

# NOVA SOUTHEASTERN UNIVERSITY



## HEALTH PROFESSIONS DIVISION 2014–2015 CATALOG

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**Nova Southeastern University  
Health Professions Division**

**College of Osteopathic Medicine**

**College of Pharmacy**

**College of Optometry**

**College of Health Care Sciences**

**College of Medical Sciences**

**College of Dental Medicine**

**College of Nursing**



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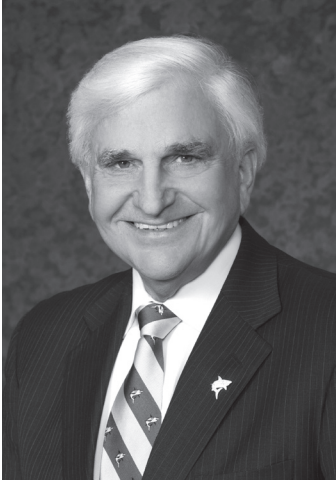
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## Letter from the NSU President/CEO



As president of Nova Southeastern University, I invite you to learn more about this extraordinary educational institution and our approach to higher education.

At NSU, we believe in the pursuit of knowledge. But universities should be about more than acquiring information. We are here to help our students translate knowledge into practical skills and abilities that will not only help them secure jobs upon graduation, but also succeed and make a difference in their resulting careers and lives.

As a prospective student in our prestigious Health Professions Division, you have the opportunity to learn from an array of professors from different backgrounds with a variety of real-world experiences. At NSU, your learning can and will go beyond the classroom through simulation labs, clinical rotations, research, medical missions, community service, and internships.

This is a very exciting time for NSU. We recently broke ground on our \$80-million, 215,000-sq.-ft. Center for Collaborative Research, located adjacent to our Health Professions Division buildings in Davie. Students have the opportunity to work with faculty members conducting research in areas including cardiovascular disease, anti-cancer therapies, chronic fatigue syndrome, autism, coral reef restoration, stem cells, and wildlife DNA forensics, among other subjects. NSU has been recognized as a research university with “high research activity” by the Carnegie Foundation for the Advancement of Teaching, and you can be part of that.

Whether you are looking to become a physician, dentist, optometrist, pharmacist, nurse, or audiologist, or plan to pursue one of the many other exciting health care degrees we offer at various levels, I invite you to learn more about NSU and how we can help prepare you for success on your unique career path.

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.

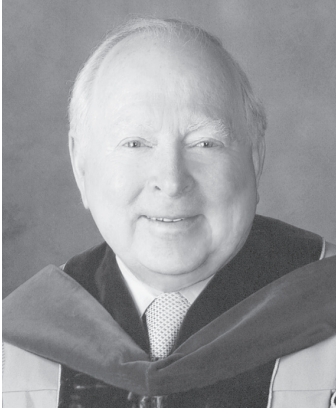
At NSU, your success is our success. We are committed to supporting your academic, physical, financial, and social needs through a comprehensive set of services that are in line with our mission and core values. The Health Professions Division's distinguished faculty members are dedicated to helping 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



If you wish to be a leader in the health professions, Nova Southeastern University can help you reach your potential.

The Health Professions Division is unique in that it has been developed as an interdisciplinary educational center from its inception. The division was founded on the concept that the interdisciplinary approach to education is beneficial to students of all professions, and by preparing students to work effectively with health care providers from different fields, barriers are broken and patient care is enhanced.

In less than two decades, NSU's Health Professions Division has developed into a multidisciplinary academic health center of international stature. Composed of the Colleges of Osteopathic Medicine, Pharmacy, Dental Medicine, Optometry, Health Care Sciences, Medical Sciences, and Nursing, the Health Professions Division continues its commitment to academic excellence, innovation, and community service, while expanding its mission in research and scholarship. Together, as a team, the distinguished faculty prepares students for an exciting career on tomorrow's dynamic health care team.

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

Health Professions Division Chancellor

## Health Professions Division Administration

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*President and Chief Executive Officer*

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*Executive Vice Dean for Educational Support*

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

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## 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.

