodontitis, as well as mild, moderate, and severe periodontitis; reevaluation of periodontal treatment; and interdisciplinary considerations following periodontal therapy as part of the periodontal treatment plan. The course introduces the students to treatment to health, initial periodontal therapy for periodontal maintenance, prophylaxis, and scaling and root planning procedures, while emphasizing the need for supportive periodontal therapy and patient compliance. New paradigms of periodontal treatment modalities are introduced.

### **CDM 2185—IDG Clinical Periodontology Orientation**

This course is a review for international dental graduates in periodontal instrumentation, techniques, and management of patient oral hygiene. Additionally, the course includes training in protection of health care records (HIPAA) and training in occupational safety (OSHA).

### **CDM 2501—Periodontology Clinic**

The purpose of this course is to introduce the course participant to the concepts of clinical periodontics involving diagnostic procedures and execution of treatment for patients on prophylaxis recalls (Type I cases—gingivitis).

### **CDM 3030—Periodontology IV**

This course discusses etiology, histopathology, and treatment of periodontitis; phase II surgical periodontal treatment planning; and options available for the treatment of chronic, aggressive, and refractory periodontitis, as well as treatment of refractory periodontitis. Indications and modalities of periodontal surgery including, but not limited to, treatment of furcations, osseous surgery, mucogingival surgery, regenerative techniques, wound healing, use of antibiotics in periodontal therapy, and periodontal medicine are also presented.

### **CDM 3501—Clinical Periodontology I**

The purpose of this D3 year in periodontics is to provide students with the basic knowledge and clinical experience to recognize and treat periodontal disease and develop a process for formulating a properly sequenced and effective periodontal treatment plan. Students perform periodontal therapies and integrate periodontal therapy within a comprehensive plan of care.

### **CDM 3503—Clinical Periodontology Rotation**

The purpose of this year in periodontology is to provide students with the opportunity to assist in periodontal surgical procedures at the postgraduate periodontics level. Students will be exposed to different modalities of periodontal surgical procedures.

### **CDM 4501—Clinical Periodontology II**

The purpose of this year in periodontics is to provide students with the basic knowledge and clinical experience to recognize and treat periodontal disease of the hard and soft tissues and develop a process for formulating a properly sequenced and effective periodontal treatment plan. In addition, students will be exposed to protocols related to implant placement and restoration in harmony with the maintenance of a healthy periodontium.

### **CDM 402H—Honors Program in Periodontics**

This course provides predoctoral students with the opportunity of assisting and performing periodontal surgical procedures. The objectives of the course are to

help students to understand surgical anatomy related to periodontal surgery and principles of periodontal surgery, and to understand indications and sequencing of different modalities of periodontal surgical procedures. In addition, students will perform periodontal surgery including crown lengthening, gingivectomy/gingivoplasty and frenectomy.

**Department of Prosthodontics**—Chair and Professor: **S. C. Siegel** | Predoctoral Co-Clinical Director and Associate Professor: **R. Castellon** | Professors: **J. Antonelli, J. Thompson** | Postgraduate Director and Assistant Professor: **M. Nahon** | Assistant Director and Assistant Professor: **M. Pasciuta** | Associate Professors: **A. Godoy, L. Krasne** | Assistant Professors: **L. Ahmadian, R. Almasri, G. Bozutti, A. Despaigne, M. Golberg, M. Guerrero, C. J. Hsu, E. Lara, R. Lichtman, S. Milhauser, L. Mosquera, M. Patten, A. Pereira** | Adjunct Faculty Members: **R. Acosta-Ortiz, J. Balshi, J. Banos, R. Binns, J. Boccuzi, K. Carbenell, G. Coelho, N. Dawes, M. Ganz, J. Gartner, S. Gordon, M. Hervas, M. Malo, M. Mendelson, E. Neuwirth, J. Piermatti, M. Radu, T. Rangarajan, S. Resnick, M. Richards, D. Rolfe, D. Roy, R. Sanchez, R. Selz, B. Shipman, D. Skopp, A. Slootsky, Z. Staller, S. Stempel, C. Villanueva, J. D. Wessel, M. Zaman**

### **CDM 2070/CDM 2080—Fixed Prosthodontics Lecture/Laboratory I**

These courses prepare students to appropriately use the terminology, instrumentation, and psychomotor skills associated with tooth preparation and provisionalization of single and multiple unit intra and extra coronal cast fixed prosthodontic restorations.

### **CDM 2095—Preclinical Removable Prosthodontics I Lecture**

This course is designed to familiarize the student with all the aspects of the discipline of removable prosthodontics: theoretical, technical, and clinical, so he or she will be prepared to confidently and accurately provide removable prosthodontic treatment for the complete or partially edentulous patient in clinical practice. This course, in conjunction with the laboratory course, will provide the foundation of clinical removable prosthodontics.

### **CDM 2096—Preclinical Removable Prosthodontics I Laboratory**

This laboratory course provides a simulated experience of using removable partial dentures and removable complete dentures to replace lost teeth and their associated structures. This course is designed to familiarize the student with all the aspects of the discipline of removable prosthodontics— theoretical, technical, and clinical—so he or she will be prepared to confidently and accurately provide removable prosthodontic treatment for the complete or partially edentulous patient in clinical practice.

### **CDM 2101—Dental Biomaterials Lecture II**

At the end of this course, the students will be able to understand the optimum performance requirements, properties, and handling characteristics for specific dental materials, as well as understand the selection criteria based on clinical significance of the mechanical and physical properties of dental materials.

### **CDM 2197—Preclinical Removable Prosthodontics II Lecture**

This lecture course presents theory and technique for using removable partial dentures and removable complete dentures to replace lost teeth and their associated structures. This course is designed to familiarize the student with all the aspects of this discipline of removable prosthodontics— theoretical, technical, and clinical—so he or she will be prepared to confidently and accurately provide removable prosthodontic treatment for the complete or partially edentulous patient in clinical practice. This course, in conjunction with the laboratory course, will provide the foundation of clinical removable prosthodontics.

### **CDM 2198—Preclinical Removable Prosthodontics II Laboratory**

This laboratory course provides a simulated experience of using removable partial dentures and removable complete dentures to replace lost teeth and their associated structures. As a continuation of Preclinical Removable Prosthodontics Laboratory I from the previous semester, it includes simulated clinical and laboratory exercises to provide the foundation of clinical removable prosthodontics.

### **CDM 2260/CDM 2270—Fixed Prosthodontics Lecture/Laboratory II**

The lecture course presents theory and technique of anterior and posterior fixed partial dentures, porcelain application, and treatment of endodontically treated teeth as they relate to the overall restorative treatment of the patient. This course, in conjunction with the laboratory course, provides the foundation for the student to use the same knowledge and techniques that will be used in clinical application.

### **CDM 2995—Clinical Practice of Dentistry Fundamentals**

This combined lecture and laboratory course is an integrated program that includes objectives from the following disciplines: oral diagnosis, oral medicine, dental anatomy, fundamentals of occlusion, operative dentistry, dental biomaterials, cariology, endodontics, periodontics, pediatric dentistry, orthodontics and fixed prosthodontics, OMFS, and use of the EHR system. The clinical practice of dentistry program builds on the foundational knowledge learned in the D1 and D2 curriculum in order to prepare students for a comprehensive care competency-based

clinical program. The course focuses on the application of the learning objectives obtained throughout the D1 and D2 curriculum. The student will be presented with de-identified patient cases and will be expected to prepare comprehensive treatment plans for the cases, as well as perform some of the necessary procedures in the simulation laboratory on typodonts.

### **CDM 3120—Implant Restorative Dentistry Lecture**

This course is one of comparative implantology, which emphasizes the biological background related to implant systems. Demonstrations and case presentations will be provided. Evidence-based studies are referenced. Hands-on demonstrations of the use of implant parts is part of the course.

### **CDM 3130—Cosmetic Dentistry Lecture**

This course provides formal lecture presentations in conjunction with preclinical laboratory hands-on exercises to prepare students with the necessary skills to perform esthetic dental procedures as discussed in lectures. The D3 student will learn the sequence of diagnostic steps required for a successful planning and treatment of the esthetic zone, as well as different treatment modalities and indications of use for all ceramic and indirect composite resin systems for the posterior teeth. New technologies and systems will be discussed and students will have the option of presenting a treatment-planned case to their classmates and faculty members.

### **CDM 3131—Cosmetic Dentistry Laboratory**

This course provides preclinical laboratory hands-on exercises to prepare students with the necessary skills to perform esthetic dental procedures as discussed in lectures. The D3 student will learn the sequence of diagnostic steps and clinical procedures required for a successful planning and treatment of the esthetic zone, as well as different treatment modalities, along with indications of use for all ceramic and indirect composite resin systems for the posterior teeth.

### **CDM 3200—Laboratory and Clinical Applications of Occlusion**

After completion of this clinic-laboratory course, the dental student will be able to perform impressions, obtain face bow records, obtain occlusal records, properly mount the casts in the articulator and perform an occlusal analysis in the clinical setting, and use these records for diagnostic purposes.

### **CDM 3260—Masticatory System Disorders: A Multidisciplinary Approach**

This is an integrated approach to teaching dental students about the clinical evaluation and diagnosis of patients that present with pain and/or dysfunction in the masticatory system (temporomandibular disorders) and other related

orofacial pain conditions. Multiple disciplines will present to allow students to have a complete understanding of the normal function of the masticatory system, occlusal analysis, and occlusal diagnosis and its effect on the TMD and the masticatory system. Students will utilize knowledge from the course to diagnose and make recommendations for patient treatment referrals from their own family of patients.

#### **CDM 3410—Clinical Fixed Prosthodontics I**

This clinical experience consists of preparing and placing anterior and posterior fixed partial dentures and single coronal restorations. Restorations may be of full gold, metal-ceramic, or all ceramic. Restorations on implants are an integral part of the clinical experience. CAD/CAM restorations are included in this clinical experience. All clinical treatment is accomplished under the direct supervision of faculty members. A clinical rotation with the postgraduate prosthodontics residents is part of this course.

#### **CDM 3411—Clinical Removable Prosthodontics I**

Clinical application of preclinical skills in complete and removable partial dentures, overdentures on teeth, and implants are accomplished on patients. All patients are treated in the comprehensive care format with emphasis on the whole head and neck. All clinical treatment is accomplished under the direct supervision of faculty members.

#### **CDM 3530—Evidenced-Based Dentistry in Clinical Practice**

This lecture series presents historical aspects of the development of critical thinking in health care. The course provides the student with different sources for accessing scientific information and reviews scientific articles and principles in observational and epidemiological studies. It stresses the importance of evidenced-based cases and the principles of clinical decision-making and statistics methodology.

#### **CDM 3277—CAD/CAM Restorative Dentistry**

This lecture and hands-on laboratory course in CAD/CAM restorative dentistry presents an overview of digital dentistry. Students will learn about the systems for digital impression making and manufacture of restorations in the computer-assisted practice of the 21st century, including the CEREC (Sirona), E4D (PLANMECA), Encode (Biomet 3I), 3 Shape, and 3M True Definition Scanner. Students will prepare teeth for CAD/CAM restorations. They will scan, design, mill, characterize, glaze, and cement CAD/CAM generated restorations.

#### **CDM 4410—Clinical Fixed Prosthodontics II**

This clinical experience consists of preparing and placing anterior and posterior fixed partial dentures and single coronal restorations. Restorations may be of full gold, metal-ceramic, all ceramic, or CAD/CAM generated. Restorations on implants are an integral part of the clinical

experience. All clinical treatment is accomplished under the direct supervision of faculty members.

#### **CDM 4411—Clinical Removable Prosthodontics II**

Clinical application of preclinical skills in complete and removable partial dentures, overdentures on teeth, and implants are accomplished on patients. All patients are treated in the comprehensive care format with emphasis on the whole head and neck. All clinical treatment is accomplished under the direct supervision of faculty members.

#### **CDM 412H—Honors Prosthodontics**

Advanced students with a high interest in prosthodontics attend advanced prosthodontic seminars and gain advanced experience in clinical prosthodontics, treating more complex patients.

### **Dental Medicine Related Educational Programs**

The College of Dental Medicine also offers the following programs:

#### **D.O./D.M.D. Dual Degree Program**

The D.O./D.M.D. Collaborative Degree Program is symbiotic with the missions of both NSU's College of Osteopathic Medicine and College of Dental Medicine. Graduates of the dual program will prepare health care that will address preventive medicine, general dentistry, and access to care issues, while also meeting the needs of rural and underserved populations.

Applicants to either college may apply for participation in this collaborative program beginning as an entering D-1 student. The program requires six years of study, excluding medical residency or internship programs. Students successfully completing this program receive both a D.O. and a D.M.D. degree.

Policies related to student progress will follow the respective policies of the college within which the specific course is contained. Should there be conflicting policies or issues, the Student Progress Committee, composed of a joint cohort representing both programs, will convene and recommend a resolution. Students who decide to discontinue in the collaborative degree program may only continue in the program that they were originally admitted to. NSU is not responsible for delays in curriculum sequencing or advancement in the program should the student decide to discontinue in the collaborative degree program and continue in the program that he or she was originally admitted to.

#### **D.M.D./Master's Degree in Health Law**

Students seeking specialized knowledge in law as related to health care may apply for admission to the D.M.D./Master's

Degree in Health Law Program. The master's degree in health law is an online program offered by NSU's Shepard Broad Law Center, requiring significant self-directed study and learning.

#### **D.M.D./Master's Degree in Public Health**

An academic track providing specialized knowledge in public health, leading to the M.P.H. degree, is available to the doctor of dental medicine student, and may enhance career prospects in government and private health care enterprises. This program may require 6–12 months of additional study beyond the four years needed for the D.M.D. program. Application may be made on successful completion of the first dental-school year.

#### **D.M.D./Master's or Doctoral Degree in Health Care Education**

In the third dental year, applicants considering part-time or full-time teaching and administration in dental education and whose clinical competencies are current may apply for enrollment in either the master's degree or doctoral degree in health care education programs. Candidates for the master's degree in health care education will spend the year after dental school graduation in full-time study in education, while doctoral candidates will invest two to three years of study in education after receipt of the D.M.D. degree.

#### **D.M.D./Master of Business Administration**

The College of Dental Medicine (CDM) and the H. Wayne HuiZenga College of Business and Entrepreneurship (HCBE) have partnered to create a dual-degree track. This track leads to the awarding of D.M.D. and Master of Business Administration (M.B.A.) degrees. The M.B.A. complements the D.M.D. program by providing specialized knowledge in business with 10 available concentration areas. The dual-degree track is available to all predoctoral students who are academically in good standing, have successfully completed their D1 year, and have permission from the dean of the College of Dental Medicine. Students may contact the HCBE program representative for details on this program. Completion of the M.B.A. may require 6–12 months of additional study beyond the four-year D.M.D. program.

#### **Predoctoral Research Program**

Students showing exceptional performance in basic sciences, laboratory, and clinical dentistry may be eligible to participate in the Predoctoral Research Program. Under the supervision of faculty members, these students will gain familiarity with the scientific method and engage in laboratory and clinical research.

#### **Predoctoral Honors Peer Tutoring**

Students with exceptional academic records may be eligible to offer peer tutoring assistance to predoctoral students in need of academic assistance. Peer tutors will receive transcript credit and an hourly wage for their time.

#### **Predoctoral Honors Clinical Participation Program**

Students with exceptional academic records may be eligible for special clinical experiences in the third and fourth years of predoctoral study in endodontics, oral surgery, orthodontics, pediatric dentistry, and restorative dentistry. Selection of such participants will be at the discretion of the department chairperson and the CDM Office of Academic Affairs.

### **Research**

The College of Dental Medicine's research vision is to develop, advance, and disseminate knowledge of oral health sciences and related fields to benefit society. The college's research program strives to promote our academic growth and scientific reputation through interdisciplinary research and the integration of basic, clinical, translational, public health, and educational research. By collaborating and sharing information with other units within the university, as well as with other university, federal, and private organizations; enhancing our facilities; and recruiting distinguished faculty members, the college strives to be a global leader in research and education.

Our goal is to develop and sustain a research program of distinction by engaging our faculty members and students in research. Our research efforts are directed toward meeting the needs of the health sciences community, the underserved and special care populations, and the public at large. Current research at the College of Dental Medicine is focused around biomaterials, craniofacial anomalies and biology, evaluation of emerging therapeutics, regenerative medicine bioscience, epidemiology, and health services research.

The College of Dental Medicine has full-time research faculty members with degrees that include D.D.S./D.M.D. Ph.D.s and basic science Ph.D.s. The international experience of our faculty members and the opportunities for research exchange add strength and diversity to our research program.



## Postdoctoral Programs

The College of Dental Medicine developed postdoctoral advanced education programs in several fields starting in the fall of 1997. There are training positions available in endodontics, operative dentistry, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontology, prosthodontics, and advanced education in general dentistry.

These programs are supervised by board-certified and educationally qualified dental specialists.

Lectures, seminars, and multidisciplinary conferences related to patients and their dental treatment, as well as in research, are conducted. Students also serve as instructors in the predoctoral laboratory and clinic. An original research project must be completed by each student. Upon successful completion of the program requirements, trainees receive certificates in their respective specialties.

### Postdoctoral Core Courses

All postdoctoral students are required to take the following courses during their first year:

#### CDM 5000—Advanced Dental Radiology

Consideration of hard and soft tissue craniofacial imaging modalities, including MRI, tomography, and digital imaging.

#### CDM 5004—Advanced Oral Histology and Embryology

Cytological and developmental considerations in embryological, fetal, and neonatal human craniofacial growth and development.

#### CDM 5005—Introduction to Postdoc Education

This course is designed for postgraduate residents entering their first year of postgraduate education at the College of Dental Medicine. Topics covered include implant dentistry, caries risk management, professional relations, tobacco cessation, domestic violence, ethics, standards of care and informed consent, infection control, risk management, dental photography, and dental lasers.

#### CDM 5006—Fundamentals of Biostatistics

Analysis of descriptive and inferential statistics as used in contemporary biomedical research, including electronic-based statistical programs.

#### CDM 5002—Research Design

The objective of this course is to learn how to plan research projects, initiate the projects, and effectively present the findings. Critical evaluation of the literature about the field of interest will be emphasized.

#### CDM 5003—Advanced Microbiology and Cell Biology

This course offers graduate training in microbiology, including virology, bacteriology, microbial genetics, and microbial pathogenesis.

#### CDM 5008—Advanced Medical Physiology

This course gives a detailed examination of cells and their transport—cardiac, pulmonary, and acid base—as related to maintenance of oral health and onset of disease.

#### CDM 5109—Ethics

This course reviews hallmarks of dental professional ethics and aspects of the law that commonly impact on the daily practice of dentistry.

#### CDM 5102—Advanced Oral and Maxillofacial Pathology

Gross and histological specimen consideration in hard and soft tissue diseases of the oral and maxillofacial structures.

#### CDM 5103—Advanced Head and Neck Anatomy Lecture Series

Didactic and dissection-based consideration of head and neck structure and function essential to advanced dental practice.

#### CDM 5104—Advanced Head and Neck Anatomy Lab Series

Laboratory-based consideration of head and neck structure and function essential to advanced dental practice.

#### CDM 5106—Advanced Systemic Oral Medicine and Pharmacology

This course expands on the predoctoral education regarding the topic of oral medicine. The seminars will discuss current and classic literature to help refine the skills of students in interpreting a medical history and dental management of medically complex patients.

#### CDM 8000—Advanced Dental Education Seminar Series

Postgraduate residents in their first postgraduate year attend this seminar series, which provides the opportunity for interdisciplinary learning at an advanced level. Presentations are given on topics related to advanced general dentistry, endodontics, oral and maxillofacial surgery, operative dentistry, orthodontics and craniofacial orthopedics, pediatric dentistry, periodontology, and prosthodontics followed by collegial discussion. Advanced treatment planning cases are also presented in a format that encourages interdisciplinary discussion of complex cases.

### **CDM 8001—Advanced Dental Education Seminar Series II**

Postgraduate residents in their second postgraduate year attend this seminar series, which provides the opportunity for interdisciplinary learning at an advanced level. Presentations are given on topics related to advanced general dentistry, endodontics, oral and maxillofacial surgery, operative dentistry, orthodontics and craniofacial orthopedics, pediatric dentistry, periodontology, and prosthodontics followed by collegial discussion. Advanced treatment planning cases are also presented in a format that encourages interdisciplinary discussion of complex cases.

### **CDM 8002—Advanced Dental Education Seminar Series III**

Postgraduate residents in their third postgraduate year attend this seminar series, which provides the opportunity for interdisciplinary learning at an advanced level. Presentations are given on topics related to advanced general dentistry, endodontics, oral and maxillofacial surgery, operative dentistry, orthodontics and craniofacial orthopedics, pediatric dentistry, periodontology, and prosthodontics followed by collegial discussion. Advanced treatment planning cases are also presented in a format that encourages interdisciplinary discussion of complex cases.

Additionally, postdoctoral students are required to take didactic and clinical courses within their respective area of specialization throughout their training.

## **Postdoctoral Specialties**

### **POSTDOCTORAL COMMUNITY DENTISTRY**

The Department of Community and Public Health Sciences offers an accredited, one-year Advanced Education in General Dentistry (AEGD 1) residency program with an optional second year (AEGD 2). The AEGD 1 program is housed in an eight-chair clinic at the North Miami Beach (NMB) campus. The AEGD 2 program, also located in NMB, is housed in an eight-chair clinic designed primarily for the care of individuals with special needs. The didactic portion of the program includes a core science curriculum designed to provide all postdoctoral students with an advanced interdisciplinary education and a detailed general practice curriculum for the AEGD students. The AEGD 2 program includes a didactic curriculum for the care of individuals with disabilities. Off-site rotations may be included to expand the range of experiences available. The program offers no stipend, however, professional liability insurance is provided.

### **CDM 8162—Advanced General Dentistry Seminar Series**

This course will provide residents with an understanding of the principles and techniques used to assess and treat oral disease in human populations. It will provide an overview of the diagnostic and treatment techniques of the various dental specialty disciplines at a level appropriate for a graduate dentist and in a manner for that dentist to integrate the principles into the practice of general dentistry.

### **CDM 8050—AEGD Clinic I**

Students will incorporate the knowledge gained from dental school training and didactic studies as they provide comprehensive, multidisciplinary, oral health care for patients using caries risk analysis, diagnosis, prevention, fluoride, sealants, oral hygiene instructions, amalgam, resin composites, ceramic, metals, glass ionomers, tooth whitening procedures, remineralization techniques, periodontal procedures, endodontic procedures, implant placements and restorations, surgical procedures, and replacement of teeth using fixed and removable prosthesis at a level of skill and complexity beyond that accomplished in predoctoral training.

### **CDM 8150 and CDM 8151 AEGD Clinic II**

The Advanced Education in General Dentistry (AEGD 2) residency program is focused on the area of special needs dentistry. Special needs are defined as those individuals with developmental and acquired disabilities, the medically or physiologically compromised, and the frail elderly. The clinical experience is designed to refine and enhance the resident's skills and scientific knowledge in the management and treatment of these patients. The AEGD 2 program is intended to prepare the general practice resident for involvement with the physical, emotional, and psychological issues faced by patients with mild to severe disabling conditions.

### **CDM 8060—Advanced Clinical Dentistry**

This clinical course is designed to provide advanced training in general dentistry, including full-mouth prosthodontic rehabilitation, periodontal surgery, implant placement and restoration, endodontic therapy, pediatric dentistry, and oral surgery.

### **CDM 8061—Advanced Clinical Dentistry**

This course is the second term continuation of the clinical course CDM 8060. It is designed to provide advanced training in general dentistry, including full-mouth prosthodontic rehabilitation, periodontal surgery, implant placement and restoration, endodontic therapy, pediatric dentistry, and oral surgery.

### **Postdoctoral Certificate in Advanced General and Special Needs Dentistry**

The Department of Community and Public Health Sciences offers a one-year, postgraduate Certificate in Advanced General and Special Needs Dentistry. The goal of this certificate program is to provide the oral health practitioner with the skills to treat patients with special health needs. These needs may include those resulting from a range of developmental disabilities; acquired disabilities; or chronic, complex medical conditions.

Didactic and clinical training will prepare postgraduate students for patient evaluation and assessment of a patient's health and his or her cognitive and mobility status. The expectation is that students will become comfortable with, and proficient in, assessing patients' abilities to withstand and participate in their care, and providing services to patients with a range of intellectual, physical, or behavioral challenges.

Students' knowledge and patient-management skills, with respect to individuals with special health needs, is gained through an advanced, multidisciplinary approach working primarily with faculty members within the College of Dental Medicine, as well as additional resources in NSU and affiliated programs and sites. The program offers no stipend; however, professional liability insurance is provided.

Students in the Certificate in Advanced General and Special Needs Dentistry program are required to take the following postgraduate core courses:

#### **CDM 5000—Advanced Dental Radiology**

This course provides consideration of hard and soft tissue craniofacial imaging modalities, including MRI, tomography, and digital imaging.

#### **CDM 5002—Research Design**

The objective of this course is to learn how to plan research projects, initiate the projects, and effectively present the findings. Critical evaluation of the literature about the field of interest will be emphasized.

#### **CDM 5003—Advanced Microbiology and Cell Biology**

This course offers graduate training in microbiology, including virology, bacteriology, microbial genetics, and microbial pathogenesis.

#### **CDM 5006—Fundamentals of Biostatistics**

This course provides analysis of descriptive and inferential statistics as used in contemporary biomedical research, including electronic-based statistical programs.

#### **CDM 5008—Advanced Medical Physiology**

This course gives a detailed examination of cells and their transport—cardiac, pulmonary, and acid base—as related to maintenance of oral health and onset of disease.

#### **CDM 5102—Advanced Oral and Maxillofacial Pathology**

Gross and histological specimen consideration in hard and soft tissue diseases of the oral and maxillofacial structures are discussed.

#### **CDM 5103—Advanced Head and Neck Anatomy Lecture Series**

Didactic and dissection-based consideration of head and neck structure and function essential to advanced dental practice are discussed.

#### **CDM 5104—Advanced Head and Neck Anatomy Lab Series**

This course provides the laboratory-based consideration of head and neck structure and function essential to advanced dental practice.

#### **CDM 5106—Advanced Oral Medicine and Pharmacology**

This course expands on the predoctoral education in the topic of oral medicine. The seminars will discuss current and classic literature to help refine the skills of students in interpreting medical histories and in dental management of medically complex patients.

#### **CDM 5109—Ethics and Jurisprudence**

This course reviews hallmarks of dental professional ethics and aspects of the law that commonly impact on the daily practice of dentistry.

As part of a strong emphasis placed on attaining clinical experience and skills, the certificate program includes didactic instruction and participation in pertinent seminars; rounds; and case presentations regarding treatment planning, behavior modification techniques, and care coordination. The specific clinical training is tailored to the postgraduate students' educational and clinical backgrounds and their desired focus of interest. The program may afford students opportunities to participate in projects in the local public health community, as well as in community-based care activities. Students with interests in research activities and academic careers may have the opportunity to combine the Certificate in Advanced General and Special Needs Dentistry with the two-year Master of Science degree program available within the College of Dental Medicine.

### **POSTDOCTORAL ENDODONTICS**

The postdoctoral program in endodontics is a 24-month certificate or 36-month master's degree program that balances clinical experience with didactic instruction in the relevant basic and clinical sciences.

The clinical portion of the program is microscopically oriented, providing the student with modern concepts of endodontic treatment including rotary NiTi instrumentation, electronic apex locators, guided tissue

regeneration, ultrasonic instrumentation, use of digital radiography revascularization, and regeneration. Joint conferences with other disciplines—such as periodontics, prosthodontics, and pediatric dentistry—provide the student with a well-rounded basis to diagnose and treat conditions in the head and neck region.

The didactic portion of the program includes a core curriculum designed to provide all postdoctoral students with a basic interdisciplinary education and a detailed endodontic curriculum that concentrates heavily on knowledge of the literature. The program is designed to fulfill the specialty certification of the American Board of Endodontics. The program also includes research, teaching, and instruction by several well-known visiting professors.

In addition to the postdoctoral core courses offered during the first year of the program, all postdoctoral endodontic students are required to take the following courses:

#### **CDM 5611–5618—Current Literature Review**

These monthly seminars are devoted to the review of current endodontic literature and research from evidence-based journals. Full journals, as well as selected articles, are carefully reviewed and critically analyzed. This will help to provide the resident with knowledge of biomedical science and to appraise current technological development and research, assessing their scientific and clinical merit so that he or she can bring forward his or her classic literature knowledge as it correlates to the theory and modern practice of endodontics.

#### **CDM 5621–5624—Classic Literature Review**

These continual weekly seminars are devoted to the review of endodontic literature, related literature, and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. The residents learn to read and evaluate scientific evidence that supports endodontic principles and practices from the past to modern day. Topics chosen range from the biological and pharmacological to the technical principles of nonsurgical endodontics in conjunction with multidisciplinary approaches.

#### **CDM 5625–5628—Classic Literature Review**

These continual weekly seminars are devoted to the review of endodontic literature, related literature, and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. The residents learn to read and evaluate scientific evidence that supports endodontic principles and practices from the past to modern day. Topics chosen range from the biological and pharmacological to the technical principles of surgical endodontics in conjunction with multidisciplinary approaches.

#### **CDM 5631–5638—Endodontic Topic and Case Presentation**

Residents are expected to prepare four one-hour lectures (consisting of slides and handouts) on different topics approved by the postgraduate director pertaining or relating to the field of endodontics. They will present these lectures to their endodontic peers, classmates, and faculty members, who will then critically evaluate them. This will provide the resident with the training necessary to teach endodontics to practitioners and dental students of all levels. Following the topic presentation, the resident will present at least five cases, from start to finish, with at least one recall per case. Cases must include clinical photos, chief complaint, history (dental and medical), medications, radiographs (CBCT if necessary), sensitivity testing, probing, pre-op diagnosis, access, working lengths, photos through microscope, final clinical photos/radiographs, and post-op diagnosis (if different than pre-op). Throughout the case presentations, roundtable discussions will occur to enhance the learning experience. When the resident has completed the topic requirement, he or she will present surgery cases (from both externship and NSU), unusual cases, and board portfolio cases.

#### **CDM 5641–5648—Transition to Private Practice**

These seminars are devoted to the realities of private or corporate dental practice. Topics covered include goals, location, type of practices, legal structures, modes of practice, set-up of an office, rent vs. purchase, space needed with physical layout, contracts, finances, running the staff, insurance, and practice building. This will aid the resident in feeling competent upon entering the business world.

#### **CDM 5651—Advanced Pulp Biology**

This course will provide an advanced understanding of the physiology and cell biology of the dental pulp in a normal and diseased state, as well as in response to injury.

#### **CDM 5652—Advanced Microbiology**

This course will provide an advanced education of the microbiology of the oral tissues focusing on pulpitis, infection, disinfection, and asepsis in endodontics.

#### **CDM 5653—Advanced Immunology**

This course will provide an advanced understanding of the human innate and adaptive immune systems that are relevant to dentistry and endodontics.

#### **CDM 5654—Understanding the Endodontic Disease**

This course highlights the etiology and pathophysiology that gives rise to the clinical and radiographic expression of endodontic disease of infectious origin.

#### **CDM 5661–5662—Mock Boards**

These will empower the resident with the knowledge and skills to successfully complete the board certification

process, preparing the resident with a mock oral board examination administered by diplomates. The residents will be prepared to critically evaluate the dental literature and understand the importance of becoming a Diplomate of the American Board of Endodontics.

#### **CDM 5671–5674—Endodontic Surgery**

These courses will provide the resident with the knowledge of relevant biomedical sciences, clinical techniques, and new instruments and devices as they correlate to the theory and practice of surgical endodontics in accompaniment though surgical experiences.

#### **CDM 5681—Endodontic Externship**

This externship serves to educate the graduating endodontist with the knowledge and skills to diagnose, understand the basis of, and adequately interpret and treat—alone or in conjunction with other dental and medical practitioners—endodontic situations and their related diseases and to maintain the health of the attachment apparatus and integrity of the natural dentition. It provides residents with in-depth knowledge of relevant biomedical sciences as they correlate to the theory and practice of endodontics. It also provides residents with experience from a sufficient number of diagnostic cases, traumatic injuries, regeneration cases, and nonsurgical and surgical clinical experiences in other hospital settings and affords them the opportunity to work with and evaluate new instruments and techniques used to effectively treat medically compromised and special needs patients.

#### **CDM 5685—Endodontic Surgical Externship**

This externship serves to educate the graduating endodontist with the knowledge and skills to diagnose, understand the basis of, and adequately interpret and treat endodontic surgical situations to maintain the health of the attachment apparatus and integrity of the natural dentition. It will provide residents with surgical endodontics experience from a sufficient number of diagnostic and surgical clinical cases to result in proficiency in the practice of endodontics and prepare residents to effectively treat medically compromised and special needs patients. It will also afford students with the opportunity to work with and evaluate new instruments and techniques. During this externship, the student to faculty member ratio is one to one.

#### **CDM 5695–5698—Teaching Enhancement/Methodology and Quality Assurance**

These courses educate the graduating endodontist with knowledge and skills to diagnose, understand the basis of, and adequately interpret and treat—alone or in conjunction with other dental and medical practitioners—endodontic situations and their related diseases and to maintain the health of the attachment apparatus and integrity of the natural dentition. They provide the

resident with in-depth knowledge of relevant biomedical sciences as they correlate to the theory and practice of endodontics and introduce in-depth advanced education in teaching methodology for the postgraduate resident.

Various teaching methodology will be presented to predoctoral residents, in forms including lectures and hands-on presentations, allowing them to demonstrate competency. Residents will be asked to evaluate endodontic outcomes (survival, success, failure, no change) through radiographs (CBCT's, periapicals-FMX's and panorex's) on the NSU College of Dental Medicine's pool of ongoing patients.

#### **POSTDOCTORAL OPERATIVE DENTISTRY**

The Department of Cariology and Restorative Dentistry offers a 24-month postdoctoral training program that is designed to fulfill the certification requirements of the American Board of Operative Dentistry. Residents are simultaneously enrolled in the Operative Dentistry and the Master of Science (M.S.) programs. A Certificate in Operative Dentistry and a Master of Science (M.S.) are awarded upon completion of the required core didactic courses, clinical competency program, and research project (including successful defense of a thesis). The program has been developed to be consistent with the objectives set forth in the ADEA (formerly AADS) "Curriculum Guidelines for Postdoctoral Operative Dentistry" (*J Dent Educ* 1993; 57: 832–836).

The Postdoctoral Operative Dentistry Program provides each graduate student with an opportunity to enhance his or her knowledge in three main areas: research, clinical training, and teaching. Participants pursue highly intensive clinical training while simultaneously following a rigorous academic curriculum that is research oriented.

#### **First-Year Courses**

##### **CDM 7660—Advanced Operative Dentistry Clinic**

Students will incorporate the knowledge gained from didactic studies as they provide clinical services and dental restorations for patients by using caries risk analysis, diagnosis, prevention, fluoride, sealants, oral hygiene instructions, amalgam, resin composites, ceramic, metals, glass ionomers, tooth-whitening procedures, remineralization techniques, laser diagnosis, and minimally invasive surgical procedures. The philosophy of the course is based on the medical model of caries management that includes caries risk assessment and formulation of the preventive treatment plan. The department stresses the importance of early diagnosis of both primary and secondary caries and those steps necessary to encourage reversal of those lesions before resorting to an irreversible surgical procedure. When surgical procedures are indicated, they will be performed following evidence-based standardized techniques taught in preclinical courses. The overlying

goals of this course are restoration to health of the dental patient and the prevention of future dental caries.

#### **CDM 7510—Advanced Cariology**

This course is designed to standardize the first-year, advanced-operative residents in definition, diagnosis, and management of dental caries. The independent roles of all contributing factors and all preventive measurements will be discussed in detail. Assessing patients' caries risk and the appropriate treatment models will be emphasized.

#### **CDM 7700—Advanced Treatment Planning**

The advanced dental treatment planning course applies the principles and guidelines for comprehensive dental treatment planning for **in-classroom** patients' case-based presentations and group discussions. Postgraduate residents are expected to identify multidisciplinary cases on the clinic floor for a diagnostic work up including photographic documentation, mounted casts, and diagnostic wax-ups for the elaboration of treatment plans that will be presented in PowerPoint format and followed by class discussion.

#### **CDM 7410—Literature Review Seminar**

This is a continual weekly seminar devoted to the review of classic operative dentistry and related literature and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. The residents learn to critically read and evaluate the scientific evidence that supports advanced restorative dentistry principles and practice.

#### **CDM 7610—Evidence-Based Dentistry I**

The Evidence-Based Dentistry I course is designed to present the fundamentals of evidence-based dentistry. The first part of the course includes principles of evidence-based dentistry, PICO exercises, question formulation, practical examples, and online databases and search strategies. Students learn how to use the EBD website, Cochrane Database, and clinical queries searches on PubMed. Additionally, clinical research designs (case-control design, case series, case report studies, cohort design, randomized controlled trial, and split mouth design) are introduced. Concepts of study design, research methods, and literature review are emphasized and critically compared. In the second part of this course, strategies for evaluating web-based health information will be highlighted. A critical study appraisal session of the main study designs is presented. The purpose of these sessions is to allow students to gain confidence in their own ability to assess research articles and overcome the misconception that the conclusions of an article are correct simply because it has been published. Students are exposed to concepts of surrogates and true endpoints, bias and confounding assessing the effectiveness of treatments, and conflicts of interest in published research. Published literature is used as a basis for developing critical review skills and application of concepts during discussion.

#### **CDM 7664—Operative Dentistry, Advanced Review Course**

This lecture course presents the topic of diagnosis and treatment of carious lesions and other hard tissue defects, principles of direct restorative dentistry, and fundamental concepts in the practice of restorative dentistry. The lecture component, in conjunction with the laboratory component, provides the foundation for the student to utilize the same knowledge and techniques that will be used in clinical application.

#### **CDM 7668—Introduction to Implant Prosthetics Review Course**

This course is designed to introduce the basic concepts and principles related to dental implants as pertains to implant prosthetics. The course format includes lecture, reading assignment materials, and hands-on activities.

#### **CDM 5001—Graduate Dental Biomaterials**

This is a course designed to provide a fundamental understanding of dental materials. Most dental professionals are not familiar with materials science terminology, definitions, and concepts that are required to select, manipulate, and evaluate the extraordinary range of dental materials products. This course treats structure and property relationships for metals, ceramics, polymers, and composites, as well as application-related information. It should form a framework to ensure that each student is capable of understanding the full complement of new products developed each year.

#### **CDM 7666—CAD/CAM Restorative Dentistry**

This combined lecture and laboratory course in CAD/CAM restorative dentistry presents the theory and practical application of high-tech dentistry. Students will learn about the various systems for digital impression making and manufacture of restorations in the computer-assisted practice of the 21st century, including the CEREC (Sirona), E4D (D4D), Encode (Biomet 3i), Lava COS (3M), Itero (Kadent), etc. The laboratory component of the course will incorporate preparing teeth, as well as making impressions for natural teeth and implants and completing the final restoration.

#### **CDM 7665—Academic Career in Operative Dentistry**

This course will provide graduate students with the opportunity to gain experience in teaching. Students will be exposed to teaching experiences by participating in the undergraduate program. Opportunities to lecture, supervise preclinical and clinical activities, and prepare didactic material will be offered to students with the objective of helping to develop the skills and experiences needed in an academic career.

## Second-Year Courses

### CDM 7661—Advanced Operative Dentistry Clinic

Students will incorporate the knowledge gained from didactic studies as they provide clinical services and dental restorations for patients by using caries risk analysis, diagnosis, prevention, fluoride, sealants, oral hygiene instructions, amalgam, resin composites, ceramic, metals, glass ionomers, tooth-whitening procedures, remineralization techniques, laser diagnosis, and minimally invasive surgical procedures. The philosophy of the course is based on the medical model of caries management that includes caries risk assessment and formulation of the preventive treatment plan. The department stresses the importance of early diagnosis of both primary and secondary caries and those steps necessary to encourage reversal of those lesions before resorting to an irreversible surgical procedure. When surgical procedures are indicated, they will be performed following evidence-based standardized techniques taught in preclinical courses. The overlying goals of this course are restoration to health of the dental patient and the prevention of future dental caries.

### CDM 7701—Advanced Treatment Planning

The advanced dental treatment planning course applies the principles and guidelines for comprehensive dental treatment planning for in-classroom patients' case-based presentations and group discussions. Postgraduate residents are expected to identify multidisciplinary cases on the clinic floor for a diagnostic work up including photographic documentation, mounted casts, and diagnostic wax-ups for the elaboration of treatment plans that will be presented in PowerPoint format and followed by class discussion.

### CDM 7420—Literature Review Seminar

This is a continual weekly seminar devoted to the review of classic operative dentistry and related literature and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. The residents learn to critically read and evaluate the scientific evidence that supports advanced restorative dentistry principles and practice.

### CDM 7669—Academic Career in Operative Dentistry

This course will provide graduate students with the opportunity to gain experience in teaching. Students will be exposed to teaching experiences by participating in the undergraduate program. Opportunities to lecture, supervise preclinical and clinical activities, and prepare didactic material will be offered to students with the objective of helping to develop the skills and experiences needed in an academic career.

## POSTDOCTORAL ORAL AND MAXILLOFACIAL SURGERY

The program in oral and maxillofacial surgery is a four-year certificate program. Its objective is to prepare graduates for a successful and productive career in oral and maxillofacial surgery. The curriculum is designed to develop the clinical, academic, and communicative skills that will provide for diversified career options. The program is sponsored by the College of Dental Medicine (academic arm) and Broward Health Medical Center. At the completion of the program, an option to pursue a medical degree (M.D.) is available for eligible candidates. The program has been designed to give residents a broad academic and didactic experience in the complete spectrum of oral and maxillofacial surgery. Graduates of the program will be prepared to pursue a contemporary, full-scope oral and maxillofacial surgery practice and be prepared for licensure and the rigors of specialty board examination.

### Four-Year Residency Curriculum

The first-year residency training is divided between oral and maxillofacial surgery, internal medicine, and anesthesia rotations. Four months are spent on the anesthesia service at Broward Health Medical Center, one month on pediatric anesthesia at Joe DiMaggio Children's Hospital, two months on the internal medicine service, and five months on the oral and maxillofacial surgery service.

Six months of the second year are spent on the oral and maxillofacial surgery service encompassing the outpatient clinics and respective Broward Health and Memorial Hospital services. Residents will have increased responsibilities this year, including overseeing the first-year residents, IV sedation cases, and operating room responsibilities. The other six months are spent on trauma/general surgery and are divided equally between Broward General and Memorial Level I trauma centers.

The third year of the program consists of expanded clinical training in oral and maxillofacial surgery at Broward Health Medical Center. The resident will function on a junior level, with experiences and expectations consistent with this level of training. This year of training includes one month of implant reconstruction and eleven months of oral and maxillofacial surgery service.

During the fourth year of the program, each resident serves as chief resident at Broward Health Medical Center and Memorial Regional Hospital. The primary responsibility of the chief resident is to oversee management of the oral and maxillofacial surgery surgical service. This includes, but is not limited to, formulating the call schedule, arranging resident case coverage of clinical responsibilities, and preoperative/postoperative patient evaluation and treatment in conjunction with designated faculty members. Residents will have rotations in implant reconstruction, craniofacial/cleft lip/palate surgery, and facial plastics.

It is expected that each resident have an abstract or poster based upon his or her research efforts for presentation at a national meeting and at the NSU CDM research day. Upon completion of the residency program, graduates will receive a certificate of training in oral and maxillofacial surgery. It is expected that all graduates will be prepared for the American Board of Oral and Maxillofacial Surgery examination and possess clinical aptitude in the full scope of oral and maxillofacial surgery.