## NSU 50th Anniversary

From 17 doctoral candidates to nearly 26,000 students. From a former airfield to a lush, 314-acre campus. From its visionary beginning in 1964 to the present, Nova Southeastern University (NSU) has been building an institution of higher education worthy of its many accolades. Now the largest not-for-profit university in the Southeast and the ninth largest in the United States, NSU's reputation for academic excellence and innovation has remained constant throughout five decades of robust growth.



## Health Professions Division Board of Governors

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### **Emeriti**

Thomas F. Carney, D.O.

Mervin E. Meck, 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.

## 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, and Nursing—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 HPD 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 and clinics for postgraduate programs in endodontics, orthodontics, 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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.

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.

### **Tuition Credit Policy—Voluntary Withdrawals**

Students who wish to withdraw must submit a written request for voluntary withdrawal to the dean, who will evaluate the student's request. After completing the required withdrawal form(s) and obtaining the dean'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 the master's degree programs in the College of Osteopathic Medicine (M.S. in Biomedical Informatics, M.P.H., and/or M.S. in Disaster and Emergency Preparedness) will have until 11:59 p.m. the first Sunday of the semester, which is the end of the drop/add period, to make any changes in their schedule without incurring any financial expenses. Students who drop after this date 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 section of the student handbook.

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 30 days after the semester ends.

### **Florida Residency**

Eligible students must request in-state tuition on 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.

### **Enrollment and Student Services**

Enrollment and Student Services (ESS) includes the Office of Student Financial Assistance, the University Registrar's Office, the University Bursar's Office, the One-Stop Shop in the Horvitz and Terry Administration buildings, the University Call Center, Enrollment Processing Services, Transfer Evaluation Services, Health Professions Division (HPD) Admissions and Financial Aid Services, the Offices of Undergraduate Recruitment and Admissions, the Office of International Affairs, and the Help Desk. 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. Both are accessible through SharkLink. Students are encouraged to use NSU's SharkLink to

- access email
- access their financial aid information
- request official transcripts
- view their student accounts
- make payments
- access their grades
- register for classes

The SharkLink system is available 24 hours a day, 7 days a week.

### **Office of International Affairs (OIA)**

The Office of International Affairs serves as a base for the university's international initiatives and student services. It includes the Office of International Students and Scholars (OISS), which is dedicated to providing immigration, orientation, counseling, and overall assistance to all international students, visiting scholars, and faculty members on and off campus. The OIA also provides ongoing assistance and support for all members of the university engaged in campus internationalization and globalization efforts. The OIA acts as a liaison with federal agencies such as the United States Citizenship

and Immigration Services (USCIS), the U.S. Department of State, and foreign governmental agencies. For further information, contact the Office of International Affairs at (954) 262-7240 or visit [www.nova.edu/internationalstudents](http://www.nova.edu/internationalstudents).

More than 1,200 international students and scholars from more than 116 countries have selected NSU to pursue their educational goals. The OIA provides a variety of support services in the areas of

- F-1 and J-1 visa counseling
- transfer assistance
- reinstatement
- travel documentation
- on- and off-campus employment
- assistance with CPT/OPT
- extension of stay
- Social Security
- taxes
- health insurance
- cross-cultural activities
- international student orientation

### The Office of Student Financial Assistance

The Office of Student Financial Assistance (OSFA) is dedicated to helping students make smart 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 complete the Free Application for Federal Student Aid (FAFSA) and meet general eligibility criteria. For detailed information on the financial aid process and sources of aid, visit the financial aid Web site at [www.nova.edu/financialaid](http://www.nova.edu/financialaid).

### Financial Aid Checklist

#### 1. Complete the FAFSA and NSU State Aid Application.

Complete the Free Application for Federal Student Aid (FAFSA) at [www.fafsa.gov](http://www.fafsa.gov) annually. It becomes available each January 1. The earlier you apply, the better chance you have of being considered for maximum available

funds. To apply for Florida grants and scholarships, undergraduate students should also complete the NSU State Aid Application available at [www.nova.edu/financialaid/forms/index.html](http://www.nova.edu/financialaid/forms/index.html).