### **POSTDOCTORAL ORTHODONTICS**

The Department of Orthodontics and Dentofacial Orthopedics offers a 36-month program. The program is fully accredited by the Commission on Dental Accreditation. Residents are simultaneously enrolled in the orthodontic program and the Master of Science (M.S.) program. Upon completion of all requirements, they will be awarded both an M.S. degree and a Certificate in Orthodontics. A certificate-only track is not offered. Residents register for and take the American Board of Orthodontics (ABO) written examination as part of the requirements. Residents fulfilling the graduation requirements of the program will be prepared to present cases for the ABO phase III clinical exam. U.S., Canadian, and International graduates are encouraged to apply.

The full-time faculty members of this program represent a broad variety of academic, research, and clinical interests. In addition, the program employs numerous adjunct clinical faculty members, ensuring that residents are exposed to the most current ideas and techniques in all aspects of orthodontics.

Residents will treat adults, adolescents, and children and experience a variety of contemporary appliances and treatment disciplines, including orthognathic surgery. Interdisciplinary and dental facial anomalies and Grand Rounds take place on a regular basis with other postgraduate residents and their respective faculty members and facilitate the need for the treatment planning of complex cases. A diagnostic conference with all faculty members occurs daily. All residents attend these conferences.

The curriculum consists of clinical and didactic courses given through the department, as well as a core curriculum in which all postgraduate residents are enrolled. Residents are expected to be available 8:00 a.m. to 5:00 p.m., Monday through Friday and certain evenings and weekends for scheduled conferences, lectures, and seminars. It is unlikely that an individual would have time for outside work while an orthodontic resident.

### **Clinical Orthodontics I–XI**

CDM 5050 Clinical Orthodontics I  
CDM 5150 Clinical Orthodontics II  
CDM 5250 Clinical Orthodontics III  
CDM 5070 Clinical Orthodontics IV  
CDM 5170 Clinical Orthodontics V  
CDM 5350 Clinical Orthodontics VI  
CDM 5360 Clinical Orthodontics VII  
CDM 5370 Clinical Orthodontics VIII  
CDM 5380 Clinical Orthodontics IX  
CDM 5390 Clinical Orthodontics X  
CDM 5400 Clinical Orthodontics XI

### **Clinical Orthodontics I–XI**

These courses comprise the clinical component of the postgraduate orthodontic curriculum. Students will incorporate the knowledge gained from didactic studies as they provide orthodontic services for patients with a broad variety of malocclusions. Patients with typical malocclusions—those requiring early treatment, dentofacial orthopedics, orthognathic surgery, and/or interdisciplinary care—are selected as educational models. Techniques focus on standard edgewise technique including pre-torqued and pre-angulated brackets and lingual orthodontics. Various types of treatment approaches are presented.

### **Orthodontic Didactic**

The orthodontic didactic courses include courses and seminars offered each semester. The courses follow the didactic process, fully developing a state-of-the-art understanding of contemporary orthodontics while being deeply built upon, the specialty's historic foundations. The structure of the orthodontic didactic component of the curriculum continually contributes to residents developing a knowledge base, including evidence-based science, of sufficient depth and breadth necessary for proficiency in modern orthodontics.

### **CDM 5060—Orthodontic Didactic I**

The first year, summer semester, didactic course curriculum consists of specialized course seminars including Cephalometrics, Biomechanics I, Introduction to Clinical Orthodontics, Management of TMJ Disorders, Tweed Wire Bending, and the Graduate Research Seminar I. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessment of student learning.

### **CDM 5160—Orthodontic Didactic II**

The first year, fall semester, didactic course curriculum consists of specialized course seminars including Biomechanics II, Graduate Research Seminar II, and History of Orthodontics. Each seminar series provides



an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessment of student learning.

#### **CDM 5080—Orthodontic Didactic III**

The first year, winter semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory I, which focuses on the application of theory to diagnosis and treatment planning, and Craniofacial Growth and Development. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5180—Orthodontic Didactic IV**

The first year, spring semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory II, which focuses on the application of theory to diagnosis and treatment planning, and the Early Orthodontic Treatment seminar. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5361—Orthodontic Didactic V**

The second year, fall semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory III, which focuses on the application of theory to diagnosis and treatment planning; Orthodontics and Interdisciplinary Diagnosis and Treatment Planning I; and Surgical Orthodontics I. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5351—Orthodontic Didactic VI**

The second year, winter semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory IV, which focuses on the application of theory to diagnosis and treatment planning; Orthodontics and Interdisciplinary Diagnosis and Treatment Planning II; and Surgical Orthodontics II. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5362—Orthodontic Didactic VII**

The second year, spring semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory V, which focuses on the application of theory to diagnosis and treatment planning, and Orthodontics and Interdisciplinary Diagnosis and Treatment Planning III. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5371—Orthodontic Didactic VIII**

The third year, fall semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory VI, which focuses on the application of theory to diagnosis and treatment planning, and Orthodontics and Interdisciplinary Diagnosis and Treatment Planning IV. Each seminar series provides an in-depth approach to the specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5381—Orthodontic Didactic IX**

The third year, winter semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory VII, which focuses on the application of theory to diagnosis and treatment planning and Orthodontics and Interdisciplinary Diagnosis and Treatment Planning V. Each seminar series provides an in-depth approach to specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

#### **CDM 5391—Orthodontic Didactic X**

The third year, spring semester, didactic course curriculum consists of specialized course seminars including Orthodontic Theory VIII, which focuses on the application of theory to diagnosis and treatment planning and Orthodontics and Interdisciplinary Diagnosis and Treatment Planning VI. Each seminar series provides an in-depth approach to specific subject matter, with seminar syllabi outlining seminar topics, assignments, and outcome assessments of student learning.

### **POSTDOCTORAL PEDIATRIC DENTISTRY**

The Department of Pediatric Dentistry offers a 24-month, postdoctoral training program in pediatric dentistry. The program is designed to prepare residents for specialty certification by the American Board of Pediatric Dentistry (ABPD). This university- and hospital-based program includes significant hospital and extramural affiliations in South Florida.

Postgraduate core courses provide first-year residents with a didactic foundation to support the wide range of clinical situations they will experience. Hospital rotations in Pediatric Medicine, General Anesthesia, and Pediatric Emergency Medicine provide residents with clinical experience and deeper understanding of pediatric hospital practice. Lectures, seminars, guest speakers, and literature reviews occur weekly. Residents are active participants in a regional, multidisciplinary craniofacial anomalies team.

Patients requiring hospitalization and general anesthesia are treated in two area hospitals. Conscious sedation is utilized when appropriate. A partial listing of topics covered in lectures and seminars includes behavior management, restorative dental procedures, selecting and prescribing medications, pulp therapy, trauma, treatment

of patients with special health care needs, and emergency management. Additional requirements, including successful completion of a mandatory, independent research project, are necessary to graduate.

The application deadline for all required materials is September 1, 2018. In addition to the Certificate in Postgraduate Pediatric Dentistry, residents can also concurrently earn the Master of Science degree. The Master of Science degree can be completed in two years. Information on that degree can be found in this section.

Students are trained in hospital and operating room protocol including the use of general anesthetics.

#### **CDM 6000—Pediatric Dentistry Didactic I**

The aim of the course is to provide the resident with an understanding of the basic principles and theories of child development and the age-appropriate behavior responses in the dental setting, as well as the objectives of various guidance methods such as principles of communication, informed consent, and objectives of sedation and general anesthesia as behavior guidance techniques. Students will acquire a judicious integration of systematic assessments of clinically relevant scientific evidence.

#### **CDM 5190—Pediatric Dentistry Didactic II**

The aim of the course is to provide the resident with an understanding of the mechanisms and patterns of craniofacial growth and development from prenatal through adulthood. Students will learn and understand the different mechanisms and treatment options in the different malocclusion in the child and adolescent patient; be familiar with methods of prevention of dental caries and periodontal diseases in children and adolescents; understand the complexity of the caries disease and its different manifestations; learn to diagnose and treat different caries stages; know and do advanced technique in operative procedures; and know the indications and contraindications of pulpotomy and pulpectomy in primary dentition, as well as techniques for apexification and revascularization in young, permanent teeth.

#### **CDM 6020—Pediatric Dentistry Didactic III**

The aim of the course is to provide the resident with an understanding and treatment alternatives in different clinical situations such as orofacial injuries, periodontal diseases, craniofacial disorders, special needs care patients, and medically compromised patients. Students will acquire a judicious integration of systematic assessments of clinically relevant scientific evidence.

#### **CDM 6110—Pediatric Dentistry Didactic IV**

In this didactic course, a significant revision of the main areas in pediatric dentistry will be presented by different faculty members from the pediatric dentistry department

and other disciplines at NSU. The residents will acquire a judicious integration of systematic assessments of clinically relevant scientific evidence.

#### **CDM 5090—Pediatric Dentistry Clinic I**

Residents will incorporate the knowledge gained from didactic studies as they provide pediatric dentistry services for infants, children, adolescents, and patients with special health care needs with a broad variety of oral and dental problems. They will collect patient data, including dental and medical histories and appropriate radiographs and photographs; organize data into coherent and viable treatment plans; and present treatment plans to patients and their families, faculty members, and fellow residents. After a case is treated, follow-up visits and presentations will be given at six months and annually.

#### **CDM 6100—Pediatric Dentistry Clinic II**

Residents will incorporate the knowledge gained from didactic studies as they provide pediatric dentistry services for infants, children, adolescents, and patients with special health care needs with a broad variety of oral and dental problems. They will collect patient data, including dental and medical histories and appropriate radiographs and photographs; organize data into coherent and viable treatment plans; and present treatment plans to patients and their families, faculty members, and fellow residents. After a case is treated, follow-up visits and presentations will be given at six months and annually.

#### **CDM 5290—Pediatric Dentistry Clinic III**

Residents will incorporate the knowledge gained from didactic studies as they provide pediatric dentistry services for infants, children, adolescents, and patients with special health care needs with a broad variety of oral and dental problems. They will collect patient data, including dental and medical histories and appropriate radiographs and photographs; organize data into coherent and viable treatment plans; and present treatment plans to patients and their families, faculty members, and fellow residents. After a case is treated, follow-up visits and presentations will be given at six months and annually.

#### **CDM 6120—Pediatric Dentistry Clinic IV**

Residents will incorporate the knowledge gained from didactic studies as they provide pediatric dentistry services for infants, children, adolescent, and patients with special health care needs with a broad variety of oral and dental problems. They will collect patient data, including dental and medical histories and appropriate radiographs and photographs; organize data into coherent and viable treatment plans; and present treatment plans to patients and their families, faculty members, and fellow residents. After a case is treated, follow-up visits and presentations will be given at six months and annually.

## **POSTDOCTORAL PERIODONTICS**

The postdoctoral program in periodontics is a 36-month certificate program that fulfills the specialty requirements of the American Dental Association Commission on Dental Accreditation and the American Board of Periodontology. The resident may also elect to pursue the optional Master of Science in Dentistry degree, which may be earned concurrently with the certificate course of study. The program is open to dentists who have graduated (or will graduate) from an accredited United States or Canadian dental school or from an international dental school that provides an equivalent educational background and standing. Completion of a General Practice Residency, Internship, Advanced Education in General Dentistry, or other post-dental school professional activities are encouraged but not required.

The program consists of a didactic core curriculum in basic and behavioral sciences, a series of seminars in periodontology and implant dentistry, literature review seminars, periodontal prosthetics, and intravenous moderate sedation. Residents will participate as clinical instructors in the predoctoral periodontology clinic and perform research related to periodontology.

The program is designed so that, at the conclusion of the residents' training, they can provide comprehensive periodontal and implant dentistry care using a variety of surgical and nonsurgical modalities that encompass the full spectrum of the current state-of-the-art procedures. Residents participate in a variety of educational activities that prepare them for careers in clinical practice, education, or research, giving them the skills and knowledge to successfully pursue certification by the American Board of Periodontology.

### **CDM 5200—Sedation and Anesthesia in Periodontics**

This course focuses on the didactic and clinical aspects of managing patient anxiety through the use of iatrosedation, nitrous oxide/oxygen analgesia, oral sedation, and IV moderate sedation. The residents will gain experience with these modalities through laboratory sessions and the administration of these techniques to their patients in the course of providing comprehensive patient care in the postgraduate periodontics clinic.

### **CDM 6030—Advanced Clinical Periodontics I**

This course offers clinical instruction related to the diagnosis, prognosis, and treatment of periodontal diseases.

### **CMD 6031—Foundation of Implant Dentistry**

This course is designed to provide an advanced understanding of the fundamentals and principals of implant dentistry. It will provide the information necessary to allow first-year residents to utilize a team approach for placing and restoring the dentition with dental implants. During this course, first-year residents and faculty members

will analyze and discuss the classic and current implant dentistry literature.

### **CDM 6032—Immunoregulation of Periodontal and Peri-Implant Diseases**

This course integrates the knowledge of immunoregulation to wound healing and current treatment strategies. At the completion of this course, all the residents will understand the physiological, biochemical, and immunological regulation of healthy and diseased periodontal and peri-implant tissues. First-, second-, and third-year residents will also recognize the rationale of current materials and techniques used in periodontology and implant dentistry in relation to pathogenesis of periodontal and peri-implant diseases.

### **CDM 6033—Current Literature, Case Discussion, and Topic Presentation in Periodontics and Implant Dentistry**

During this didactic course, first-, second-, and third-year residents will learn how to present a case and a topic using the material learned in seminars and core courses. This course will help residents to prepare for the In-Service exam and American Board of Periodontology Exam. At the completion of the course, residents will be able to stay up to date with the current literature in periodontics and implant dentistry.

### **CDM 6034—Classic Literature in Periodontology and Implant Dentistry**

Classic Literature is a participatory seminar course for residents in periodontics in their first, second, and third year of training. Residents are responsible for obtaining, reading, abstracting, and understanding articles that have been identified as required reading. Additionally, residents are expected to be familiar with principles, materials, methods, and statistical analyses, which are necessary to understand the articles under discussion. Most importantly, residents are expected to collate the articles into a broader understanding, which becomes the basis for the therapy they provide to their patients. The seminar is led by a postgraduate resident on a rotating basis. The seminar leader is responsible for the planning and organization of the seminar, ensuring that the topic is covered in a logical basis with articles grouped into appropriate sections.

### **CDM 6035—Advanced Periodontics: Diagnosis and Treatment Planning**

This course offers didactic instruction related to diagnosis and treatment of periodontal diseases. First-year residents and faculty members will discuss classic and current literature related to the diagnosis, prognosis, and non-surgical and surgical treatment modalities of periodontal diseases. First-year residents will understand all the aspects related to periodontal examination, diagnostic, and photographs for case documentation.

#### **CDM 6050—Advanced Clinical Periodontics IV**

This course offers clinical instruction and demonstrations in the use of advanced periodontal and implant therapy. Residents will be exposed to multidisciplinary cases and will be able to make diagnosis and execute advanced treatment plans.

#### **CDM 6070—Advanced Clinical Periodontics VII**

This course will provide residents with a deep knowledge of quality patient care and allow them to become proficient in providing periodontal and implant surgical care. Also, it will help them develop the capabilities necessary to participate as members of the total health care team, as well as correlate the dental and medical literature with clinical practice.

#### **CDM 6130—Advanced Clinical Periodontics II**

This clinical course offers instruction related to the full scope of periodontal treatment planning. Residents will be exposed to diverse treatment modalities, including surgical and nonsurgical therapies.

#### **CDM 6150—Advanced Clinical Periodontics V**

This course offers clinical instruction in the treatment of advanced and complex cases. Periodontal, prosthodontics, and implant therapy modalities will be emphasized.

#### **CDM 6170—Advanced Clinical Periodontics VIII**

This course is designed to offer instruction on clinical and practice management. Residents will be assessing their clinical outcomes and be able to understand the importance of continuity maintenance of their cases.

#### **CDM 6230—Advanced Clinical Periodontics III**

This clinical course provides instruction that will lead the resident to have sufficient number of diagnostic, nonsurgical, and surgical clinical experiences. It will also cover implant therapy as a treatment modality.

#### **CDM 6250—Advanced Clinical Periodontics VI**

This course is designed to offer clinical instruction in the treatment and patient management of complex cases in conjunction with other disciplines.

### **POSTDOCTORAL PROSTHODONTICS**

The 36-month postdoctoral program combines clinical experience with didactic instruction leading to a Certificate in Prosthodontics. Students may also elect a course of study leading to a master's degree program. The certificate program satisfies the formal training requirements for eligibility for the American Board of Prosthodontics examination, and students are encouraged to pursue board certification. The program is fully accredited by the American Dental Association Commission on Dental Accreditation.

The didactic portion of the program includes a core curriculum designed to provide all postdoctoral

students with a basic interdisciplinary education and a prosthodontics curriculum based on the review of classic and current dental literature, interdisciplinary seminars, and treatment planning presentations. The program also includes research, teaching, and continuing education courses by visiting faculty members.

The clinical portion of the program consists of extensive patient care within the different treatment modalities in prosthodontics (fixed, removable, and implant) and exposure to patients suffering from TMD or sleep-related disorders. It also encompasses the surgical placement of implants, as well as laboratory work supported by state-of-the-art technology and dental materials.

In addition to the postdoctoral core courses offered during the first year of the program, all postdoctoral prosthodontics residents are required to take the following courses:

#### **CDM 7300—Advanced Fixed Prosthodontics Course**

This course is designed to standardize and elevate the first-year, advanced prosthodontics resident's clinical and laboratory knowledge in Fixed Prosthodontics. Techniques and skills required at a laboratory level to prepare and fabricate diagnostic wax-ups, single crowns, fixed partial dentures, and provisionals will be covered. In addition, demonstrations and hands-on training are to be provided in the simulation laboratory on teeth preparations for indirect and direct restorations and electrosurgery techniques for tissue management.

#### **CDM 5001—Advanced Dental Materials**

This is an advanced course covering dental materials science, test methods, properties of dental materials, and clinical applications.

#### **CDM 7000—Advanced Didactic Prosthodontics I**

This course offers didactic instruction related to the diagnosis and treatment of the advanced prosthodontic patient. Residents will review the classic and current literature related to fixed, removable, and implant prosthodontics. Articles are selected and discussed among the residents and faculty members. Residents will learn to analyze, summarize, and apply the literature to their clinical practice. Ultimately, residents will learn how to elaborate comprehensive treatment plans based on evidence-based dentistry.

#### **CDM 6090—Advanced Clinical Prosthodontics I**

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

**CDM 7100—Advanced Didactic Prosthodontics II**

This course offers didactic instruction related to diagnosis and treatment of advanced prosthodontic cases. Residents will be able to demonstrate integration of fixed, removable, and implant dentistry in comprehensive diagnosis and treatment planning. Residents will also review the classic and current literature related to advanced prosthodontics. Articles are selected and discussed among the residents and faculty members. Residents will learn to analyze and apply the literature to their clinical practice. Case presentations involving multidisciplinary patient care will integrate concepts in the comprehensive understanding and planning of advanced cases.

**CDM 6190—Advanced Clinical Prosthodontics II**

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs. In addition, residents will start developing clinical skills relating to implant dentistry, including the placement and maintenance of dental implants.

**CDM 7020—Advanced Didactic Prosthodontics III**

Residents will continue to review all the concepts related to diagnosis, prognosis, and treatment planning of the prosthodontic patient in areas of fixed, removable, and implant prosthetics. This didactic course will also offer instructions on surgical and nonsurgical treatment modalities, including implant therapy.

**CDM 6290—Advanced Clinical Prosthodontics III**

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

**CDM 7120—Advanced Didactic Prosthodontics IV**

This course provides in-depth knowledge related to the diagnosis, treatment, and prognosis of the advanced prosthodontic patient in areas of fixed, removable, and implant prosthodontics. Residents will continue reviewing the classic and current literature related to advanced prosthodontics. Articles are selected and discussed among the residents and faculty members. Residents will learn to analyze and apply the literature to their clinical practice. Case presentations involving multidisciplinary patient care will integrate concepts in the comprehensive understanding and planning of advanced cases.

**CDM 7010—Advanced Clinical Prosthodontics IV**

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs. In addition, residents will start developing clinical skills relating to implant dentistry, including the placement and maintenance of dental implants.

**CDM 7040—Advanced Didactic Prosthodontics V**

This course offers didactic instruction related to diagnosis and treatment of advanced prosthodontic cases. Residents will be able to demonstrate integration of fixed, removable, and implant dentistry in comprehensive diagnosis and treatment planning. Residents will also review the classic and current literature related to advanced prosthodontics. Articles are selected and discussed among the residents and faculty members. Residents will learn to analyze and apply the literature to their clinical practice. Case presentations involving multidisciplinary patient care will integrate concepts in the comprehensive understanding and planning of advanced cases.

**CDM 7110—Advanced Clinical Prosthodontics V**

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

**CDM 7140—Advanced Didactic Prosthodontics VI**

This course will offer advanced didactic information in the diagnosis and treatment of the advanced prosthodontic patient. Multidisciplinary approaches and modalities will be covered and instructed. This course offers a complete program on diagnosis, treatment planning, prognosis, and maintenance of comprehensive and prosthetically involved patients. Patient management and patient communication will be emphasized. Practice management will also be covered.

**CDM 7210—Advanced Clinical Prosthodontics VI (CRN 10043)**

This course focuses on the clinical aspect of prosthodontics including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

### CDM 7030—Advanced Clinical Prosthodontics VII (CRN 7030)

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

### CDM 7130—Advanced Clinical Prosthodontics VIII (CRN 40448)

This course focuses on the clinical aspect of prosthodontics, including fixed, removable, and dental implant-related therapies. Residents provide comprehensive therapy beginning with the complete examination, diagnosis, treatment planning, and treatment of patients with advanced prosthetic needs.

### Anticipated Expenses

Equipment costs for each program will be equal to or less than the average for all U.S. dental schools.

### Admissions Requirements—Postdoctoral Programs

The College of Dental Medicine selects postdoctoral students based on application content, academic record, letters of recommendation, test scores (if applicable), and personal interview. Most of the postdoctoral programs utilize the PASS application process, with the exception of endodontics and Advanced General and Special Needs Dentistry. Applicants are required to complete an NSU College of Dental Medicine application for postdoctoral students for all specialties. Applicants should refer to *dental.nova.edu* for program-specific requirements.

Prior to matriculation, applicants must have completed a D.M.D., D.D.S., or an equivalent degree.

### Application Procedures

Applicants must send all required materials listed to

Nova Southeastern University  
Enrollment Processing Services  
College of Dental Medicine, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The deadlines for applications vary by program and can be found on the admissions website (*dental.nova.edu*).

1. the completed College of Dental Medicine application for postdoctoral students
2. a nonrefundable application fee of \$50
3. an official transcript from each college, professional school, or university attended

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National

Association of Credential Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Attn: Documentation Center  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • *wes.org*
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • *jsilny.com*
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • *ece.org*

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, College of Dental Medicine Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

4. The applicant must provide an official letter of graduation from the dean or designee of that institution, supporting the granting of the dental degree from that institution.

The applicant must arrange for the following to be sent to NSU.

1. official test scores, if applicable
  - a. AEGD applicants will need to submit National Board scores
  - b. Orthodontic program applicants will need to submit Graduate Record Examination (GRE) scores
  - c. Oral and Maxillofacial Surgery applicants will need to submit National Board of Medical Examiners Comprehensive Basic Science Examination scores.
2. three letters of recommendation (They must be completed by dental school faculty members who are well acquainted with the applicant's abilities or by individuals who can provide information relevant to the applicant's potential. Letters from friends or family members are not acceptable.) For those programs using the PASS application process, applicants may also submit up to five Personal Potential Indexes (PPI) with their PASS application.

Upon receipt of the completed application and the required credentials, the director of each postdoctoral program, along with the Committee on Admissions, will select applicants to be interviewed. Those selected will be notified in writing. Not all applicants will be granted an interview. All applicants who are admitted to the

college must be interviewed, but an invitation to appear for an interview should not be construed as evidence of acceptance.

### **Postdoctoral Tuition and Fees**

- Tuition for all postdoctoral programs for 2018–2019 (subject to change by the board of trustees without notice) will be posted on our website (*dental.nova.edu*). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually.
- Acceptance/Preregistration fee is \$2,000 (Endodontics—\$4,000). This fee is required to reserve the accepted applicant's place in the entering first-year, postdoctoral class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.

The first semester's tuition and fees, less the \$2,000 (Endodontics—\$4,000) previously paid, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met. It is extremely important that applicants be committed to meeting their financial responsibilities during their training. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.

It is mandated that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

## **Master of Science in Dentistry**

The goal of the Master of Science (M.S.) in Dentistry Program of the College of Dental Medicine (CDM) is to provide advanced training in research and research methodology, primarily to students enrolled in one of the College of Dental Medicine's postdoctoral programs. All master's degree candidates are required to complete a core curriculum of courses, emphasis track courses, a research study, and a thesis. Research in this program includes various aspects of craniofacial biology, oral health epidemiology, dental materials science, and oral diseases. Graduates of this master's degree program will be trained to think critically, enabling them to more readily pursue research activities and academic careers. For postdoctoral students enrolled in the master's degree program, requirements for both postdoctoral program certification and the Master of Science in Dentistry program will be fulfilled concomitantly. It is anticipated that students who are accepted into the master's degree program will complete the program requirements within two to three years. Final decisions regarding a student's participation in this master's degree program are at the dean's discretion.

Applicants are expected to come primarily from the pool of approximately 60 graduate specialty certificate candidates (residents) enrolled each year in advanced education in general dentistry, periodontics, prosthodontics, endodontics, orthodontics, pediatric dentistry, or oral surgery. Operative dentistry and orthodontic and dentofacial orthopedics residents are required to enroll in the M.S. program. All students enrolled in the M.S. program are expected to complete the program within a five-year period beginning with matriculation into their respective certificate programs. In addition, students are expected to maintain continuous enrollment and active-student status throughout the M.S. program. Students who do not complete the M.S. program requirements within five years, or those who fail to maintain continuous enrollment (i.e., two consecutive academic terms of nonenrollment), are subject to dismissal.

### **Admissions Requirements**

Those applying for entry into the Master of Science in Dentistry program as full, degree-seeking candidates must meet the following eligibility requirements:

1. Applicants must be matriculated in a CDM clinical training program.
2. Applicants are required to submit a 250–300-word letter of interest in this program articulating their career plan, capabilities, and area(s) of scientific interest, along with two letters of reference from individuals familiar

with the candidate's aptitude to perform adequately at a graduate level.

3. Applicants must complete and submit the application for admission to the program and submit a description of their proposed research projects.

### Application Procedures

Applicants must send all of the following required materials to

Nova Southeastern University  
Enrollment Processing Services  
College of Dental Medicine, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

1. the completed College of Dental Medicine application
2. a nonrefundable application fee of \$50
3. an official transcript from each college, professional school, or university attended

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Attn: Documentation Center  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service to Nova Southeastern University, Enrollment Processing Services, College of Dental Medicine Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

4. an official letter of graduation from the dean or designee of the foreign institution, supporting the granting of the dental degree from that institution

**The applicant must also arrange for the following to be sent to NSU.**

1. official National Board scores (Please request the secretary of the National Board of Dental Examiners to forward all scores of the dental boards. The National Board is located at 211 East Chicago Avenue, Chicago, Illinois, 60611. Applicants who have not taken the National Boards must submit a letter of explanation.)

2. two letters of recommendation completed by dental school faculty members who are well acquainted with the applicant's abilities or by individuals who can provide information relevant to the applicant's potential

Upon receipt of the completed application, the required credentials, and the approval of the director of each program, the Master's Degree Admissions Committee will select applicants to be interviewed. Those selected will be notified in writing. Not all applicants will be granted an interview. All applicants who are admitted to the college must be interviewed, but an invitation to appear for an interview should not be construed as evidence of acceptance.

### Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([dental.nova.edu](http://dental.nova.edu)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,350 is also required annually. All tuition and fees are subject to change by the board of trustees without notice.

It is required that each student carry adequate personal medical and hospital insurance. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

### Course Descriptions

#### CDM 5999—Writing Science

This writing workshop focuses on writing about science in an approachable, engaging way. Students learn a variety of writing techniques that can be used to help clearly convey complex information to a general audience.

#### CVR 7200—Bioethics and Ethical Issues in Health Care

Health care professionals are required to act morally and ethically. This course is designed to expand the student's basic understanding of ethics, promoting ethical awareness and enabling students to derive better health care decisions that reduce the risk of potential ethical consequences. Exposing students to bioethics and controversial ethical issues typically encountered in current health care allows them to practice making difficult decisions. Students will synthesize and implement strategies for applying morals, values, and ethics systematically in the various settings in which health care is delivered. Considering the perspectives of all stakeholders and the role of the health



care provider, patient advocate, professional, and consumer of medical care, students will gain workable knowledge of contemporary ethical issues and appreciate that ethics permeate the majority of decisions made in health care.

#### **CVR 7300—Biostatistics**

This introductory statistical course will introduce elementary methods for presenting biological data in summary form, analyzing biological data, and designing experiments. It is not a mathematics course, so will not stress derivations of formulae but, rather, will emphasize the application of statistical ideas and methods to the analysis and interpretation of biological experiments and comparative data. The student will be able to assess a situation involving data analysis, state the null and alternative hypotheses proposed, decide on the correct statistical procedure to test the null hypothesis and the assumptions of the test used, calculate the statistic, assess its statistical significance, and interpret the data in light of the calculated result. Assessment of a student's performance will be done through the use of problem sets, quizzes, and a final exam.

#### **CVR 7310—Fundamentals of Statistical Inference**

This course is the second course in the biostatistics sequence and is intended for consumers of statistics in the biological and medical fields, as well as researchers. It will concentrate on the more advanced methods of statistical analysis that are typical of biological and medical applications of statistics. For this course, the student will need to be familiar with basic statistics and statistical techniques as presented in CVR 7300. Students will be using the statistical program R to perform statistical processing; therefore, students must have basic skills in the use of R.

#### **CVR 7400—Clinical Research Design**

This course will provide students with an understanding of the basic methods and approaches used in health-related research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretations of research findings. It will prepare students to critically evaluate published research articles, to abstract information and interpret findings appropriately from the published literature, and to design sound research studies. The course will be both theoretical and practical. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design studies to address health-related issues of their choice.

#### **CVR 7500 Information Science for Clinical Research**

This course introduces the student to the concept of a literature review as it relates to the development of a research proposal. Students will specify a research problem and provide an appropriate review of the literature. This literature review will identify and discuss related research that sets the proposed project within a conceptual and theoretical context. Students will learn to use reference sources (both electronic and hard copy) available in most public and academic libraries and/or via the Internet to locate and evaluate literature pertinent to clinical and basic vision science and basic research in related medical sciences. Use of evidence-based medicine as a research tool will be covered. Students will be expected to identify and effectively utilize all relevant information resources in their geographical area essential to the preparation of a thorough, high-quality literature review.

#### **CVR 7600—Introduction to Research Funding and Proposal Development**

This course enables the student to gain an in-depth understanding of the essential components of a well-written research proposal that addresses an identified scientific problem and the process for submitting the proposal to an agency/organization, requesting funding support to study the problem. Students will become familiar with a number of funding sources, including federal and state government and private foundations and corporations that support vision or dental research projects, and learn to use a variety of resources to target potential funding sources. They will become familiar with various grant-related terminology, as well as guidelines, rules, and regulations of awarding agencies, with particular focus on the National Institutes of Health (NIH) organization.

Students will be expected to come prepared to explore and discuss potential research areas they would like to study and to focus on ideas about projects to address their interests. They will be able to demonstrate their understanding of the essential components of a well-written proposal, including the significance statement, objectives and hypotheses, experimental design and methods, and the budget through class handouts, virtual discussions, and appropriate class activities related to the required readings.

#### **CVR 7800—Ethical and Legal Issues in Human Subjects Research**

This course introduces the ethical and regulatory aspects involved in human subject research. Students will gain understanding of the history that has shaped the rules that today govern research with human subjects, as well as be introduced to issues that researchers in the 21st century face. Students will become familiar with U.S. regulations that govern human subject research and the protection systems that are created as a part of those regulations. Issues related to research with a variety of vulnerable populations will also be discussed.

Students will be expected to come prepared to explore and discuss the variety of critical issues researchers face when they hope to conduct human subject research. They will be able to demonstrate an understanding of the key elements of informed consent documents, including statements required by U.S. regulations. Class activities related to the readings and CITI modules will permit students to gain an understanding of these topics while also completing the NSU required CITI program.

**CVR 8220—Epidemiology**

This course provides a study of the basic principles of epidemiology with emphasis on the application of epidemiology to clinical practice.

**Ron and Kathy Assaf  
College of Nursing**





# Ron and Kathy Assaf College of Nursing



Marcella M.  
Rutherford, Ph.D.,  
M.B.A., M.S.N.  
Dean

## Mission Statement

Nova Southeastern University's Ron and Kathy Assaf College of Nursing provides quality undergraduate and graduate educational programs within an atmosphere of scholarly inquiry, professional values, interprofessional collaboration, and community service.

## Accreditation

The baccalaureate degree in nursing/master's degree in nursing/Doctor of Nursing Practice and postgraduate A.P.R.N. certificate at Nova Southeastern University are accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791.

## Program Information

The Ron and Kathy Assaf College of Nursing offers Bachelor of Science in Nursing (B.S.N.) and Master of Science in Nursing (M.S.N.) degree programs, a Doctor of Nursing Practice (D.N.P.), and a Ph.D. in Nursing, with a focus on Nursing Education. The B.S.N. may be earned through the entry B.S.N. program for students who have completed NSU's pre-nursing track or have already met the program's general education requirements. The R.N. to B.S.N. and R.N. to M.S.N. completion programs are also available for licensed R.N.s holding an associate's degree or diploma in nursing. The M.S.N. program offers three nonclinical concentrations—nursing education, nursing informatics, and executive nurse leadership. To obtain a clinical M.S.N. in an advanced practice registered nurse (A.P.R.N.) role, the college offers preparation for certification as a family nurse practitioner (FNP), adult-gerontology acute care nurse practitioner (AGACNP), or psychiatric mental health nurse practitioner (PMHNP). All programs focus on developing nursing professionals to assume leadership roles in the complex health care environment.

## College Administration

**Marcella M. Rutherford, Ph.D., M.B.A., M.S.N.**  
Dean, Ron and Kathy Assaf College of Nursing  
Room 1570, Ext. 21963

**Jo Ann Kleier, Ph.D., Ed.D., A.R.N.P., ACNP-BC**  
Associate Dean of Research and Program Compliance  
Interim Director, Ph.D. Program  
Room 1553, Ext. 21978

**Susan Holland, Ph.D., M.S.N., R.N.**  
Associate Dean, Academic Affairs  
Fort Myers Campus—Room 438, Ext. 46959

**Denise Howard, D.N.P., M.S.N., R.N.**  
Assistant Dean of Academic Programs  
and Assistant Professor  
Room 1571, Ext. 21955

**Blondel Martin, Ph.D., M.S.N., R.N.**  
Assistant Dean of Academic Programs  
and Associate Professor  
Room 1571, Ext. 21955

**Michelle Ferguson, D.N.P., A.P.R.N., PPCNP-BC**  
Assistant Dean of Academic Programs  
and Associate Professor  
Palm Beach Campus—Ext. 52201

**Lori A. Lupe, D.N.P., CCRN, NEA-BC**  
Program Director, Entry B.S.N. Program—Fort Myers  
Fort Myers Campus—Room 424, Ext. 46971

**Timothy D. O'Connor, Ph.D., R.N., LNHA**  
Interim Program Director, Entry B.S.N. Program—Fort  
Lauderdale/Davie and Assistant Professor  
Room 1565, Ext. 21947

**Heather Saifman, Ph.D., M.S.N., R.N., CCRN-K**  
Program Director, Entry B.S.N. Program—Miami  
Miami Campus—Room 332, Ext. 55440

**Chitra Paul Victor, Ph.D., M.S.N., R.N., RM, CNE**  
Program Director, R.N. to B.S.N., R.N. to  
M.S.N. Programs  
Room 428, Ext. 41036

**Sandra Jones, D.N.P., FNP-BC**  
Program Director, Advanced Practice Registered  
Nurse, Family Nurse Practitioner (FNP) and Adult-  
Gerontology Acute Care Nurse Practitioner Programs  
Palm Beach Campus—Room 214, Ext. 52237

**Tina Malone, D.N.P., M.S., A.R.N.P.**  
Program Director, Advanced Practice Registered Nurse,  
Family Nurse Practitioner Program  
Tampa Campus—Room 1015, Ext. 45421

**Stefanie La Manna, Ph.D., M.P.H., A.R.N.P., FNP-C**  
Program Director, Ph.D. and D.N.P. Programs and  
Associate Professor  
Palm Beach Campus—Room 219, Ext. 52111

## Core Performance Standards for Admission and Progress

The Nova Southeastern University Ron and Kathy Assaf College of Nursing is pledged to the admission and matriculation of qualified students and wishes to acknowledge awareness of laws that prohibit discrimination against anyone on the basis of race, color, religion or creed, sex, pregnancy status, national or ethnic origin, nondisqualifying disability, age, ancestry, marital status, sexual orientation, gender, gender identity, military service, veteran status, or political beliefs or affiliations.

Regarding those students with verifiable disabilities, the university will not discriminate against such individuals who are otherwise qualified, but will expect applicants and students to meet certain minimal technical standards (core performance standards) as set forth herein, with or without reasonable accommodation. In adopting these standards, the university believes it must keep in mind the ultimate safety of the patients whom its graduates will eventually serve. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions. Any exceptions to such standards must be approved by the dean of the student's particular college, based upon appropriate circumstances.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data.

Honor and integrity of the health professions student and health care professional is essential and depends on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty members, and colleagues. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty members, and patients who come under the student's care or contribute to his or her training and growth, as well as members of the general public. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and nonacademic settings, whether or not involving an NSU-sponsored activity. All students must have the capacity to manage their lives and anticipate their own needs. Upon accepting admission to NSU, each student subscribes to, and pledges complete observance to, NSU's Student Code of Conduct Policies. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

Candidates for degrees offered by the Ron and Kathy Assaf College of Nursing must have, with or without reasonable accommodation, multiple abilities and skills including intellectual, conceptual, integrative, and quantitative abilities; interpersonal communication; mobility and strength; motor skills; and hearing, visual, tactile, behavioral, and social attributes. Candidates for admission and progression must be able to perform these abilities and skills in a reasonably independent manner.

### Intellectual, Conceptual, Integrative, and Qualitative Abilities

These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving—a critical skill—requires all of these intellectual abilities. Candidates and students must have critical thinking ability sufficient for good clinical judgment. This is necessary to identify cause/effect relationships in clinical situations and to develop plans of care. In addition, candidates and students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. An individual is expected to be able to perform multiple tasks in a diverse, dynamic, highly competitive, and challenging learning environment. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration.

A student must have sufficient proficiency with English to retrieve information from texts and lectures and communicate concepts on written exams and patient charts; elicit patient backgrounds; describe patient changes in mood, activity, and posture; and coordinate patient care with all members of the health care team. A student must be able to communicate or provide communication in lay language so that patients and their families can understand the patient's conditions, treatment options, and instructions. The student must be able to accurately enter information in the patient's electronic health record, according to his or her program's requirements.

### Motor Skills

Candidates and students should have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required to some health care professionals are cardiopulmonary resuscitation (CPR), administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, and the ability to calibrate and use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

### Strength and Mobility

Candidates and students must have sufficient mobility to attend to emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and to maneuver in small places. Ron and Kathy Assaf College of Nursing students must have the ability to position and move patients.

### Hearing

Candidates and students should have sufficient auditory ability to monitor and assess health needs. They must be able to hear information given by the patient in answer to inquiries; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to monitor equipment.

### Vision

Candidates and students must have visual ability sufficient for observation and assessment necessary in patient care. It must be consistent in many cases with being able to assess asymmetry, range of motion, and tissue texture changes. Ron and Kathy Assaf College of Nursing students must have adequate visual capabilities for proper evaluation and treatment integration. Students must be able to observe the patient and the patient's responses, including body language and features of the examination and treatment, as well as interpret prescriptions and medical orders.

### Tactile/Sensory

Students must have sufficient tactile ability for physical assessment. They must be able to perform palpation, functions of physical examination, and/or functions related to therapeutic intervention, including medication administration.

### Behavioral and Social Attributes

Students must possess the emotional health required for full use of their intellectual abilities; the exercise of good judgment; the ability to take responsibility for their own actions—with respect to policies, protocols, and processes—with faculty and staff members, students, patients, patient surrogates, and administration during the student's educational program; the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive, and effective relationships with the patients. Students must be able to physically tolerate taxing workloads, adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the education process.

## Graduate Nursing Program Master of Science in Nursing (M.S.N.)—Nonclinical

The Master of Science in Nursing Program is an online degree program for graduates of Bachelor of Science programs with a major in nursing or other related fields. Students who hold Registered Nurse (R.N.) licensure who enter the M.S.N. program without a B.S.N. degree, but with a B.S. or B.A. degree in another field, will be required to enroll in NSG 5000B—Transition to Advanced Nursing Practice in their first semester of admission to the M.S.N. program. This course is only offered in the fall term. Three concentrations are offered: nursing informatics, nursing education, and executive nurse leadership.

- Students can transform the landscape of patient care through **Nursing Informatics**. In a program that blends leadership skills with data management, students will learn how to catalyze the evolution of nursing through the evaluation and implementation of new technology. They will facilitate access to critical information, improving patient outcomes, while refining the health care experience for providers and recipients alike.

- The next generation of nursing professionals require quality instructors to flourish in the ever-changing field of health care. With courses focusing on clinical decision making and curriculum development, the **Nursing Education** concentration will prepare its students to provide future nursing generations with the guidance they need. Students in this concentration will be prepared for career paths in staff development, vocational-technical training, or community college education. Graduates interested in teaching in B.S.N. or higher programs may then proceed through the Ph.D. in Nursing program, which focuses on nursing education.
- **The Executive Nurse Leadership** concentration prepares students to assume the leadership roles that they deserve. By studying quality initiatives and the business of health care, students will understand how to make complex decisions that improve patient care and employee morale. They will gain the skills needed to inspire peers and take their organizations to new heights.

All M.S.N. students take 15 semester hours of core foundational nursing courses online/hybrid. Nonclinical M.S.N. students take an additional 21 semester hours of specialty courses, determined by their chosen concentration. This includes a practicum experience that reinforces skills acquired throughout the program. Thus, a total of 36 semester hours are required to complete the nonclinical M.S.N. program. Courses are taught online/hybrid by faculty members with advanced preparation and extensive experience in their respective fields. All concentrations serve as a foundation for doctoral study.

### Admissions Requirements for Fall 2018 and Winter 2019 Entering Classes

Prospective students for the nonclinical Master of Science in Nursing are selected for admission based on application content, academic record, and professional nursing licensure.

Admission to the M.S.N. program requires the following:

- a Bachelor of Science (B.S.) or a Bachelor of Arts (B.A.) degree from a regionally accredited college or university\*

Nursing degrees must be accredited by the Accreditation Commission for Education in Nursing (ACEN) [formerly National League for Nursing Accrediting Commission (NLNAC)], the Commission on Collegiate Nursing Education (CCNE), or the Commission for Nursing Education Accreditation (CNEA).

- a B.S./B.A. GPA of 3.0 on a 4.0 scale
- a current, active, and unencumbered, U.S. R.N. license

The license must remain current and unencumbered in the jurisdiction of the practicum throughout the program.

\* Students who enter the M.S.N. program without a B.S.N. will be required to enroll in NSG 5000B—Transition to Advanced Nursing Practice in their first semester. This course is only offered in the fall.

For more information, call the Ron and Kathy Assaf College of Nursing at (954) 262-1880 or 800-356-0026, ext. 21880.

### Application Procedures for Fall 2018 and Winter 2019 Entering Classes

The NSU Ron and Kathy Assaf College of Nursing participates in the centralized applications service called NursingCAS. NursingCAS does not take part in student selection. The NursingCAS application may be obtained

- online at [nursingcas.org](http://nursingcas.org)
- by calling NursingCAS at (617) 612-2880

The deadline to complete and submit the NursingCAS and NSU applications is August 1 for fall admission and December 9 for winter admission. The Office of Admissions works on a rolling basis. Applications are accepted year-round.