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

Your budget includes a housing and meal component. Please ensure that your budget covers these expenses if you intend to live on campus.

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

Regularly check your financial aid status via SharkLink to ensure that you have no outstanding requirements. The link to My Financial Aid is located in the center of your SharkLink Student tab. Now is a good time to confirm your admissions status. You will have to be fully admitted in order for your financial aid funds to disburse.

#### 4. Submit Additional Documents and Complete a Master Promissory Note.

Some students may be required to submit additional documents prior to being awarded. You will be notified of outstanding requirements via NSU (SharkLink) email. If you are interested in receiving Federal Direct Loans, you will be required to complete a Direct Loan Master Promissory Note (MPN).

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

Your financial aid award notice will provide you with detailed instructions on how to accept, reduce, or decline your financial aid award. Your award will not be disbursed until this step has been completed.

#### 6. Don't Forget to Continually Apply for and Identify Scholarships.

Schedule time regularly to search for scholarships. The best place to start is the scholarship Web page at [www.nova.edu/financialaid/scholarships/](http://www.nova.edu/financialaid/scholarships/).

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

NSU (SharkLink) email and SharkLink are the official means that the OSFA will use to communicate with students. Keep up-to-date by checking your NSU email daily.

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

Students awarded Federal Direct Loans must be enrolled at least half time. Half-time enrollment is defined as 6 credits per semester for all undergraduate students. For graduate and first-professional students, your program of study defines half-time status. Enrollment requirements for federal and state grants vary. Familiarize yourself with the enrollment requirements defined by your program office as well as by the financial aid programs through

which you are receiving aid. Be sure to register as early as possible to ensure timely disbursement of your 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 [www.nova.edu/financialaid/grantsloans/title\\_iv\\_return.html](http://www.nova.edu/financialaid/grantsloans/title_iv_return.html).

### **Student Employment**

There are three main student employment programs: Federal Work-Study (FWS), 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 program is need-based and requires 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 [www.nova.edu/financialaid/employment](http://www.nova.edu/financialaid/employment).

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

In order to receive financial assistance, a student must continually meet four criteria of Satisfactory Academic Progress (SAP). According to federal regulations, effective July 1, 2011, NSU has established university-wide quantitative, qualitative, maximum time frame, and pace SAP requirements.

Students who fail to meet SAP during the 2014–2015 academic year will not be eligible for Title IV federal and Florida state financial aid during the 2015–2016 academic year.

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

### **Veterans Benefits**

Department of Veterans Affairs educational benefits are designated to provide eligible individuals with an opportunity for educational and career growth. Eligible veterans and their dependents should contact the Veterans Benefits Office at (954) 262-7236; toll free 800-541-6682, ext. 27236, Monday through Friday, between the hours of 8:30 a.m. and 5:00 p.m., at the William and Norma Horvitz Administration Building. You can visit the Veterans Education Benefits Web page at [www.nova.edu/financialaid/veterans/](http://www.nova.edu/financialaid/veterans/) as well. If you have any questions concerning eligibility, you may also contact the U.S. Department of Veterans Affairs (DVA) at 888-442-4551 or visit their Web site at [www.gibill.va.gov](http://www.gibill.va.gov).

### **Standards of Progress**

A student receiving veterans education benefits must maintain satisfactory academic progress (SAP). Standards for SAP are published at [www.nova.edu/sap](http://www.nova.edu/sap). A student who, at the end of the SAP evaluation period, has not met satisfactory academic progress may file an appeal based on extenuating circumstances. With an approved appeal, a student-veteran may be certified veteran education benefits on a probationary basis. If the student does not meet satisfactory academic progress by the end of the probationary period (one evaluation period), the student's veterans education benefits will be terminated. For VA payment of benefits purposes, an I (Incomplete) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of one calendar year, unless permission for a delay is granted by the academic program office and/or dean for that program.