1. Send supporting documents to NursingCAS.

NursingCAS  
P.O. Box 9201  
Watertown, Massachusetts 02471

- a. All official college transcripts from undergraduate, graduate, and professional institutions attended must be sent to NursingCAS directly from those institutions.
- b. Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential Evaluation Services (NACES) organization, such as one of the services listed following.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service. To speak with a transfer evaluation services counselor or to schedule an appointment, please call (954) 262-8117 or 800-806-3680, ext. 28117.

- c. Students must submit a copy of their active, unencumbered U.S. R.N. license. The license must remain current in the jurisdiction of the practicum throughout the program.

2. In addition to NursingCAS, an online NSU application must be submitted at [apply.nova.edu](http://apply.nova.edu).

### Tuition and Fees

Tuition for 2018–2019 will be posted on the college's website ([nursing.nova.edu/msn](http://nursing.nova.edu/msn)). An NSU student services fee of \$1,350 is required annually. A Health Professions Division general access fee of \$145 is also required each year.



Acceptance fee is \$200. This fee is required to reserve the accepted applicant's place in the class. This advanced payment will be deducted from the tuition payment due by registration day, but is nonrefundable in the event of a withdrawal. It is due within two weeks of an applicant's acceptance.

All tuition and fees are subject to change by the board of trustees without notice.

The first semester's tuition and fees, less the \$200 previously paid tuition deposit, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Each student is required to carry adequate personal medical and hospital insurance. Students may purchase health insurance through NSU. Students who have adequate personal medical and hospital insurance may waive NSU's health insurance by filling out the Student Health Insurance Waiver available through the Bursar's Office ([nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance)).

Students are responsible for their own transportation to campus and to clinical agencies and other off-campus locations related to their program.

There are a number of national, state, and hospital grants available for the nursing student. The Office of Student Financial Assistance and the Ron and Kathy Assaf College of Nursing are eager to assist students in exploring financial aid options. Students may review scholarship opportunities at [nursing.nova.edu/students/scholarships.html](http://nursing.nova.edu/students/scholarships.html), and can speak to a financial aid representative by calling (954) 262-3380. Do not hesitate to ask for help.

### **Academic Policies**

The following academic policies apply to all students in the graduate nursing program.

#### **Transfer Credits**

No more than 6 graduate credits may be transferred into the M.S.N. program from other graduate programs. Courses will be evaluated for credit toward the M.S.N. degree by the program director, whose decision will be final. To be considered for credit, a course must have been taken at an accredited graduate program and be the equivalent of a course offered in the NSU student's chosen concentration. The student must have earned a grade of B or higher in the course. The student must submit the syllabus of any course he or she is seeking credit for directly to the program director. Additional documentation may be required by the program director before credit may be granted. Only courses completed prior to matriculation in the M.S.N. program will be considered for transfer credit.

### **Progression Requirements**

Students are required to be continuously enrolled in the program, taking at least one graduate course each term. All courses must be completed with a minimum grade of B- for credit to be received toward the M.S.N. degree. A course may be repeated once if a grade less than B- is obtained. Only one repeated course can be applied toward the M.S.N. degree. A second course with a grade less than B- will preclude completion of the program and the student will be dismissed from the program.

Students in the nonclinical M.S.N. program who have been dismissed may petition the program director for reinstatement if a year has passed since the dismissal. The applicant is required to present adequate evidence that the factors that caused the prior inadequate academic performance have changed significantly so that there is reasonable expectation that the applicant can perform satisfactorily if permitted to resume his or her study. Readmission will be at the discretion of the program director.

### **Graduation Requirements**

To receive a nonclinical M.S.N. degree, all students must fulfill the following requirements:

- successfully complete a minimum of 36 semester hours of coursework (for the M.S.N. specialty tracks of nursing education, executive nurse leadership, and nursing informatics)
- satisfactorily complete all program requirements for the degree with a grade of B- or higher
- apply for graduation
- have satisfactorily met all financial and library obligations
- receive a recommendation for graduation by the program director

## Curriculum Outline

Core Courses			Semester Hours
NSG	5000	Advanced Nurse Roles	3
NSG	5101	Theory and Research	3
NSG	5111	Evidence and Practice	3
NSG	5220	Health Promotion and Disease Prevention	3
NSG	5130	Health Care Policy and Leadership	3
<b>Total Core Semester Hours</b>			<b>15</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. in Nursing Education concentration:

M.S.N. Education Courses			Semester Hours
NSG	5300	Nursing Curriculum Development	3
NSG	5370	Introduction to Educational Concepts	3
NSG	5380	Educational Concepts I: Principles of Evaluation	3
NSG	5531	Advanced Pathophysiology	3
NSG	5502	Advanced Health Assessment	3
NSG	5510	Advanced Pharmacology	3
NSG	5360	Nurse Educator Practicum	3
<b>Total Education Semester Hours</b>			<b>21</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. in Executive Nurse Leadership concentration:

M.S.N. Executive Nurse Leadership Courses			Semester Hours
NSG	5230	Nursing Decision Making in Complex Health Systems	3
NSG	5240	Nursing Governance and Resource Management in Complex Health Systems	3
NSG	5340	Nursing Leadership Roles in Complex Health Systems	3
NSG	5250	Fiscal Management in Complex Health Systems	3
NSG	5460	Quality Initiatives: Transforming Care	3
NSG	5471	Business and Economics of Health Care	3
NSG	5490/5492	Health Systems Leadership Nursing Practicum/Executive Nurse Leadership Practicum	3
<b>Total Executive Nurse Leadership Semester Hours</b>			<b>21</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. in Nursing Informatics concentration:

Nursing Informatics Courses			Semester Hours
MI	5130	Database Systems in Health Care	3
MI	5204	Clinical Decision Support Systems	3
MI	5180	Human-Computer Interaction in Health Care Settings	3
MI	5121	Information Systems Project Management in Health Care	3
MI	6410	Consumer Health Informatics	3
NSG	5600	Nursing Informatics Practicum	4
NSG	5610	Advanced Practice in Nursing Informatics	2
<b>Total Nursing Informatics Semester Hours</b>			<b>21</b>

## Graduate Nursing Program Master of Science in Nursing—Advanced Practice Registered Nurse (M.S.N.—A.P.R.N.)—Clinical

The Master of Science in Nursing (M.S.N.)—Advanced Practice Registered Nurse (A.P.R.N.) program is a hybrid degree program for the registered nurse (R.N.) with a bachelor's degree. Students who enter the M.S.N. program without a B.S.N. degree, but with a B.S. or B.A. degree in another field, will be required to enroll in NSG 5000B—Transition to Advanced Nursing Practice in their first semester of admission to the M.S.N. program. This course is only offered in the fall term. Three concentrations are offered: Family Nurse Practitioner (FNP), Adult-Gerontology Acute Care Nurse Practitioner (AGACNP), and Psychiatric Mental Health Nurse Practitioner (PMHNP).

- The **Family Nurse Practitioner (FNP)** provides primary care to newborns, infants, children, adolescents, adults, pregnant and postpartum women, and older adults. The focus of care is the family unit, as well as the individuals belonging to the family. Family nurse practitioners practice primarily in ambulatory care settings. This concentration is presented in a hybrid format (one day a week) at NSU's Palm Beach and Tampa campuses. A post-M.S.N. certificate is also available.
- The **Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)** provides care to adults and older adults with acute, critical, and complex-chronic physical and mental illnesses across the entire adult age spectrum, including late adolescents to adults and older adults. AGACNPs can provide services ranging from disease prevention to the critical care needed to stabilize a

patient's condition, prevent complications, restore maximum health, and/or provide palliative care. The AGACNP practice focuses on patients who are characterized as physiologically unstable, technologically dependent, and/or highly vulnerable to complications. It is presented in an executive format (one weekend per month) at NSU's Palm Beach Campus. A post-M.S.N. certificate is also available.

- The **Psychiatric Mental Health Nurse Practitioner (PMHNP)** program is for those nurses interested in providing a full range of primary mental health services in a wide variety of settings. It is offered in a hybrid format at the Miramar campus.

All M.S.N. students take 15 semester hours of core foundational nursing courses online. AGACNP, PMHNP, and FNP students take an additional 37 credits of specialty courses specific to their concentration.

### Admissions Requirements for Fall 2018 and Winter 2019 Entering Classes

Prospective M.S.N.—A.P.R.N. students are selected for admission based on application content, academic record, professional nursing licensure, and active clinical experience.

Admission to the M.S.N.—A.P.R.N. program requires the following:

- a Bachelor of Science (B.S.) or a Bachelor of Arts (B.A.) degree from a regionally accredited college or university\*

Nursing degrees must be accredited by the Accreditation Commission for Education in Nursing (ACEN) [formerly National League for Nursing Accrediting Commission (NLNAC)], the Commission on Collegiate Nursing Education (CCNE), or the Commission for Nursing Education Accreditation (CNEA).

- a B.S./B.A. GPA of 3.0 on a 4.0 scale
- a current, active, and unencumbered state of Florida R.N. license

This license must remain active, without discipline, and in the state of Florida, throughout the program.

- completion of a college-level statistics course (from a mathematics department) with a grade of C or better
- at least one year of current clinical experience (direct patient care)
- CV/résumé
- living within a 150-mile drive from the program campus

\* *Students who enter the M.S.N.—A.P.R.N. program without a B.S.N. will be required to enroll in NSG 5000B—Transition to Advanced Nursing Practice in their first semester. This course is only offered in the fall.*

For more information, call the Ron and Kathy Assaf College of Nursing at (954) 262-1923 or 800-356-0026, ext. 21923.

### Application Procedures for Fall 2018 and Winter 2019 Entering Classes

The NSU Ron and Kathy Assaf College of Nursing participates in the centralized applications service called NursingCAS. NursingCAS does not take part in student selection. The NursingCAS application may be obtained

- online at [nursingcas.org](http://nursingcas.org)
- by calling NursingCAS at (617) 612-2880

The deadline to complete and submit the NursingCAS and NSU applications is August 1 for fall admission and December 9 for winter admission. The Office of Admissions works on a rolling basis. Applications are accepted year-round.

#### 1. Send supporting documents to NursingCAS.

NursingCAS  
P.O. Box 9201  
Watertown, Massachusetts 02471

- a. All official college transcripts from undergraduate, graduate, and professional institutions attended must be sent to NursingCAS directly from those institutions.
- b. Coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by an approved National Association of Credential

Evaluation Services (NACES) organization, such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service. To speak with a transfer evaluation services counselor or to schedule an appointment, please call (954) 262-8117 or 800-806-3680, ext. 28117.

c. M.S.N.—A.P.R.N. students must submit a copy of their active, unencumbered Florida R.N. license. The license must remain active and unencumbered in the state of Florida throughout the length of the program.

d. Applicants must submit a current CV or résumé.

2. In addition to NursingCAS, an online NSU application must be submitted at [apply.nova.edu](http://apply.nova.edu).

### Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([nursing.nova.edu/aprn](http://nursing.nova.edu/aprn)). An NSU student services fee of \$1,350 is required annually. A Health Professions Division general access fee of \$145 is also required each year. A lab fee of \$100 is required per semester as well.

Acceptance fee is \$200. This fee is required to reserve the accepted applicant's place in the class. This advanced payment will be deducted from the tuition payment due by registration day, but is nonrefundable in the event of a withdrawal. It is due within two weeks of an applicant's acceptance.

All tuition and fees are subject to change by the board of trustees without notice.

The first semester's tuition and fees, less the \$200 previously paid tuition deposit, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Each student is required to carry adequate personal medical and hospital insurance. Students may purchase health insurance through NSU. Students who have adequate

personal medical and hospital insurance may waive NSU's health insurance by filling out the Student Health Insurance Waiver available through the Bursar's Office ([nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance)).

Students are responsible for their own transportation to campus and to clinical agencies and other off-campus locations related to their program.

There are a number of national, state, and hospital grants available for the nursing student. The Office of Student Financial Assistance and the Ron and Kathy Assaf College of Nursing are eager to assist you in exploring all of your financial aid options. Students can review scholarship opportunities at [nursing.nova.edu/students/scholarships.html](http://nursing.nova.edu/students/scholarships.html), and can speak to a financial aid representative by calling (954) 262-3380. Do not hesitate to ask for help.

### Academic Policies

The following academic policies apply to all students in the graduate nursing program.

#### Transfer Credits

No more than 6 graduate credits may be transferred into the M.S.N. program from other graduate programs. Courses will be evaluated for credit toward the M.S.N. degree by the program director, whose decision will be final. To be considered for credit, a course must have been taken at an accredited graduate program and be the equivalent of a course offered in the student's chosen track. The student must have earned a grade of *B* or higher in the course. The student must submit the syllabus of any course he or she is seeking credit for directly to the program

director. Additional documentation may be required by the program director before credit may be granted. Only courses completed prior to matriculation in the M.S.N. program will be considered for transfer credit.

### Progression Requirements

Students are required to be continuously enrolled in the program, taking at least one graduate course each term. All courses must be completed with a minimum grade of *B-* for credit to be received toward the M.S.N. degree. A course may be repeated once if a grade less than *B-* is obtained. Only one repeated course can be applied toward the M.S.N. degree. A second course with a grade less than *B-* will preclude completion of the program and the student will be dismissed from the program.

### Graduation Requirements

To receive an M.S.N.—A.P.R.N. degree, all students must fulfill the following requirements:

- successfully complete a minimum of 52 semester hours of coursework, depending on the specialization
- satisfactorily complete the program requirements for the degree with a grade of *B-* or higher
- apply for graduation
- have satisfactorily met all financial and library obligations
- receive a recommendation for graduation by the program director

## Curriculum Outline

Core Courses			Semester Hours
NSG	5000	Advanced Nurse Roles	3
NSG	5101	Theory and Research	3
NSG	5111	Evidence and Practice	3
NSG	5220	Health Promotion/Disease Prevention	3
NSG	5130	Health Care Policy and Leadership	3
<b>Total Core Semester Hours</b>			<b>15</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N.—Advanced Practice Registered Nurse, Family Nurse Practitioner program:

<b>M.S.N.—Advanced Practice Registered Nurse, FNP</b>			<b>Semester Hours</b>
NSG	5502L	Advanced Health Assessment Lab	1 (62.5 practicum hours)
NSG	5502	Advanced Health Assessment/ Differential Diagnosis	3
NSG	5510	Advanced Pharmacology	3
NSG	5522	Family Nursing: Theory, Research, and Practice	2
NSG	5531	Advanced Pathophysiology I	3
NSG	5542	Primary Care: Adult I	6 (125 practicum hours)
NSG	5550	Primary Care: Adult II	6 (125 practicum hours)
NSG	5560	Primary Care of Women	3 (62.5 practicum hours)
NSG	5570	Behavioral Health	3
NSG	5580	Primary Care: Pediatrics/Family	3 (62.5 practicum hours)
NSG	5590	Family Nurse Practitioner Preceptorship	6 (125 practicum hours)
<b>Total Family Nurse Practitioner Semester Hours</b>			<b>37</b>

Courses progress in lock-step order.

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N.—Advanced Practice Registered Nurse, Adult-Gerontology Acute Care Nurse Practitioner program:

<b>M.S.N.—Advanced Practice Registered Nurse, AGACNP</b>			<b>Semester Hours</b>
NSG	5531	Advanced Pathophysiology I	3
NSG	5510	Advanced Pharmacology	3
NSG	5502	Advanced Health Assessment	3
NSG	5620	Adult-Gerontology: Acute Care I	6 (125 practicum hours)
NSG	5630	Adult-Gerontology: Acute Care II	6 (125 practicum hours)
NSG	5502L	Advanced Health Assessment Lab	1 (62.5 practicum hours)
NSG	5570	Behavioral Health	3
NSG	5650	Adult-Gerontology: Acute Care III	6 (125 practicum hours)
NSG	5660	Adult-Gerontology: Acute Care Practicum	6 (125 practicum hours)
<b>Total Adult-Gerontology Acute Care Nurse Practitioner Semester Hours</b>			<b>37</b>

Courses progress in lock-step order.

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N.—Advanced Practice Registered Nurse, Psychiatric Mental Health Nurse Practitioner program:

M.S.N.—Advanced Practice Registered Nurse, PMHNP			Semester Hours
NSG	5531	Advanced Pathophysiology	3
NSG	5532	Neurobiology Psychopharmacology	2
NSG	5510	Advanced Pharmacology	3
NSG	5502	Advanced Health Assessment	3
NSG	5502L	Advanced Health Assessment Lab	1 (62.5 practicum hours)
NSG	5710	Psychiatric Management I: Psychopathology and the DSM-V	6 (125 practicum hours)
NSG	5533	Group Theory and Process	1
NSG	5720	Psychiatric Management II: Developmental Theories for Child and Adolescent Mental Health	6 (125 practicum hours)
NSG	5730	Psychiatric Management III: Modalities of Psychotherapy	6 (125 practicum hours)
NSG	5790	Psychiatric Care Management: Integration Practicum	6 (125 practicum hours)
<b>Total Psychiatric Mental Health Nurse Practitioner Credits</b>			<b>37</b>

Courses progress in lock-step order.

## Course Descriptions

### NSG 5000B—Transition to Advanced Nursing Practice

This course is designed to assist the registered nurse with a non-nursing bachelor's degree to develop the knowledge and skills to transition into the Master of Science in Nursing (M.S.N.) program. The student will build upon current nursing experience and knowledge as well as previous baccalaureate education in order to demonstrate recommended competencies in baccalaureate nursing prior to beginning the M.S.N. coursework. **(6 semester hours)**

### NSG 5000—Advanced Nurse Roles

This course introduces and facilitates transition of the R.N. into the advanced practice role as a nurse leader and change agent. Students will integrate the new functions and activities of the master's degree-prepared nursing role into professional practice. The role of the master's degree-prepared nurse to work effectively in interdisciplinary relationships or partnerships, recognizing the uniqueness

and similarities among the various roles, is emphasized. The student will understand the underpinnings that provide an ethical framework for nursing practice. Students will explore and analyze how values shape professional practice and influence decisions, interventions, and care delivered. Students are introduced to scholarship, informatics, and health care technologies in the master's degree-prepared nurse role to improve delivery and outcomes of care. **(3 semester hours)**

### NSG 5101—Theory and Research

This course focuses on the nature and the use of inquiry in the development and refinement of nursing concepts and theories. It provides students with the opportunity to discuss, analyze, and critique a wide range of concepts and theories from nursing and the other sciences. This course also focuses on research from the evidenced-based practice (EBP) paradigm. Quantitative and qualitative research designs and methods of appraisal are reviewed.

Ethical dimensions of the conduct of nursing research, EBP, translational research, and application of health care ethics, including use of information technology, are examined. (3 semester hours)

#### **NSG 5111—Evidence and Practice**

This course provides an overview of research in nursing with a focus on translating and ethically integrating scientifically based evidence into practice to improve outcomes. Students learn to formulate researchable questions and to develop further skills in assessing databases and searching the literature. Methods of disseminating evidence and the use of information technology to reduce risks and improve practice outcomes are explored. **Prerequisite:** NSG 5101 (3 semester hours)

#### **NSG 5130—Health Care Policy and Leadership**

This course focuses on providing the master's degree-prepared nurse leader with an understanding of how policy influences the structure of health care, nursing practice, and health outcomes at the institutional, local, state, and federal levels. With ever-evolving changes in the organization and financing of health care, the master's degree-prepared nurse must have the knowledge and skills necessary to assume a leadership role in policy-making. The responsibilities of the nurse leader in advocating for policy change to provide quality, cost-effective care will be explored. (3 semester hours)

#### **NSG 5230—Nursing Decision Making in Complex Health Care Systems**

This course prepares students to utilize decision-making models, processes, and theoretical frameworks as a foundation for leadership activities in complex health systems. Internal and external factors impacting decision making within a health system will be explored and analyzed. Economics, trend analysis, and evidence-based systems leadership will be analyzed. (3 semester hours)

#### **NSG 5240—Nursing Governance and Resource Management in Complex Health Systems**

This course focuses on the structure and design of nursing governance models and prepares the master's degree-prepared nurse to participate in the design and implementation of new models of care delivery and coordination. Governance models drive the operational, educational, and research process for nursing practice in a health care system. Operational processes include technology and the need for human resource management. Education is maintained through life-long learning, membership in professional organizations, and certification. Through application of evidence-based research, the master's degree-prepared nurse leader evaluates and applies best practices to the delivery of health care. (3 semester hours)

#### **NSG 5250—Fiscal Management in Complex Health Systems**

This course focuses on the interconnectedness of fiscal management, regulation, and financial reimbursement decision-making utilizing a systems-thinking approach. Students will develop decision-making strategies for integrating financial data to improve health care delivery in complex health systems. Students will apply fiscal management principles to a current health care issue. The relationship between fiscal and ethical responsibility is examined. (3 semester hours)

#### **NSG 5270—Information Management and Data Analysis**

This course provides the student with an opportunity to examine various health care informatics theories and policies related to the entire implementation process of information systems in a complex health care system. During the course, students will apply concepts learned to the ethical use of data, information, and knowledge in clinical practice and research. Students will also analyze the critical elements in the life cycle of information and patient-care technology systems. (3 semester hours)

#### **NSG 5300—Nursing Curriculum Development**

This course introduces the student to the process of curriculum development. The relationship of nursing curriculum to the parent institution's mission and philosophy is analyzed. Issues of accreditation, standards of professional nursing practice, and legal/ethical issues are analyzed within the context of curriculum development and program evaluation. Selected theories, principles, and techniques of curriculum development are explored. The role of the educator is explored. (3 semester hours)

#### **NSG 5340—Nurse Leadership Roles in Complex Health Systems**

This course focuses on nursing leadership roles within a complex health care system. The student will apply leadership, change, and organizational theories within a framework of systems thinking. Students will develop strategies for introducing and sustaining change. Ethical and legal concerns related to the nursing leadership role are explored. (3 semester hours)