### **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 <https://sharklink.nova.edu/cp/home/displaylogin>.

### **Conduct Policy for Students Receiving Veterans Benefits**

All VA students are expected to comply with the legal and ethical standards of Nova Southeastern University. Academic dishonesty and/or nonacademic misconduct will result in disciplinary action. Specific instances of misconduct include, but are not limited to, cheating, plagiarism, knowingly furnishing false information to the institution, and forging or altering institution documents and/or academic credentials.

The institution reserves the right to require a student to withdraw at any time for misconduct as described above. It also reserves the right to impose probation or suspension on a student whose conduct is determined to be unsatisfactory. Students who feel their rights have been denied are entitled to due process. Students should refer to the Appeals and Grievance Procedures listed in the *NSU Student Handbook*.

## The Office of the University Bursar

The Office of the University Bursar is responsible for billing students, collecting and depositing payments, issuing refunds from excess financial aid funds, and verifying students' eligibility for financial aid funds.

### Bursar's Office 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, 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. Delinquent students 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. Credit card authorization forms can be downloaded from the Bursar's Web site at [www.nova.edu/bursar/forms/cc\\_authorization.pdf](http://www.nova.edu/bursar/forms/cc_authorization.pdf) and faxed to (954) 262-2473.

## Payment Plans

Some graduate program offices offer payment plan options. Please check your program's Web site for details. In addition, NSU offers the following plans:

### • 3-Month and 10-Month Payment Plans

NSU students (with the exception of international students) who wish to defer payment of their tuition, fees, and other institutional charges due at the time of registration may sign up for a 3-month or a 10-month payment plan. The 10-Month Payment Plan is available for the combined fall and winter semesters. For details, visit [www.nova.edu/bursar/payment/payment\\_plans.html](http://www.nova.edu/bursar/payment/payment_plans.html).

### • Employer Tuition Assistance Plans

Students participating in employer tuition assistance programs who wish to defer tuition payment need to submit a letter of eligibility, a purchase order from their employer, or details of the program from the employer's human resources office or the company Web site. They must also provide postdated payments (checks or credit card authorizations) for the amount of tuition. Payment of tuition only (not fees), may then be deferred for five weeks after course completion. A \$75 deferment fee is charged for this service and must be paid at registration, along with all other fees. Students must notify the Office of Student Financial Assistance if they are participating in the Employer Tuition Assistance Plan. Graduate students should inquire with their program office regarding any employer tuition assistance deferment plans.

### • 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. Additionally, each semester, the student must submit a copy of the front and back of the ID card with a signed statement indicating the number of credits or the amount to be invoiced. To learn more about the Florida Prepaid College Plan, visit <http://www.myfloridaprepaid.com>.

## The Office of the University Registrar

The University Registrar's Office 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, transfer of credit services, and general university information. Additional information is available at [www.nova.edu/registrar](http://www.nova.edu/registrar).

### **Transcript Requests**

Students may view a complete academic history, print out an unofficial transcript, and request an official transcript via the Student tab in SharkLink. In addition, a Transcript Request Form, available online at [www.nova.edu/registrar/forms/transreq.pdf](http://www.nova.edu/registrar/forms/transreq.pdf), can be completed and submitted in person, or via regular email to the One-Stop Shop, where the official transcript may be printed immediately. There is a \$10 fee per 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**

Students must be officially registered prior to the start date of course(s) in order to participate in and receive academic credit for those courses. Changes to course registrations will not be accepted 20 days after each semester ends. Students are responsible for reviewing their registration and academic records each semester for accuracy.

### **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, F-1 or J-1 student visa, 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.

### **Address Changes**

Students may change their address via SharkLink or 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 regular email.

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

Students may obtain a free, official Loan Deferment/Enrollment Verification Form and Verification of Degree Conferral, via the student tab in 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 University Registrar's Office coordinates all NSU commencement exercises, processes degree applications, and prints and distributes diplomas. Complete information is available online at [www.nova.edu/commencement](http://www.nova.edu/commencement).