#### **NSG 5345—Foundations for Clinical Decision Making**

This course builds on baccalaureate health assessment, pathophysiology, and pharmacotherapeutics. Physiologic changes and clinical manifestations that occur as a result of disease, as well as drug therapy used to treat or effect health status, is integrated to facilitate critical analysis of collected assessment data and support clinical decision making. This knowledge provides the educator with advanced knowledge and skills needed to teach learners to provide quality and safe care. (6 semester hours)



**NSG 5360—Nurse Educator Practicum**

This course addresses two distinct foci for the nurse educator: role preparation in both academic and health care settings and development of in-depth knowledge and expertise in a particular area of nursing. For the educator-role focus, students will analyze, synthesize, and utilize concepts of education. For the clinical-expertise focus, students will apply advanced conceptual knowledge in graduate-level clinical practice experiences. Students work directly with preceptors to fulfill clinical and educational objectives. (3 semester hours)

**NSG 5370—Introduction to Educational Concepts**

This course examines the conceptual basis and evidence-based educational research for teaching and learning. The relationships between learning outcomes, learning styles, instructional strategies, assignments, and activities in educational environments are identified. Strategies for promoting student success and classroom management are examined. Various educational environments are explored. Legal and ethical considerations of instruction are included. (3 semester hours)

**NSG 5380—Educational Concepts I: Principles of Instruction and Evaluation**

This course focuses on methods to assess and evaluate learning outcomes in various educational environments. Evidence-based educational research that supports evaluation is explored. Legal and ethical aspects impacting evaluations are discussed. (3 semester hours)

**NSG 5460—Quality Initiatives: Transforming Care**

This course prepares the student with the knowledge and skills to promote safe, effective, timely, efficient, equitable, culturally responsive, patient-centered care. The course will focus on the trending of patient safety, quality, and risk management data over time by the use of performance improvement tools that provide analysis and assist with the future direction of the health care organization. (3 semester hours)

**NSG 5471—Business and Economics of Health Care**

This course introduces the student to basic economic concepts, principles, and theories used to analyze and evaluate a variety of health care issues. Students will utilize knowledge and skills to evaluate U.S. and international health care systems. (3 semester hours)

**NSG 5490/5492—Health Systems Leadership Nursing Practicum /Executive Nurse Leadership Nurse Practicum**

Students analyze, synthesize, and utilize all prior courses in a practice environment. The course provides an opportunity to combine beginning research skills, theoretical knowledge, and professional nursing experience to engage in graduate-level nursing activities in a specialty area. In this learning experience, students implement

projects that reflect their mastery of all program outcomes. (3 semester hours)

**NSG 5502—Advanced Health Assessment/Differential Diagnosis**

This course is required core content for students in the nurse practitioner and nurse educator advanced practice specialization tracts. This course builds upon baccalaureate knowledge and clinical mastery of health and physical assessment. Comprehensive physical, psychosocial, spiritual, and cultural assessments of individuals across the life span are emphasized. Clinical disease prevention and population health promotion are incorporated into the assessment process. Assessment criteria are appreciated as underpinnings of differential diagnoses and plans of care. (3 semester hours)

**NSG 5510—Advanced Pharmacology**

Students develop an advanced understanding of pharmacologic principles, which includes the cellular-response level. This area of core content includes both pharmacotherapeutics and pharmacokinetics of broad categories of pharmacologic agents. The purpose of this content is to provide the knowledge and skills to assess, diagnose, manage, and prescribe the appropriate pharmacologic agents in common health problems with a safe, exceptional quality and in a cost-effective manner. (3 semester hours)

**NSG 5522—Family Nursing: Theory, Research, and Practice**

This course examines the contemporary family structure, function, and process. Various theoretical frameworks and models are explored. Psychosocial, cultural, economic, gender, and spiritual variables and their impact on family life are analyzed. The domains and core competencies of nurse practitioner practice are introduced. **Prerequisite:** NSG 5502 (2 semester hours)

**NSG 5531—Advanced Pathophysiology I**

This course focuses on the pathophysiological concepts that serve as primary components of the foundation for clinical assessment, decision making, and management for advanced nursing practice. Changes associated with individuals of different racial origins, genders, and points across the life span are included. (3 semester hours)

**NSG 5542—Primary Care: Adult I**

This course focuses on the theoretical concepts of health promotion and disease prevention in adults in the primary care setting. It examines acute illnesses and initial presentation of diseases the advanced practice nurse will see in primary care. Students will develop a systematic approach to evaluation and management of common conditions encountered. Content builds upon previous knowledge and clinical reasoning in the development of appropriate differential diagnoses, diagnostic modalities,

and treatment and management plans. Individualized, evidence-based treatment and management plans are implemented by the advanced practice nurse. **(6 semester hours: 4 didactic/2 practicum)**

#### **NSG 5550—Primary Care: Adult II**

This course focuses on the development of the domains and competencies of the FNP, providing evidence-based health care for culturally/spiritually diverse older adults and their families in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the interprofessional management of routine, chronic, and acute health problems in this population. **Prerequisite:** NSG 5542 **(6 semester hours: 4 didactic/2 practicum)**

#### **NSG 5560—Primary Care of Women**

This course focuses on the development of the domains and competencies of the FNP, providing evidence-based health care for culturally/spiritually diverse female clients and their families in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the interdisciplinary management of routine, chronic, and acute health problems in this population. **Prerequisite:** NSG 5550 **(3 semester hours: 2 theory, 1 practicum)**

#### **NSG 5570—Behavioral Health**

This course focuses on common mental health issues and counseling strategies relevant in the primary care setting. Emphasis is on the assessment and management of behavioral, developmental, and lifestyle issues across the life span and in culturally/spiritually diverse populations. Individual and family intervention strategies are presented. **Prerequisite:** NSG 5502 **(3 semester hours)**

#### **NSG 5580—Primary Care Pediatrics**

This course focuses on the development of the domains and competencies of the FNP, providing evidence-based health care for culturally/spiritually diverse infants, children, and adolescents and their families in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the interdisciplinary management of routine, chronic, and acute health problems in this population. **Prerequisite:** NSG 5550 **(3 semester hours: 2 theory, 1 practicum)**

#### **NSG 5590—Family Nurse Practitioner Preceptorship**

This course represents the culmination and integration of all previous coursework and provides an opportunity for the student to continue to master the domains and competencies of the FNP. Course content specifically addresses issues for professional practice needed for the graduate to enter the workforce as an advanced practice nurse. **Prerequisite:** All courses must be completed prior to enrolling in this course. **(4 semester hours: 2 theory, 2 practicum)**

#### **NSG 5600—Nursing Informatics Practicum**

This course provides students with the opportunity to perform the role and function of a professional informatics nurse specialist (INS) in a health care setting. The students develop their own field-based projects or participate in an ongoing project, as approved by course faculty members. Students apply nursing informatics principles to enhance health care outcomes. Students are mentored by preceptors that are experienced in nursing informatics in complex health systems. **(4 semester hours)**

#### **NSG 5610—Advanced Practice in Nursing Informatics**

This course analyzes the role of the informatics nurse specialist (INS) as it relates to the three domains of practice (Foundations, Systems Development Life Cycle, and Data Management and Health Care Technology) and strategies that improve patient outcomes. The student will prepare for the American Nurses Credentialing Center (ANCC) nursing informatics certification. **(2 semester hours)**

#### **NSG 5620—Adult-Gerontology: Acute Care I**

This course builds on prerequisite knowledge and skills obtained in foundational courses. Coursework will focus on the theoretical and clinical foundation of advanced practice nursing diagnosis and management of acute and chronic health care problems common to adult and geriatric patients, while integrating evidence-based practice guidelines to ensure safe, evidence-based care. Clinical procedures specific to organ systems and disease processes introduced during this course will be demonstrated. Diverse teaching approaches are used to challenge students to critically think and to improve quality outcomes for patients. Interdisciplinary collaboration among health care providers is promoted. Clinical experiences are completed in various inpatient and specialty care settings for 125 practicum hours. **Prerequisite:** NSG 5502 **(6 semester hours)**

#### **NSG 5630—Adult-Gerontology: Acute Care II**

This course builds on prerequisite knowledge and skills obtained in foundational courses. Coursework will focus on the theoretical and clinical foundation of advanced practice nursing diagnosis and management of acute and chronic health care problems common to adult and geriatric patients, while integrating evidence-based practice guidelines to ensure safe, evidence-based care. Clinical procedures specific to organ systems and disease processes introduced during this course will be demonstrated. Diverse teaching approaches are used to challenge students to critically think and to improve quality outcomes for patients. Interdisciplinary collaboration among health care providers is promoted. Clinical experiences are completed in various inpatient and specialty care settings for 125 practicum hours. **Prerequisite:** NSG 5620 **(6 semester hours)**

### **NSG 5640—Adult-Gerontology: Acute Care Procedural Course**

This course focuses on the development of clinical competency in the performance and evaluation of skills and procedures associated with the adult-gerontology acute care nurse practitioner practice. (2 semester hours)

### **NSG 5650—Adult-Gerontology: Acute Care III**

This course builds on prerequisite knowledge and skills obtained in foundational courses. Coursework will focus on the theoretical and clinical foundation of advanced practice nursing diagnosis and management of acute and chronic health care problems common to adult and geriatric patients, while integrating evidence-based practice guidelines to ensure safe, evidence-based care. Clinical procedures specific to organ systems and disease processes introduced during this course will be demonstrated. Diverse teaching approaches are used to challenge students to critically think and to improve quality outcomes for patients. Interdisciplinary collaboration among health care providers is promoted. Clinical experiences are completed in various inpatient and specialty care settings for 125 practicum hours. **Prerequisite:** NSG 5620 (6 semester hours)

### **NSG 5660—Adult-Gerontology: Acute Care Practicum**

This course represents the culmination and integration of all previous coursework and provides an opportunity for the student to continue to master the domains and competencies of the geriatric acute care nurse practitioner. Course content specifically addresses issues for professional practice needed for the graduate to enter the workforce as an advanced practice nurse. (5 semester hours)

### **MI 5121—Information Systems Project Management in Health Care**

This course introduces the fundamental principles of project management from an information technology perspective as they apply to health care organizations. Critical features of core project management are covered, including integration, scope, time, cost, quality, human resource, communication, risk, and procurement management. Also covered is information technology management related to project management; user requirements, infrastructure, conversion, workflow, security, interface, test, customer, and support management; and software configuration. Additionally, the realization, transformation, training, and optimization management areas of change management related to project management will be covered. Students will explore and learn hands-on skills with project management software assignments and will participate in a course-long health care systems implementation group project intended to apply this newly developed knowledge and these skills in a controlled environment. (3 semester hours)

### **MI 5130—Database Systems in Health Care**

This course covers basic to intermediate knowledge of the concept, design, and implementation of database applications in health care. Students will study tools and data models for designing databases such as E-R Model and SQL. The course also covers Relational DBMS systems such as Access, SQL Server, Oracle, and MySQL. In addition, database connectivity design (essential in data-driven web development) and database administration will also be introduced. Students will practice designing; developing; and implementing a test-relational, online, health IT database application through a comprehensive project that contains the above topics. (3 semester hours)

### **MI 5204—Clinical Decision Support System**

This course introduces students to theoretical, statistical, and practical concepts underlying modern medical decision making. Students will be provided with a review of the multiple methods of knowledge generation for clinical decision support systems (CDSS) and create their own prototype of CDSS. Current implementations of stand-alone and integrated CDSS will be evaluated. Techniques for planning, management, and evaluation of CDSS implementations will be reviewed. Human factors—including work-flow integration and the ethical, legal, and regulatory aspects of CDSS use—will be explored, as applicable to commercial implementations in patient-care settings. Future models of health care, supported by CDSS and evidence-based medicine, will be discussed and reviewed. (3 semester hours)

### **MI 5180—Human-Computer Interaction in Health Care Settings**

The dynamics of human-computer interaction (HCI) directly impacts health care. This course will introduce the student to usable interfaces and the study of social consequences associated with the changing environment due to technology innovation. (3 semester hours)

### **MI 6410—Consumer Health Informatics**

Consumer health informatics is a relatively new application of information technologies in the field of health care that aims to engage and empower consumers to become involved in their own health care. This course provides an introduction to, and overview of, consumer health informatics, mobile health (mHealth), and social media applications used in health care. It explores the development of consumers as ePatients and tools such as personal health records (PHRs), as well as the fluid nature of social media in medicine and the emerging area of mobile health (mHealth). Students will learn from a combination of lectures and a hands-on approach of interacting directly with the tools and technologies discussed. (3 semester hours)

## Doctor of Nursing Practice (D.N.P.)

The online Doctor of Nursing Practice (D.N.P.) program at Nova Southeastern University is a practice-focused terminal degree designed to serve post-M.S.N. nurse practitioners, nurse informaticists, clinical nurse specialists, nurse midwives, nurse anesthetists, nurse educators, and nurse managers/executives. The D.N.P. curriculum features a convenient, online format that builds on current M.S.N. programs by supporting evidence-based practice, quality improvement, and systems thinking, and reflects the *Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006).

Students may focus on a direct care role or an aggregate/systems/organizational role, such as informatics, nursing administration, or community health. Students remain engaged in online coursework combined with face-to-face practicum experience that culminates in the student's D.N.P. project. Emphasizing practice that is innovative and based in evidence, the final project reflects the application of the student's research findings.

This online program attracts highly experienced faculty members with advanced preparation and extensive experience in the area of specialization. Faculty members work directly with students to achieve each student's professional nursing goals, and each student will be assigned an adviser to further assist with individualized program guidance. Graduates of the D.N.P. program are prepared to lead and engage in practical, clinically focused scholarship and research utilization.

### Admissions Requirements

Prospective D.N.P. students are selected for admission based on application content, academic record, curriculum of completed required courses, professional nursing licensure, and evaluation forms. Individual student transcripts and writing samples are evaluated by select faculty members, the program director, and the assistant dean of nursing.

Admission to the D.N.P. program requires

- a master's degree in nursing or a related field from a regionally accredited or internationally accredited school (Nursing degrees must be accredited by the Accreditation Commission for Education in Nursing [ACEN], formerly the National League of Nursing Accrediting Commission [NLNAC], the Commission on Collegiate Nursing Education [CCNE], or the Commission for Nursing Education Accreditation [CNEA].)\*
- a minimum master's degree GPA of 3.0 on a 4.0 scale
- current U.S. R.N. license with no restrictions

- two reference forms from individuals other than relatives (suggested sources include professors, academic advisers, and professional nursing references)
- a writing sample (instructions on the following page)
- a CV/résumé
- official documentation of all supervised, postbaccalaureate practice hours

Attendance at the Fort Lauderdale/Davie Campus for the two–three days of the Summer Institute is required at the end of May/beginning of June.

*\* Students who enter the D.N.P. program without an M.S.N. will be required to enroll in NSG 7299—Transition to the Doctor of Nursing Practice Program in the first semester of admission to the program. This course is only offered in the fall.*

### Application Procedures for Fall 2018 and Winter 2019 Classes

The NSU Ron and Kathy Assaf College of Nursing participates in the centralized application service called NursingCAS. NursingCAS does not take part in student selection. The NursingCAS application information may be obtained

- online at [nursingcas.org](http://nursingcas.org)
- by calling NursingCAS at (617) 612-2880

The deadline to complete and submit the NursingCAS application is August 1 for fall admission and December 9 for winter admission.

1. Send supporting documents to NursingCAS.

NursingCAS  
P.O. Box 9201  
Watertown, Massachusetts 02471

- a. All official college transcripts from undergraduate, graduate, and professional institutions attended must be sent to NursingCAS directly from those institutions.
- b. Coursework taken at foreign institutions must be evaluated for U.S. institutional equivalence by an approved National Association of Credential Evaluation Services (NACES) organization such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)

- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service.

- c. Submit a writing sample (use APA 6th edition formatting, including headings for each section) directly to NursingCAS. Include the following information in your statement:

**Problem/Issue**

Discuss a problem or issue in your professional practice setting that needs to be addressed from a D.N.P. perspective. (250 words minimum)

**Applicant's Goals**

Discuss your personal and professional goals related to the D.N.P. (250 words minimum)

- e. Submit a current curriculum vitae/résumé.
- f. Submit a copy of your active, unencumbered United States R.N. license. The license must remain active and current.
2. In addition to NursingCAS, applicants must submit an online NSU application at [apply.nova.edu](http://apply.nova.edu).
3. Submit official documentation of all supervised, postbaccalaureate practice hours from any regionally or internationally accredited schools attended.

Documentation must be from the program director of the previous postbaccalaureate program and include the following information on university letterhead:

- date
- university name and department
- applicant's full name
- date and title of degree earned
- specialization earned and total number of preceptor-verified clinical experience hours
- program director's signature
- contact information for follow up, if necessary

**Tuition and Fees**

Tuition for 2018–2019 will be posted on the NSU Ron and Kathy Assaf College of Nursing website ([nursing.nova.edu/dnp](http://nursing.nova.edu/dnp)). An NSU student services fee of \$1,350 is required annually. A Health Professions Division general access fee of \$145 is also required each year.

Acceptance Fee is \$500. This fee is required to reserve the accepted applicant's place in the class. This advance payment will be deducted from the tuition payment due by registration day, but is not refundable in the event of a withdrawal. It is due within two weeks of an applicant's acceptance.

All tuition and fees are subject to change by the board of trustees without notice.

The first semester's tuition and fees, less the \$500 previously paid tuition deposit, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Each student is required to carry adequate personal medical and hospital insurance. Students may purchase health insurance through NSU. Students who have adequate personal medical and hospital insurance may waive NSU's health insurance by filling out the Student Health Insurance Waiver available through the Bursar's Office ([nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance)).

Students are responsible for transportation to clinical agencies and other off-campus locations related to their program.

There are a number of national, state, and hospital grants available for the nursing student. The Office of Student Financial Assistance and the Ron and Kathy Assaf College of Nursing are eager to assist students in exploring financial aid options. Students can review scholarship opportunities at [nursing.nova.edu/students/scholarships.html](http://nursing.nova.edu/students/scholarships.html), and can speak to a financial aid representative by calling (954) 262-3380. Do not hesitate to ask for help.

**Academic Policies**

The following academic policies apply to all students in the graduate nursing programs.

**Transfer Credits**

No more than 6 graduate credits may be transferred into the D.N.P. program from other doctoral programs. Courses will be evaluated by the program director and the assistant dean on an individual basis for credit toward the D.N.P. The decision will be final. To be considered for credit, a course must have been taken at an accredited graduate program and be the equivalent of a course offered in the Ron and Kathy Assaf College of Nursing D.N.P. program. The student must have earned a grade of B or higher in the course. Students must submit the syllabus of any course

for which they are seeking credit directly to the program director. Additional documentation may be required before credit may be granted. Only courses completed prior to matriculation into NSU's D.N.P. program will be considered for transfer credit.

### Program Progression

Students are required to satisfactorily complete all required courses for the program with a grade of B or higher. A student who fails two courses in the program will be dismissed with the second failure.

### Graduation Requirements

- completion of all program requirements for the degree with a B or higher
- completion of all degree requirements within five years
- satisfaction of all financial requirements within the university
- application for graduation
- recommendation for graduation by the program director

## Curriculum Outline

Courses			Semester Hours
NSG	7121	D.N.P. Roles in Health Care Policy	3
NSG	7131	Epidemiology and Public Health	3
NSG	7135	Health Care Information Systems and Outcomes Management	3
NSG	7300	D.N.P. Roles	3
NSG	7350	Leading in Complex Health Care Systems	3
NSG	7400	Nursing Science for Clinical Practice	3
NSG	7431	Project I: Mentored Scholarship*	3
NSG	7444	Project II: Project Plan*	3
NSG	7445	Project III: Implementation*	3
NSG	7451	Project IV: Evaluation*	3
NSG	7500	Translating Evidence for Clinical Practice	3
HPH	7300	Biostatistics I	3
<b>Minimum Total Semester Hours</b>			<b>36</b>

Students may focus on a direct care role or an aggregate/systems/organizational role such as informatics, nursing administration, or community health.

\*These courses are practice-immersion courses that help students become experts in a practice field while the project is completed. Each course requires a minimum of 125 clinical practice hours.

D.N.P. graduates are required to complete 1,000 clinical practice hours post-Bachelor of Science in Nursing. Hours from the M.S.N. credited toward these practice hours must be verified by the university where the student completed the M.S.N. Students may be required to complete additional hours in order to meet the 1,000-hour requirement. Students may enroll in NSG 7429: Continuous Matriculation until required hours are completed. All but 125 of the required 1,000 clinical hours must be completed prior to starting NSG 7451.

If an applicant is an R.N. or B.S.N. with a master's degree in another health-related field, the applicant may enroll in a transitional course, NSG 7299 Transition to the Doctor of Nursing Practice Program, to meet M.S.N. essentials prior to the start of D.N.P. coursework. This course is only offered in the fall semester.

Students will work with an adviser to plan their individual program of study.