### **Transfer Evaluation Services**

Transfer Evaluation Services assists undergraduate students with the transfer of undergraduate credit from institutions previously attended. The office also manages articulation and transfer agreements and assists adult students in obtaining college credit for prior work experience. For more information, visit [www.nova.edu/registrar](http://www.nova.edu/registrar).

### **CAPP Degree Evaluation**

The Curriculum, Advising, and Program Planning (CAPP) degree evaluation system allows students to compare their completed coursework against the degree requirements published in the college catalog. This useful reference tool helps you track your progress toward degree completion and is available through SharkLink, the university's interactive online portal. Please note that CAPP does not replace your academic advisor or college catalog information. CAPP degree evaluations are not official. You should consult your academic advisor/program office for detailed program requirements and course options. Final approval for the completion of graduation requirements is granted by your program office. For further information about CAPP degree evaluation, visit the Office of the University Registrar's Web site at [www.nova.edu/capp](http://www.nova.edu/capp).

### **Enrollment and Student Services Contact Information**

#### **Office of Undergraduate Admissions**

Located in the Horvitz Building on the main campus, the Offices of Undergraduate Admissions and Recruitment welcomes prospective students for campus visits and tours, program information, and admission interviews. Appointments (available Monday–Saturday) are suggested for individual attention.

800-338-4723 • (954) 262-8000

Fax: (954) 262-3811

Email: [admissions@nova.edu](mailto:admissions@nova.edu)

#### **Hours of Operation**

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

Friday: 8:30 a.m. to 4:00 p.m.

Saturday: 9:00 a.m. to 4:00 p.m.

### **University Call Center**

The University Call Center is available 24 hours a day, 7 days a week to answer financial aid, bursar, registrar, and academic computing Help Desk questions.

University Bursar: (954) 262-5200 • 800-806-3680

Office of Student

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

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

HPD Admissions and

Financial Aid Services: (954) 262-1101

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

### **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. The One-Stop Shop is located in the Horvitz Building on the main campus as well as on the first floor of the Terry Administration Building.

### **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: 9:00 a.m.–5:30 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)

#### **Tampa**

Monday–Friday: 8:30 a.m.–4:30 p.m.

Saturday: 7:30 a.m.–1:00 p.m.

### **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.

Students may request that the University Health Service perform these examinations after matriculation. The University Health Service will make appointments in as timely a manner as possible, and 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 [www.nova.edu/smc/](http://www.nova.edu/smc/).

The Colleges of Osteopathic Medicine, Pharmacy, Health Care Sciences, Dental Medicine, and Nursing use the company, Certified Background, to maintain the student's immunization forms. Students in those colleges may go to [www.certifiedbackground.com](http://www.certifiedbackground.com) to upload the immunization form.

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 within 10 years 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).



## 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 six months.

Arrangements: Students may request that the Student Medical Center 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 the SECs, the 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.

## Student Housing

NSU offers a residential living program that is designed to meet a wide array of student needs. Students who live on campus have numerous opportunities to participate in a variety of programs and activities that maximize intellectual growth and personal development. The types of facilities and amenities offered are listed below.

### Leo Goodwin Sr. Residence Hall

The Leo Goodwin Sr. Residence Hall houses up to 293 students during the academic year. Leo Goodwin Sr. Residence Hall is the primary undergraduate facility for students with 0–30 credits.

Each room is built for double- or triple-occupancy and features a private bathroom, large closet space, and high ceilings. The Leo Goodwin Sr. Residence Hall has limited availability for single rooms. Residents are placed on a first-come, first-served basis. Each room is furnished with beds, desks, desk chairs, dressers, and a built-in storage/counter facility. The building houses a classroom, a computer lab, study lounges on each floor, laundry facilities, a kitchen, and a large TV lounge.