## Course Descriptions

### NSG 7121—D.N.P. Roles in Health Care Policy

This course provides a holistic overview of health care policy planning from development to implementation. Students will apply current evidence to analyze and evaluate health care policy frameworks from the perspective of professional, political, social, and regulatory issues. They will examine the current U.S. health care system based on public and governmental interests. Students will explore the role of the D.N.P. as advocates and leaders in the integration of health care policies and practice. (3 semester hours)

### NSG 7131—Epidemiology and Public Health

This course provides the student with a foundation in clinical prevention and population health care. Students will be introduced to culturally proficient care in response to societal needs for improved health care outcomes of individuals and populations. This course integrates clinical prevention, screening, behavior change, self-care, disease management, and cultural competency related to the health of populations. An emphasis will be placed on evidence-based clinical prevention and population health services. (3 semester hours)

### NSG—7135 Health Care Information Systems and Outcomes Management

This course focuses on the evaluation and use of information systems technology in health care organizations. Students will explore processes used for collection, analysis, and tracking of quality and safety data. Students will learn information technology and research methods that collect appropriate and accurate data to generate evidence for practice. Students will learn to inform and guide the design of databases to generate meaningful evidence for nursing practice. (3 semester hours)

### NSG 7299—Transition to the Doctor of Nursing Practice Program

This course is designed to assist the B.S.N.-prepared registered nurse with a master's degree in a field other than nursing to develop the Master of Science in Nursing competencies required to transition into the Doctor of Nursing Practice (D.N.P.) program. The student will build upon current nursing experience and previous graduate education in order to demonstrate achievement of the essentials of M.S.N. education prior to beginning D.N.P. coursework. Students will complete 150 practicum hours. (6 semester hours)

### NSG 7300—D.N.P. Roles

This course focuses on key concepts related to the role of the Doctor of Nursing Practice in clinical, educational, and health care system settings. Students will analyze the history of nursing education, with emphasis on the development of the Doctor of Nursing Practice. Interprofessional teams, collaboration, and communication skills needed for the effectiveness of this role need to be thoroughly examined. (3 semester hours)

### NSG 7350—Leading in Complex Health Care Systems

This course focuses on principles of business, finance, economics, and leadership within health care systems. Students will explore strategies to create, sustain, and evaluate change in complex micro and macro systems. Solutions to complex systems issues will be proposed within the context of relevant ethical, political, economic, and cultural factors. Students will use collaborative and interprofessional skills to explore proposed system solutions. Using complexity science as a theoretical foundation, the course challenges students to create new ideas, adopt new behaviors, and explore new vulnerabilities from which to view and solve health care dilemmas. Transformational leaders are challenged to implement and sustain organizational and systems change to support the healing and caring that leads to improved health care outcomes. The three major constructs of transformational leadership include self-transformation, patient-centered transformation, and health systems transformation. (3 semester hours)

### NSG 7400—Nursing Science for Clinical Practice

This course explores the scientific principles and philosophical underpinnings of nursing practice relevant to the role of the D.N.P. Concepts, models, and theories from nursing and other disciplines will be applied to clinical practice problems. Students will analyze various approaches used in research and evaluate the quality of published research. Students will develop search strategies to answer questions related to a selected topic of interest. (3 semester hours)

### NSG 7431—Project I: Mentored Scholarship

The cornerstone course will provide students with the tools and the support they require to conduct a scholarly literature review and to develop a clear statement of the problem. A minimum of 125 hours are spent in clinical immersion. Clinical immersion objectives and activities are mutually developed by the student and faculty members and based on the proposed clinical project. (3 semester hours)

### **NSG 7444—Project II: Project Plan**

This course will provide students with the support and direction needed to develop a comprehensive, site-specific project plan in collaboration with faculty members and his or her mentor. A minimum of 125 hours are spent in clinical immersion. Clinical immersion objectives and activities are mutually developed by the student and faculty members and based on the proposed clinical project.

**Prerequisite:** NSG 7431 (3 semester hours)

### **NSG 7445—Project III: Implementation**

This project experience provides an opportunity for the student to execute the project plan in collaboration with the sponsoring site. The experience reflects the interest of the student and is designed to meet individual interests and career goals. This advanced practice allows the student to learn to manage time and resources, assess implementation issues, and utilize communication and collaboration while working with a clinical mentor to implement the project plan. A minimum of 125 hours spent in clinical immersion is required. Clinical immersion objectives and activities are mutually developed by the student and faculty members and based on the proposed clinical project. **Prerequisite:** NSG 7444 (3 semester hours)

### **NSG 7451—Project IV: Evaluation**

This is the final component of the project experience. All but 125 of the required 1,000 clinical hours must be completed prior to starting NSG 7451. The course content, as in the other project experiences, reflects the interest of the student and is designed to meet individual student needs and career goals. This final course allows the student, with guidance from mentor and faculty to complete the clinical project and analyze the scholarly written and oral report to disseminate and integrate new knowledge. The final product will reflect the student's ability to employ effective communication and collaboration skills; to take a leadership role; to influence health care quality and safety; to evaluate practice; and to successfully negotiate change in health care delivery for individuals, families, populations, or systems across a broad spectrum of health care. A minimum of 125 hours are spent in clinical immersion. Clinical immersion objectives and activities are mutually developed by the student and faculty members and based on the proposed clinical project. **Prerequisite:** NSG 7445 (3 semester hours)

### **NSG 7429—Continuous Matriculation**

This course may be repeated up to four times, based on the number of hours for the D.N.P. degree. needed to complete the required 1,000 hours for the D.N.P. degree. Clinical immersion objectives and activities are mutually developed by the student, faculty, and practicum mentor. (3 semester hours)

### **NSG 7500—Translating Evidence for Clinical Practice**

This course provides essential skills for utilizing research to support practice change, including assessing practice-based problems, analyzing current evidence, proposing practice changes, and developing plans for implementing evidence-based practice concepts. The role of the advanced practice nurse in collaborative research and dissemination of findings is explored. Emphasis is on ethical, cultural, and financial implications of evidence-based practice and the synthesis of clinical evidence and knowledge translation for point-of-care decision making and identification of best practice. Students will understand the tools to develop, implement, and evaluate evidence-based clinical and administrative programs in nursing and health care delivery systems. The course will culminate in a systematic review of a body of research relevant to a selected topic of interest. (3 semester hours)

### **HPH 7300—Biostatistics I**

The application of quantitative techniques has expanded rapidly in medical decision making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with the knowledge of quantitative techniques. It will cover descriptive statistics, parametric group comparison statistics, and basic nonparametric statistics. It will also provide an introduction to linear modeling. (3 semester hours)

### **NSG 7443—D.N.P. Independent Study**

This course is an individualized, didactic study with content related to the student's practice and scholarly project. A written contract is made between the student and a faculty member. The student is responsible for identifying study objectives and D.N.P. competencies that are addressed within the course and for specifying the primary D.N.P. competency related to this study, learning activities, and evaluation method. (1–3 semester hours)



## Doctor of Philosophy in Nursing (Ph.D.)

The Doctor of Philosophy (Ph.D.) in Nursing, with a focus on Nursing Education, is an online degree program for graduates of accredited Master of Science programs who have a major in nursing and who hold U.S. Registered Nurse (R.N.) licensure.

The program is designed to prepare nurse scholars to conduct research supporting nursing education, to provide scholarly service at academic facilities and to the professional and health care communities as nurse educators, and to teach nurses and potential nurses in the academic and clinical setting. Graduates of the program will be able to assess, plan, implement, and evaluate teaching-learning strategies and use traditional, as well as advanced technological, educational strategies.

All students in the Ph.D. track take 9 semester hours of core courses. Courses within the Ron and Kathy Assaf College of Nursing include 12 semester hours of nursing science and nursing theory courses, 15 semester hours of advanced nursing research courses, 15 semester hours of higher education, and a minimum of 9 semester hours of dissertation.

The Doctor of Philosophy in Nursing degree is based on an interprofessional approach to education. NSU's Health Professions Division provides eight courses that are offered in an interprofessional format with the Ron and Kathy Assaf College of Nursing and the departments of Occupational Therapy, Physical Therapy, and Health Science.

For further information, call the Ron and Kathy Assaf College of Nursing at (954) 262-1974 or 800-356-0026, ext. 21974.

### Admissions Requirements for Fall 2019 Entering Class

Prospective Ph.D. in Nursing students are selected for admission based on application content, academic record, professional nursing licensure, and reference forms.

Admission to the Ph.D. program requires

- a current, active, and unencumbered United States R.N. license.
- an M.S. degree with a major in nursing or an M.S.N. from a regionally accredited college or university

Nursing degrees must be accredited by the Accreditation Commission for Education in Nursing (ACEN)—formerly the National League for Nursing Accrediting (NLNAC), or by the Commission on Collegiate Nursing Education (CCNE), or by the Commission for Nursing Education Accreditation (CNEA).

- an overall GPA of 3.5 in the candidate's master's or post-master's degree program in nursing
- two reference forms from individuals other than relatives (suggested sources include professors, academic advisers, and professional nursing references)
- a writing sample that includes an unpublished or published paper, using APA 6th edition formatting—including headings for each section
- a CV or résumé

Attendance is required for a mandatory, one-week summer institute that includes an orientation session. This summer institute is usually held the final week of May for all accepted students and students completing their first and second year.

### Application Procedures for Fall 2019 Entering Class

The NSU Ron and Kathy Assaf College of Nursing participates in the centralized applications service called NursingCAS. NursingCAS does not take part in student selection. The NursingCAS application may be obtained

- online at [nursingcas.org](http://nursingcas.org)
- by calling NursingCAS at (617) 612-2880

The deadline to complete and submit the NursingCAS and NSU applications will be August 1 for fall admission. Applications are accepted year-round.

1. Send supporting documents to NursingCAS.

NursingCAS  
P.O. Box 9201  
Watertown, Massachusetts 02471

a. All official college transcripts from undergraduate, graduate, and professional institutions attended must be sent to NursingCAS directly from those institutions.

b. Coursework taken at foreign institutions must be evaluated for U.S. institutional equivalence by an approved National Association of Credential Evaluation Services (NACES) organization such as one of the services listed below.

- World Education Services, Inc.  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [wes.org](http://wes.org)
- Josef Silny & Associates, Inc.  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax • [jsilny.com](http://jsilny.com)

- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [ece.org](http://ece.org)

It is the applicant's responsibility to have this coursework evaluated. An official course-by-course evaluation with a cumulative grade point average must be sent directly from the evaluation service.

- Applicants must submit a current curriculum vitae or résumé.
  - Applicants must submit a copy of their active, unencumbered United States R.N. license. The license must remain current throughout the program.
  - Two references must be completed by individuals other than relatives (suggested sources include professors, academic advisers, and professional nursing references).
  - Applicants must submit a professional writing sample using APA 6th edition formatting, including headings for each section.
2. In addition to NursingCAS, applicants must submit an online NSU application at [apply.nova.edu](http://apply.nova.edu).

### Tuition and Fees

Tuition for 2018–2019 will be posted on our website ([nursing.nova.edu/phd](http://nursing.nova.edu/phd)). An NSU service fee of \$1,350 is required annually. A Health Professions Division general access fee of \$145 is also required each year.

Acceptance Fee is \$500. This fee is required to reserve the accepted applicant's place in the class. The advance payment will be deducted from the tuition payment due on registration day, but is not refundable in the event of a withdrawal. It is payable within the two weeks of an applicant's acceptance.

All tuition and fees are subject to change by the board of trustees without notice.

The first semester's tuition and fees, less the \$500 previously paid tuition deposit, are due on or before registration day. Tuition for each subsequent semester is due on or before the appropriate registration day. Students will not be admitted until their financial obligations have been met.

Each student is required to carry adequate personal medical and hospital insurance. Students may purchase health insurance through NSU. Students who have adequate personal medical and hospital insurance may waive NSU's health insurance by filling out the Student Health Insurance Waiver available through the Bursar's Office ([nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance)).

Students are responsible for transportation to clinical agencies and other locations related to their program.

There are a number of national, state, and hospital grants available for the nursing student. The Office of Student Financial Assistance and the Ron and Kathy Assaf College of Nursing are eager to assist you in exploring financial aid options. Students can review scholarship opportunities at [nursing.nova.edu/students/scholarships.html](http://nursing.nova.edu/students/scholarships.html), and can speak to a financial aid representative by calling (954) 262-3380. Do not hesitate to ask for help.

### Academic Policies

The following academic policies apply to all students in the graduate nursing programs.

#### Transfer Credits

No more than 6 graduate credits may be transferred into the Ph.D. program from other doctoral programs. Courses will be evaluated by the program director and the associate dean on an individual basis for credit toward the Ph.D. Their decision will be final. To be considered for credit, a course must have been taken at an accredited graduate program and be the equivalent of a course offered in NSU's Ph.D. program. The student must have earned a grade of B or higher in the course. Students must submit the syllabus of any course for which they are seeking credit directly to the program director. Additional documentation may be required by the program director before credit may be granted. Only courses completed prior to matriculation into NSU's Ph.D. program will be considered for transfer credit.

#### Program Progression

Students are required to satisfactorily complete all required courses for the program with a grade of B or higher. A student who fails two courses in a program may be dismissed with the second failure.

### Graduation Requirements

- completion of all program requirements for the degree with a B or higher
- completion of all degree requirements within seven years of matriculation into the program
- satisfaction of all financial requirements within the university
- application for graduation
- receipt of a recommendation for graduation by the program director

## Curriculum Outline

Core Courses			Semester Hours
HPH	7220	Research Ethics	3
HPH	7300	Biostatistics I	3
HPH	7310	Biostatistics II	3
<b>Total Core Semester Hours</b>			<b>9</b>

Nursing Courses			Semester Hours
NSG	7000	Theory Development	3
HPH	7500	Philosophy of Science	3
NSG	7120	Health Care Policy	3
NSG	7230	Health Care Leadership	3
<b>Total Nursing Semester Hours</b>			<b>12</b>

Research Nursing Courses			Semester Hours
HPH	7400	Quantitative Research Design	3
HPH	7410	Qualitative Research Design	3
HPH	7600	Grants and Publications	3
NSG	7210	Evidence-Based Evaluation	3
NSG	7310	Doctoral Seminar I	1
NSG	7320	Doctoral Seminar II	1
NSG	7330	Doctoral Seminar III	1
<b>Total Research Nursing Semester Hours</b>			<b>15</b>

Cognates			Semester Hours
NSG	7140	Theories of Education	3
NSG	7150	Instructional Design and Curriculum Development	3
NSG	7220	Higher Education Leadership	3
HPH	7700	Tests and Measurements	3
NSG	7250	Scholarship and Applied Research	3
<b>Total Cognate Semester Hours</b>			<b>15</b>

Dissertation			Semester Hours
NSG	7340	Dissertation	9 (minimum)
<b>Total Semester Hours</b>			<b>60 (minimum)</b>

There is an annual, on-campus, one-week residency requirement.

## Course Descriptions

### NSG 7000—Theory Development

This course examines the nature of nursing knowledge and the development of its underpinnings. Selected approaches to concept/theory development, analysis, and evaluation are examined and applied. The linkages among theory, research, and practice in the development of nursing knowledge are explored. This course prepares students to select a theoretical framework for testing in their dissertation. (3 semester hours)

### NSG 7120—Health Care Policy

This course provides present and future nurse leaders with an understanding of health policy as it relates to health care delivery and nursing practice. This course will analyze health policy environments and the rules, structure, and settings where policy is developed, as well as the political, economic, technological, national, and global environments within which each setting operates. The students will analyze the interaction of the primary health policy individuals or groups including the health care purchasers, health care providers, third-party payers, consumers, special interest groups, and professional organizations. Students will assess the atmosphere in which policy is created and how compromise and bargaining shape policy decisions. Throughout the course, current policy initiatives involving health care delivery and nursing will be analyzed. The role of educational, political, and organizational health care leaders in the change process and in the formation of health care policy decisions will be a theme throughout this course. (3 semester hours)

### NSG 7140—Theories of Education

This course is designed to enhance the student's knowledge and application of educational theory. The relationship between nursing theory and educational theory is explored. Methods to test educational theories will be evaluated. (3 semester hours)

### NSG 7150—Instructional Design and Curriculum Development

This course examines the process of curriculum development from faculty and administrative viewpoints. The relationship of learning theory to curriculum and instructional design is explored. Curricula are analyzed within the context of accreditation standards and program evaluation. Instructional design models are assessed for applicability to a nursing course. A method to generate evidence related to instructional strategies is developed. (3 semester hours)

### NSG 7210—Evidence-Based Evaluation

This course focuses on the exploration of the state of evaluation in today's educational settings as they relate to nursing education. Critical assessment of issues related to evaluation in various educational environments is included. The integration and utilization of various evaluation methods in the curriculum is studied. Students will analyze, synthesize, and propose research on assessment and evaluation in nursing education. (3 semester hours)

### NSG 7220—Higher Education Leadership

This online course focuses on a variety of topics of importance to nursing leaders in higher education. Students will examine the leadership demands specific to the higher education environment as well as personal application of these concepts. The structures and functions of college and university settings of all kinds will be explored. Students will investigate multiple dimensions of academic excellence including faculty members, students, administrators, programs and curricula, teaching and evaluation methods, and resources. These key components will be discussed in the context of educational accreditation. Current issues affecting higher education will also be discussed (3 semester hours)

### NSG 7230—Health Care Leadership

This course provides an opportunity to present future nursing leaders with an understanding of health care leadership. This course applies leadership and decision-making principles to the health care environment as it relates to nursing practice, research, and quality. The course focuses on current and future leadership issues and trends, best practices, and characteristics of current nursing leaders in health care. Students will examine the opportunities and roles for nurse leaders; apply strategies for change related to nursing leadership, roles, function, and image; and develop a personal leadership philosophy. (3 semester hours)

### HPH 7700—Tests and Measurements

The course provides a foundation in the basic principles of measurement error with a focus on how to assess and control for error through research design methods and statistical analysis. Students will explore test construction and parsimonious data analysis methods to develop an understanding for designing instruments and assessment tools. Topics in the course will include survey implementation, sampling, data collection, follow-up, and ethical issues. A focus on issues specific to measurement error in the medical sciences will also be examined throughout the course. (3 semester hours)

### **NSG 7250—Scholarship and Applied Research**

This course is designed to develop a professional trajectory for scholarship as a member of the nursing discipline. Fundamental to this scholarship is Boyer's Model of Scholarship and a plan for research in the specialty of nursing education. Course requirements will include assessments of self and organizational scholarship in order to develop a plan for future contributions to the discipline. **(3 semester hours)**

### **NSG 7310—Doctoral Seminar I**

This course provides the student with an opportunity to examine the dissertation process. The course focuses on structure and design of a concept for Ph.D. dissertation research that includes peer/collegial review and scholarly discourse. **(1 semester hour)**

### **NSG 7320—Doctoral Seminar II**

This course is designed to increase the student's ability to prepare a detailed literature review based on the current state of science on the topic of a student's proposed doctoral dissertation. Course focus is on a variety of vantage points on the phenomenon of interest toward gaining skills in organizing, integrating, analyzing, synthesizing, and evaluating the most relevant information. **(1 semester hour)**

### **NSG 7330—Doctoral Seminar III**

In this course, the student's mastery of doctoral study is assessed. Through the comprehensive examination process, the student will exhibit knowledge of relevant current and historical literature in the focused area of study, knowledge of current issues, and the ability to apply and design a research study using methods of the discipline. The student's ability to think critically, form sound responses to questions, and communicate effectively in writing is evaluated. The completion of this course is indicative of the student's readiness to commence dissertation work. Successful completion of the course is required before dissertation work can begin. **(1 semester hour)**

### **NSG 7340—Dissertation**

This course provides an opportunity for direct engagement between the student and the dissertation committee. It focuses on design, implementation, and completion of the scholarly research study. **(minimum 9 semester hours)**

### **HPH 7600—Grants and Publications**

This course is designed to provide writing experiences that prepare the learner for manuscript and grant proposal submissions. This introductory experience into the grant process from proposal to funding to management will include project management, funding sources, and funding challenges. Other course requirements include a research proposal (manuscript) that is ready for submission for publication and development of a dissertation proposal. **(3 semester hours)**

### **HPH 7220—Research Ethics**

This course introduces students to ethics concepts as they apply to questions and challenges in conducting research with human subjects. The aim is to increase students' awareness of, and ability to reason through, ethical issues that arise in human subjects research. The course will draw upon historical examples, codes, declarations, and other sources of ethical guidance, including discussions of contemporary controversies in human subjects research. **(3 semester hours)**

### **HPH 7300—Biostatistics I**

The application of quantitative techniques has expanded rapidly in medical decision making. The emphasis on evidence-based health care means that health care workers must be able to evaluate the results from published health care research studies. This course is the first of two courses designed to provide students with the knowledge of quantitative techniques. It will cover descriptive statistics, parametric group comparison statistics, and basic nonparametric statistics. It will also provide an introduction to linear modeling. **(3 semester hours)**

### **HPH 7310—Biostatistics II**

The aim of this course is to enable students to appreciate the richness of statistical science and the concepts of probabilistic thinking. Statistics is the science of the future. Any technique that students learn will help them to understand the unknown better and, in turn, will increase their success in other courses and in future professional careers. Principles of statistical inference build upon the Fundamentals of Biostatistics course. The goals of this course are threefold: (1) introduce the basic concepts of probability and methods for calculating the probability of an event; (2) assist students in developing and understanding probability theory and sampling distributions; and (3) familiarize students regarding inferences involving one or two populations, ANOVA, regression analysis, and chi-square tests. **Prerequisite:** Fundamentals of Biostatistics **(3 semester hours)**

### **HPH 7400—Quantitative Research Design**

This course will provide students with a fundamental understanding of the basic methods and approaches used in health-related research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretation of research findings. It will prepare students to critically evaluate published literature and to design sound research studies. The course will be both theoretical and applied. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design a study that addresses a health-related issue of their choice. **(3 semester hours)**

### **HPH 7410—Qualitative Research Design**

The Doctor of Philosophy degree programs in occupational therapy (OT) and physical therapy (PT) are designed to prepare students to conduct research in their discipline. In HPH 7410, students will focus primarily on the knowledge and skill competencies needed to design and conduct OT/PT qualitative research successfully. In this pursuit, students will immerse themselves in the epistemological, theoretical, ethical, methodological, and procedural understanding of qualitative research; apply this knowledge to the conceptualization and conduct of OT/PT qualitative research; report the findings of the research in the form of a research article; and appraise the quality of such qualitative research products. Upon completion of the course, students will have demonstrated that they have mastered the basic competencies needed to create, plan, and complete a qualitative research dissertation. **(3 semester hours)**

### **HPH 7500—Philosophy of Science**

This course will address classical issues in the philosophy of science, including demarcation, the distinction between what science is and is not, hypothesis development, confirmation and falsification, causation, and explanation. The course will also explore the ontological, epistemological, methodological, and axiological foundation of the major paradigms within which inquiry in the human services professions are located. Issues of congruence between research question selection and paradigm selection will be addressed as well. **(3 semester hours)**

**Dr. Kiran C. Patel**  
**College of Allopathic Medicine**  
**NSU MD**







# Dr. Kiran C. Patel College of Allopathic Medicine



Johannes  
Vieweg, M.D.  
Dean

## Dr. Kiran C. Patel College of Allopathic Medicine (NSU MD)

### Mission, Vision, and Core Values

#### Mission

Our mission is as simple as it is enormous: *advancing human health through innovation in medical education, research, and patient care.* We are dedicated to educating and inspiring individuals to be exemplary physicians and scientists, leaders in medicine, scholars in discovery, and adopters of innovative technology to improve the health and well-being of all.