All undergraduate students living in the Leo Goodwin Sr. Residence Hall, regardless of credit hours, must purchase a mandatory declining balance plan. The minimum amount a resident can apply to their NSU I.D. card for the declining balance plan is \$1,300 per semester. Residents who choose to apply additional funds to their cards are able to do so at any time. If a balance exists on a resident's declining balance plan at the end of the fall semester, the resident's funds will roll over to the winter semester. Once the winter semester has ended, the remaining balance will no longer be available to the resident.

### The Commons Residence Hall

The Commons houses undergraduate students. The state-of-the-art living and learning community includes 501 beds, classroom and meeting space, 16 community living rooms, 16 study rooms, and plenty of indoor and outdoor common space. The 16 community living rooms have comfortable furnishings that create unique spaces for students and groups to conduct study sessions or group meetings or to congregate with friends. The Office of Residential Life and Housing is located in The Commons.

The Commons is unique and dynamic for the inclusion of incorporating communities within a community. Twelve of the communities are reserved for returning and incoming residents. The other communities (listed below) will be based upon themes and/or academic initiatives.

- Razor's Edge Leadership Program
- Quiet Community (Quiet Corridor)
- Greek Life (Greek Village)

All undergraduate students living in The Commons, regardless of credit hours, must purchase a mandatory declining balance plan. The minimum amount a resident can apply to their NSU I.D. card for the declining balance plan is \$1,300 per semester. Residents who choose to apply additional funds to their cards are able to do so at any time. If a balance exists on a resident's declining balance plan at the end of the fall semester, the resident's funds will roll over to the winter semester. Once the winter semester has ended, the remaining balance will no longer be available to the resident.

### Founders, Farquhar, and Vettel Residence Halls

These residence hall facilities house approximately 55 upper-division, undergraduate residents (juniors and seniors with 60–120 credits) throughout the academic year. Each apartment is furnished and features single, double, and triple options; a kitchen with a full refrigerator and stove; a private bathroom; and a living room.

### Cultural Living Center

The Cultural Living Center (CLC) houses approximately 140 upper division (juniors and seniors with 60–120 credits) undergraduate students during the academic year. Each apartment is furnished and features single or double rooms, a full kitchen, a private bathroom, and a living room.

### Rolling Hills Graduate Residence Hall

The Rolling Hills Graduate Residence Hall is approximately one mile west of the NSU main campus and houses approximately 373 graduate and doctoral students. The Rolling Hills Graduate Hall complex is made up of a seven-story building and a three-story building. The buildings feature single studios and quad apartments that are furnished and feature a kitchen, bathroom, and living room.

The Rolling Hills Graduate Hall complex is made up of 10 separate communities, 3 of which are based upon themes. Two of these themes are

- HPD Communities (one in Building A and one in Building C)
- Law Community (in Building A)

For more information, please contact the Office of Residential Life and Housing at (954) 262-7052 or visit their Web site at [www.nova.edu/reslife/](http://www.nova.edu/reslife/).

### 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 following constitute acceptable attire:

1. Students must wear their white consultation jackets with their names and appropriate college designation embroidered over or on the left breast pocket. A white jacket is to be worn daily over the prescribed attire.
2. Shirt, tie, slacks, socks, and regular shoes for men, and for women it should be professional business dress, which includes slacks, pants, or skirt with blouse, or dress and appropriate shoes.
3. Matching scrub sets, socks, and shoes.

4. **Identification badges** will be issued at the One-Stop Shop in the Health Professions Division, in the Don Taft University Center, or from the Office of Student Affairs for distance programs students, and **must be worn at all times when the student is on campus or clinical rotation**. Please note that ID badges are necessary for proper use of on-campus auditoriums, library and recreational facilities, offices, laboratories, and certain restricted parking areas. These badges are given to the students at no charge, except for replacement.

Students **may not** wear the following:

- shorts
- cut-offs
- mini-skirts (higher than mid-thigh)
- jeans
- see-through clothing or halter-tops
- open-toed shoes, including beach/flip-flops, sandals, thong footwear, or plastic clogs with holes on the sides or top (Croc type)
- t-shirts (as the outer shirt)
- jogging or exercise clothing
- hats or caps, unless of a religious nature

All individuals who work or study in the clinic environment must be proactive in reducing the potential for workplace foot injuries. No open-toed shoes are to be worn in the clinics. These guidelines apply on campus from 8:00 a.m.–5:00 p.m., Monday through Friday, and while on duty on rotations.

Students inappropriately dressed or groomed may be requested to leave the campus. In this circumstance, an unexcused absence will be recorded until the student returns properly attired. Questionable or disputed cases of dress or grooming shall be presented to the dean, whose decision shall be final. Repeated violations will be considered improper professional behavior and may result in disciplinary action. When a class requires special dress (such as the wearing of scrub suits in anatomy laboratory or shorts in clinical skills laboratories), it will be the only exception to the dress code allowed during that time.

The dress code is to be observed at all times including midterms and examination periods.

**Students are expected to consult their respective program handbooks for compliance with any program-specific or 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.

## Student Insurance Requirement

It is required that each Health Professions Division student including online M.P.H. students carry adequate personal medical and hospitalization insurance. (Other specific online program students may not be required to submit proof of personal medical and hospitalization insurance. Students should check with their specific program office.) It is strongly suggested that students and their families avail themselves of the insurance plan obtainable through the university. Information about the policy can be obtained by accessing the Web site at [www.nova.edu/studentinsurance](http://www.nova.edu/studentinsurance) and clicking on the link for Student Health Insurance. Please note that students will see a charge for health insurance appear on their student account as part of the academic registration process.

For those students who already have health insurance coverage and do not need the NSU-endorsed insurance plan, this charge will be removed from their account once proof of coverage has been submitted by completing the online waiver. To complete the waiver form, go to [www.nova.edu/insurancewaiver](http://www.nova.edu/insurancewaiver). The online waiver is the only process by which insurance charges will be removed and coverage will be cancelled. Students who fail to complete the waiver form and provide proof of health insurance by the stated deadline will not be eligible to have charges removed and will continue to be enrolled in the insurance plan endorsed by NSU. Waivers must be completed each academic year.

In view of health care reform and the Affordable Care Act, as well as all forms of health care insurance, we wish to advise those students who have health care coverage from commercial carriers—or the marketplace health care exchanges from other states than Florida—to check with their carriers in order to be sure they have comprehensive health care coverage in the region of Florida where they will be attending classes or practicum rotations.

## Service Units Learning Resources

The HPD 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 20,000 print volumes, 600+ electronic books, and 4,000+ 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 150 medical/health databases are available 24/7 to meet the needs of the seven 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), Clinical Pharmacology, and UpToDate, 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 HPD Library home page ([www.nova.edu/hpdlibrary](http://www.nova.edu/hpdlibrary)).

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 comfortable seating. There are 48 individual/small group study rooms in the library and adjacent Assembly II Building. Rooms may be checked out for up to three hours. All rooms are equipped with white boards and Wi-Fi. A small teaching lab is available for group instruction and there is a large group study hall. Two 50-station computer labs are open when the library is open. In addition, a production studio is available for student use for Tegrity, video recording, and video editing.

A common area provides space for collaborative projects and is equipped with two Media:scape units for collaboration using multiple laptops with single or double monitor displays for group work. The library has both PC and Mac computers for student use, as well as iPads for short-term checkout, each is loaded with 100 medical and production apps. Other library services include binding, faxing, and scanning services; earplugs; sports equipment for the student lounge; and coffee service. Twenty-six individual rooms in the Assembly II Building are open from midnight until the library opens the next day, providing 24/7 access to study areas.

Hours of operation for the 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. The 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.

Students also have checkout privileges at other NSU libraries, including the Shepard Broad Law Center Library; the Oceanographic Center Library; and the Alvin Sherman Library, Research, and Information Technology Center (a joint-use facility with the Broward County Board of County Commissioners).