#### Vision

Our vision drives us to

- develop new leaders in the biomedical sciences, public health, medical education, and clinical care who will measurably improve human health
- advance innovation from discovery to outcomes
- develop and maintain excellent clinical programs to provide outstanding care
- cultivate excellence and collegiality within a community that is diverse, inclusive, and equitable
- observe the highest standards of ethics, integrity, and compassionate care
- share our vision and advances through wide-reaching programs and global partnerships

#### Core Values

Excellence • Innovation • Teamwork • Communication  
Diversity • Integrity • Accountability

These core values define how we work together in building a 21st-century medical school with a compelling

and sustainable future. We strive for excellence in all of our endeavors and constantly seek innovative ways to improve our research, education, and patient-care efforts to best serve our diverse communities. Teamwork, communication, and new partnerships will catalyze our evolution from the concept stage to an academic program of distinction. Diversity and inclusiveness are fundamental core values, supported throughout the institution, that enrich our learning, research, and clinical-practice environments. We strive to create a culture of integrity and accountability that aligns our goals and expectations and links recognition and rewards with high academic performance.

### Accreditation

The Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine (NSU MD) has been granted preliminary accreditation by the Liaison Committee for Medical Education (LCME). This body is recognized by the U.S. Department of Education and the Council of Post-Secondary Accreditation as the accrediting agency for colleges educating allopathic (M.D.) physicians and surgeons.

### Administration

**Johannes Vieweg, M.D.**  
Dean

**Irving Rosenbaum, D.P.A., Ed.D.**  
Executive Associate Dean of Administration  
and Finance

**H. Thomas Temple, M.D.**  
Executive Associate Dean of Research

**Paula Wales, Ed.D.**  
Executive Associate Dean of Academic  
and Student Affairs

**Lindsey Henson, M.D. Ph.D.**  
Associate Dean of Faculty Development  
Acting Chair, Department of Medical Education

**Susan Collingwood, J.D.**  
Assistant Dean of Educational Standards and Quality

**Farzanna Haffizulla, M.D.**  
Assistant Dean of Community Health  
and Global Affairs

**Jennie Lou, M.D.**  
Assistant Dean of Medical Education and Innovation

**Donald Pritchett, J.D.**  
Assistant Dean of Admissions and Student Affairs

**Stefanie Carter, Ed.D.**  
 Director of Professional Affairs  
 and Faculty Development

**Alyssa K. Eason, M.S.**  
 Director of Student Licensing and Credentialing

**Jeremy Katzman, M.B.A.**  
 Director of Communications

**Christine Kircher**  
 Director of Finance

**Sandra L. Moses, M.S.Ed.**  
 Director of Student Affairs

**Ellen Wilkinson**  
 Director of Accreditation

### Admissions Requirements

NSU MD assesses applicants in a holistic manner and appreciates many different types of achievements demonstrated and challenges faced by potential students in its program. Our academic program is fast paced and rigorous and will require out students' best. Applicants for the first-year class must meet the following minimum requirements prior to matriculation:

1. have successfully completed a minimum of 90 semester hours of coursework from a regionally accredited college or university
2. have completed adequate preparation in physics, biology, chemistry and mathematics
3. have successfully completed these required courses

Course	Semester Hours
Biology—one year with lab .....	8
General chemistry—one year with lab.....	8
Organic chemistry—one year with lab (Biochemistry without lab may be substituted for a second semester of organic chemistry.) .....	8
Physics—one year .....	8
Mathematics (college level)—one semester or two quarters (Calculus is not required. Statistics is acceptable.)	

Note: Advanced Placement (AP) courses will fulfill the prerequisite requirements if the individual courses and credits awarded are detailed on the applicant's college/university transcript.

The college views the social sciences, languages, and behavioral sciences, as well as medical sciences and related courses, to be important in creating a well-rounded physician. Courses in microbiology, computer science, cellular physiology, genetics, embryology, biostatistics, quantitative analysis, physical chemistry, humanities, and

social and behavioral sciences, while not required, are useful in providing some essential skills and knowledge required for a medical education.

4. All applicants are required to take the Medical College Admission Test (MCAT). Applications for the MCAT may be obtained online at *aamc.org*, from your college's preprofessional adviser's office, by calling (319) 337-1357, or by writing directly to

Medical College Admission Test Program Office  
 2255 North Dubuque Road  
 P.O. Box 4056  
 Iowa City, IA 52243-4056

MCAT scores must be no more than three years old prior to the application cycle.

The college expects to receive thousands of applications for admission each year, from which only 50 students will be chosen. These students will have varied backgrounds, and while some may enter the college directly from an undergraduate program, other students will come from successful careers. The Committee on Admissions recommends applicants to the dean on the basis of demonstrated academic excellence, leadership, compassion, and commitment to the medical profession.

### Technical Requirements

#### 2018–2019 Technical Standards for Medical School Admission, Continuation, and Graduation

##### Introduction

Applicants to the Dr. Kiran C. Patel College of Allopathic Medicine (NSU MD) are selected for admission on the basis of their academic, personal, and extracurricular attributes. Applicants must also have the intellectual, physical, and emotional capabilities to meet the requirements of NSU MD's curriculum and of a successful medical career.

The mission of NSU MD is to provide its graduates with broad, general knowledge in all fields of medicine and the basic skills and competence requisite for the practice of medicine. Therefore, the faculty of NSU MD believes that a broad-based and patient-oriented curriculum is necessary for the development of such knowledge and skills and is best suited to the education of future generalists, specialists, physician investigators, and leaders in medicine. In other words, NSU MD seeks to graduate students who will have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. The following technical standards are based on standards suggested by the Special Advisory Panel on Technical Standards for Medical School Admissions convened by the AAMC (Memorandum #79-4) in January 1979\*. These guidelines were formally adopted by the NSU

MD Committee on Admissions in 2016, are reviewed annually, and updated periodically. These guidelines specify the attributes considered essential for completing medical school training and for enabling each graduate to enter residency and clinical practice. Moreover, because the Doctor of Medicine (M.D.) degree signifies that the holder is a physician prepared for entry into the practice of medicine within postgraduate training programs, it follows that graduates must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide array of patient care. As such, these standards, along with the academic standards established by the faculty, describe the essential functions that applicants must demonstrate to meet the requirements of a general medical education, and are prerequisites for entrance, continuation, promotion, and graduation.

NSU MD will consider for admission and continuation any applicant who meets its academic and nonacademic criteria and who demonstrates the ability to perform skills and meet the standards listed in this document, with or without reasonable accommodations, consistent with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. These standards also conform to the AAMC guidelines for medical schools. NSU MD believes that all applicants must possess the intellectual, physical, and emotional capabilities necessary to undertake the required curriculum in a reasonably independent manner without having to rely on the assistance of others or intermediaries, and that all applicants must be able to achieve the levels of competence required by the faculty. All applicants for admission, both those with and without disabilities, are expected to be competitive with others in the applicant pool in academic, personal, and extracurricular attributes. The institutional policy is to make admissions decisions on a case-by-case basis and on the basis of each applicant's qualifications to contribute to NSU MD's educational mission. For purposes of this document, and unless otherwise defined, the term "applicant" or "candidate" means applicants for admission to medical school, as well as enrolled medical students who are candidates for promotion and graduation.

\*Recommendations of the AAMC Special Advisory Panel on Technical Standards for Medical School Admissions, approved by the AAMC Executive Council on January 18, 1979, are reproduced below.

#### **Technical (Nonacademic) Standards for Medical School Admission**

A candidate for the M.D. degree must have abilities and skills in the five functional areas described following, and must have the physical and emotional stamina and capacity to function in a competent manner, and consistent with these standards, in the classroom, clinical, and laboratory settings, including settings that may involve heavy workloads, long hours, and stressful situations.

**1. Observation:** The candidate must be able to observe demonstrations and experiments in the basic sciences, including, but not limited to, anatomic, physiologic, and pharmacologic demonstrations; microbiologic cultures; and microscopic studies of microorganisms and tissues in normal and pathologic states. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation necessitates the functional use of the senses of vision and hearing and somatic sensation. It is enhanced by the sense of smell.

**2. Communication:** A candidate must be able to speak, to hear, and to observe patients in order to elicit information; describe changes in mood, activity, and posture; and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently in oral and written form with all members of the health care team.

**3. Motor:** Candidates must have sufficient motor function to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers that comprise a complete physical examination (including pelvic examination). A candidate must be able to perform the basic and advanced clinical procedures that are requirements of the NSU MD curriculum. A candidate must be able to execute motor movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, the administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, the suturing of simple wounds, and the performance of simple obstetrical maneuvers. Such actions require coordination of both gross and fine muscular movements; equilibrium; and functional use of the senses of touch, vision, and hearing.

**4. Intellectual: Conceptual, Integrative, and Quantitative Abilities:** These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem-solving, the critical skill demanded of physicians, requires that a candidate be able to learn, retrieve, analyze, sequence, organize, synthesize, and integrate information efficiently and reason effectively. In addition, the candidate should be able to measure and calculate accurately and to understand the spatial relationships of structures.

**5. Behavioral and Social Attributes:** A candidate must possess the emotional health required for full utilization of his or her intellectual abilities; the exercise of good judgment; the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive, and effective relationships with patients. Candidates must be able to work effectively, respectfully, and professionally as part

of the health care team, and to interact with patients, their families, and health care personnel in a courteous, professional, and respectful manner. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that are required.

Technological compensation can be made in certain of these areas, but a candidate should be able to perform in a reasonably independent manner. The use of a trained intermediary, a person trained to perform essential skills on behalf of the candidate, or a person used such that a candidate's judgment must be mediated by someone else's power of selection and observation, is not permitted.

In addition to the abilities and skills set forth above, candidates must possess the general physical health necessary for performing the duties of a medical student and physician in training without endangering the lives of patients and/or colleagues with whom the student might have contact. Candidates whose performance is impaired by abuse of alcohol or other substances are not suitable candidates for admission, continuation, promotion, or graduation.

### **Process for Assessing the Applicant's Compliance with the Technical Standards**

Applicants are required to attest at the time they accept an offer to matriculate that they meet NSU MD's Technical Standards, and thereafter, must attest on an annual basis that they continue to meet the standards. These standards are not intended to deter any student who might be able to complete the requirements of the curriculum with reasonable accommodations. Requests from applicants for reasonable accommodations in meeting the technical standards will be reviewed and considered by the NSU Office of Student Disability Services. Students requesting accommodations must complete NSU's Academic Accommodations form ([nova.edu/disabilityservices/forms/academic\\_accommodations.pdf](http://nova.edu/disabilityservices/forms/academic_accommodations.pdf)). For additional information about the college's process for assessing an applicant's compliance with the technical standards, contact Susan Gonzalez at [susagonz@nova.edu](mailto:susagonz@nova.edu) or (954) 262-1639.

### **Application Procedures**

The college participates in the American Medical College Application Service (AMCAS) for the receipt and processing of all applications. AMCAS takes no part in the selection of students.

Applicants should submit applications electronically through AMCAS online, using an interactive, web-based

application. More information can be found at <https://students-residents.aamc.org/applying-medical-school/applying-medical-school-process/applying-medical-school-amcas/>. For questions, applicants may call (954) 262-0515.

The following steps are necessary to the primary application process.

1. The applicant must submit the following materials to AMCAS by January 15:

- completed AMCAS application
- official transcripts from the registrars of all colleges or universities attended, mailed directly to AMCAS by the college or university
- MCAT scores (must be no more than three years old prior to the application cycle)

2. The applicant must submit the following to the college by March 1:

- a secondary application, which will be sent to the applicant by the college upon receipt of the AMCAS application
- a nonrefundable application fee of \$50
- three letters of recommendation via the AMCAS Letters Service (if not included in the initial application)

A personal interview is a part of the admission process; however, being interviewed is not a guarantee of admission. Not all applicants will be granted an interview. Those selected for an interview will be notified of the date and time of such interview by the college's Office of Admissions and Student Affairs. Notice of acceptance will be on a rolling or periodic schedule; therefore, early completion of the application is in the best interest of the applicant, because of the limited number of spaces available in each class.

After acceptance, final and official documents and requirements must be received by the Office of Admissions and Student Affairs before the first day of orientation to the program. The college will provide accepted students with a detailed schedule of due dates for all documents and requirements. If these final and official documents are not received, or other requirements are not met by that time, or the student is not present at the start of orientation, the student will forfeit his or her place in the class and an applicant from the wait list will be offered the position in the class. Financial aid will not be disbursed to anyone until he or she has been fully admitted as a regular student (all admissions requirements have been approved by the program office).

### **Tuition and Fees**

1. The yearly tuition for 2018–2019 will be posted on our website (<https://md.nova.edu/admissions/cost.html>). It is

subject to change by the board of trustees without notice. Tuition is paid by the semester.

2. Fees include an annual Health Professions Division general access fee of \$145. An NSU student services fee of \$1,350 is also required each year.

3. Additional NSU and NSU MD program, administrative, and service fees apply as follows:

- a. Registration Fee: \$30. This fee is per semester.
- b. Late Payment Fee: \$100.
- c. Degree Application Fee: \$100. This fee is for seniors only.
- d. Commencement Fee: \$100,
- e. Official Transcript Fee: \$10. This fee is for each official transcript requested.
- f. ID Replacement Fee: \$25,
- g. Diploma Replacement Fee: \$30,

Additional program fees may apply.

4. Tuition and annual fees are summed and divided into two equal installments. The first installment is due on August 1 of each academic year, and the second installment is due on January 1 of the academic year.

5. The health insurance premium is \$2,199 annually. See [nova.edu/bursar/health-insurance](http://nova.edu/bursar/health-insurance) for additional details, including criteria for waiving the insurance.

The financial ability of applicants to complete their training at the college is important because of the limited number of positions available in each class. Applicants should have specific plans for financing four years of medical education, including tuition, living expenses, books, equipment, clinical rotation, travel, and miscellaneous expenses.

### **Schedule of Application for Admission Cycle**

**June**—Application cycle for the next academic year begins. Inquiries are invited by NSU MD and AMCAS forms are made available.

**July**—Credentials sent to AMCAS are processed, and applicant records are forwarded to NSU MD. A supplemental application is then sent to the applicant. When the supplemental application is completed and returned and when recommendations are received, the completed application is evaluated for interview.

**August**—Personal interviews start.

**January 15**—Deadline for AMCAS applications for the next academic year.

**March 1**—Deadline for NSU MD supplemental applications.

### **Technology Requirements**

During each student's tenure at NSU MD, the college will provide the student with an Apple iPad® with a minimum of 64 gigabytes (GB) of memory. Students have access to a variety of computer educational resources and course material, including

- Canvas courses, including Tegrity® recordings via iShark
- electronic textbooks
- interactive learning via Turning Point®
- KBIT courses
- medical Spanish
- web modules
- electronic library
- UpToDate
- academic/board review materials
- clinical procedures resources
- examinations

A campus-wide wireless network exists to provide students with electronic access anywhere on campus, and students will have connectivity to university library facilities online using a password-protected portal.

### **Academics**

#### **Transfer of Credit**

Given the intensive curriculum at NSU MD, which is founded upon problem-based learning and devoted to integrated, self-directed learning and discovery to develop multiple competencies, this is not likely to be possible. Therefore, the college will not accept transferring students.

#### **Course of Study**

NSU MD has a dedicated faculty; strong affiliations with medical centers, hospitals, and health care systems; and a mission to educate the finest physician-leaders possible. Physicians do not work in a vacuum, but rather in a health care team, and NSU MD promotes interdisciplinary cooperation through the curriculum. Students also share teaching faculty members for some disciplines, as well as campus facilities, with NSU's osteopathic medicine, pharmacy, dental, optometry, physician assistant, physical therapy, occupational therapy, public health, nursing, and medical science students. This proximity to colleagues from other professions promotes collegiality.

## Curriculum Outline

The college's curriculum proceeds sequentially in blocks dedicated to preclerkship disciplines and organ systems and courses covering clinical skills until spring of year 2, when required clinical clerkships begin, to be followed by electives. A schematic of the curriculum for the first year is shown below.

### NSU MD Curriculum Schematic

	August	September	October	November	December	January	February	March	April	May	June	July
<b>Year 1</b>	Professional Immersion (2)	Fundamentals (12)		R/A (1)	Hematology (4)	R/A (1)	Gastrointestinal/Human Nutrition/Endocrine /Reproductive (10)		R/A (1)	Cardiovascular /Pulmonary /Renal (12)		R/A (1) and End-of-Year I OSCE
	Practice of Medicine I (16)					Winter Break (2)						Independent Study (4)
Longitudinal Threads: Ethics and Humanities, Genomics, Research, Interprofessional Collaboration, Biomedical Informatics, and Leadership												

### NSU MD Courses

NSU MD Blocks (in sequence)				Credit Hours
MDF	6000	Professional Immersion		2
MDF	6001	Fundamentals		6
MDF	6002	Hematology		3
MDF	6003	Gastrointestinal/Human Nutrition/Endocrine/Reproductive		6
MDF	6004	Cardiovascular/Pulmonary/Renal		6

Courses				Credit Hours
MDC	6050	Practice of Medicine I		2
MDC	6051	Practice of Medicine II		6

## Course Descriptions

### **MDF 6000—Professional Immersion**

This course provides activities to introduce students to the curriculum, the learning approaches, and the learning environment of the NSU MD college.

### **MDF 6001—Fundamentals**

The fundamentals block is designed to provide students with a broad foundation in critical biomedical science subject areas, including biochemistry, cell biology, molecular biology, genetics/genomics, microbiology, immunology, pharmacology, physiology, anatomy, embryology, and histology. The course begins with four weeks focusing on human structure (anatomy, histology, embryology, and anatomy laboratory instruction) followed by eight weeks addressing the other subject areas. Content in each week is linked to a theme, which is reflected in the weekly problem-based learning case and other sessions.

### **MDF 6002—Hematology**

The hematology block provides students with basic concepts and vocabulary related to normal histology, physiology, pathophysiology, clinical diagnosis, and therapeutics of the hematologic system. This includes hematopoiesis, anemias, and other disorders of red blood cells; disorders of white blood cells, such as leukemia and lymphoma; and blood coagulation. Content in each week is linked to a theme, which is reflected in the weekly problem-based learning case and other sessions.

### **MDF 6003—Gastrointestinal/Human Nutrition /Endocrine/Reproductive**

The gastrointestinal/human nutrition/endocrine/reproductive block provides basic concepts in normal anatomy, physiology, pathophysiology, clinical diagnosis, and therapeutics of the gastrointestinal and hepatic systems, human nutrition, the endocrine system, and the male and female reproductive systems. This includes normal nutrition, diagnosis and managements of common nutritional disorders, the structure and mechanisms of action of the classical hormones, principles of control and regulation of hormone synthesis and release, and approach to diagnosis and treatment of common endocrine disorders. The reproductive section covers basic concepts and vocabulary of male and female biology as it relates to pathology, gynecological diseases, and infertility. The block includes laboratory instruction, as well as real and simulated clinical experience (anatomy, histology, simulation center activities/cases, and a visit to a dialysis center). Problem-based learning (PBL) cases provide the fundamental knowledge of common gastrointestinal and

hepatic disorders (including nutritional implications, where appropriate) and are complemented by lectures for specific diseases. The simulation component emphasizes correlations with clinical cases and localization of digestive system lesions. Students learn male and female genitourinary exams with standardized patients during the concurrent clinical course. Content in each week is linked to a theme, which is reflected in the weekly PBL case and other sessions.

### **MDF 6004—Cardiovascular/Pulmonary/Renal**

The cardiovascular/pulmonary/renal block provides basic concepts in normal anatomy, physiology, pathophysiology, clinical diagnosis, and therapeutics of the cardiovascular, respiratory, and renal systems. Content includes structures, processes, and diseases of the coronary and peripheral vasculature, cardiac muscle, conduction system, cardiac valves, and pericardium; mechanism and significance of abnormal findings on cardiovascular and pulmonary exams; roles of the renal and cardiovascular systems in regulation of blood pressure; role of the kidneys in regulation of fluid, electrolyte, and acid-base balance; approach to a broad spectrum of pulmonary disease categories and diagnosis and treatment of respiratory failure; interpretation of laboratory findings to identify and manage common acid-base disturbances; and renal glomerular, vascular, and interstitial diseases. The block includes laboratory instruction (anatomy, histology, and simulation center activities that emphasize correlations with clinical cases). Content in each week is linked to a theme, which is reflected in the weekly problem-based learning case and other sessions.

### **MDC 6050—Practice of Medicine I**

The goal of the practice of medicine courses is to provide students with foundational clinical skills and professional behaviors to be successful in the clinical clerkships. The courses are designed as a developmental sequence. Practice of Medicine I is a 16-week course, with one half-day session each week. It begins with an introduction to the essentials of doctor-patient relationship, followed by a series of sessions in which students will learn each aspect of the basic history and physical exam using a hypothesis-driven approach, requiring them to learn not only the how, but also the why, for each new skill. The final month focuses on integrating the components into a logical whole and writing the clinical note. At the end of this course, students will pass an objective-structured clinical examination covering the basic history and physical and writing a clinical note.

## MDC 6051—Practice of Medicine II

The goal of the practice of medicine courses is to provide students with foundational clinical skills and professional behaviors to be successful in the clinical clerkships. The courses are designed as a developmental sequence. Practice of Medicine II is a 22-week course with two half-day sessions per week. It builds on the basic clinical skills from Practice of Medicine I (establishing a doctor-patient relationship, hypothesis-driven history taking, physical examination, and writing clinical notes) by adding 1) a

weekly half-day experience with patients in the office of a primary care preceptor; 2) sessions on advanced/specialized physical examinations; 3) small-group case discussions focused on threads such as ethics, leadership, research, and biomedical informatics; and 4) a required service-learning project in interprofessional teams. At the end of this course, students will pass an objective-structured clinical examination covering both a focused and complete history and a physical examination, as well as writing a clinical note and giving an oral case presentation.

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### BIOMEDICAL SCIENCES

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### MEDICAL EDUCATION

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### PATHOLOGY

Chair: **TBA**

### SURGERY

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