### 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 Center

The Ziff Health Care Center is a state-of-the-art, primary care facility with full-service, radiologic-diagnostic capabilities. Contained at the health care center are family medicine, pediatrics, X-ray, occupational therapy, pharmacy, physical therapy, rehabilitation, nephrology, hypertension, sports medicine, an optometric center, optical dispensary, OB-GYN, dermatology, and general internal medicine. 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. 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.

#### • 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

3538 South University Drive, Davie, Florida 33328-2003 (in University Park Plaza, east of the NSU Bookstore)

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, Friday: 9:00 a.m. to 5:00 p.m.

Tuesday, Wednesday: 9:00 a.m. to 8:00 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.

### **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, unfavorable discharge from the military, 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 in the following paragraphs, 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.

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. All individuals are expected to meet their program requirements on a satisfactory level as determined by HPD administration or the applicable college/program administration. Osteopathic medical 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, students, staff, 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.

### **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. Pharmacy candidates and students must have sufficient motor skills to weigh chemical and pharmaceutical (including intravenous) solutions, prepare prescriptions, and carry out 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. Osteopathic medical 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.

Pharmacy students must be able to move about within a pharmacy setting and a patient's room.

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 be able to monitor equipment.

### **Visual**

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. Osteopathic medicine, optometry, and 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. Pharmacy students must be able to interpret prescriptions and medical orders, as well as to 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 carry out sterile procedures. Dental students must be able to deliver appropriate treatment using high technology equipment such as dental drills and surgical instruments.

### **Sensory**

Osteopathic students and 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 osteopathic 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 process, with faculty, students, staff, 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. 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, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions and education process.



# College of Osteopathic Medicine

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

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01-01-00 3:15 pm





# College of Osteopathic Medicine



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

## College of Osteopathic Medicine Mission Statement

The mission of the 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.

## 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 70 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.

## Accreditation

Nova Southeastern University College of Osteopathic Medicine 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.

## Administration

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

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

**Leonard Levy**, D.P.M., M.P.H.  
Associate Dean for Education, Planning, and Research

**Howard Neer**, D.O., FACOFP  
Associate Dean for Alumni Affairs

**Steven Zucker**, D.M.D., M.Ed.  
Associate Dean for Community Affairs

**Joseph DeGaetano**, D.O., FAAFP, FACOFP  
Associate Dean of Clinical Curriculum and  
Graduate Medical Education (GME)

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

**Hilda DeGaetano**, D.O.  
Assistant Dean for Preclinical Education and  
Special Projects

**Martha Echols**, Ph.D.  
Assistant Dean for Medical Education

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

**Delfina Wilson**, Ph.D.  
Director, Student Services

**Phyllis Filker**, D.M.D., M.P.H.  
Director, Graduate Programs

**Cyril Blavo**, D.O., M.S., M.P.H. and T.M., FACOP  
Director, Public Health Program

**Jennie Q. Lou**, M.D., M.Sc.  
Director, Biomedical Informatics Program

**Kelley L. Davis**, Ph.D.  
Director, Disaster and Emergency Preparedness Program

## Doctor of Osteopathic Medicine Program

### Mission Statement

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

### 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 (Biochemistry may be substituted for all or part of Organic Chemistry II)
  - 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 sciences, and humanities courses. It is recommended that applicants complete at least one course in biochemistry and 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 [www.aamc.org](http://www.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 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 5,500 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 [www.aacom.org](http://www.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
- 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 AACOMAS application
- a nonrefundable application fee of \$50
- 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 non-science professor
- a letter of recommendation from a physician

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 2014–2015 (subject to change by the board of trustees without notice): \$44,945 for Florida residents and \$49,235 for out-of-state students. 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 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.

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 \$1,050 is also required annually. Additional program fees may apply.

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. It will be deducted from the tuition payment, but is not refundable in the event of a withdrawal. Applicants accepted after this date will have a due date following the date of acceptance.

Applicants accepted prior to November 15 will have until December 14 to pay the acceptance fee. Applicants accepted between November 15 and January 14 will have 30 days, and those accepted between January 15 and May 14 will have 14 days to pay their acceptance fee. Those accepted between March 1 and May 14 will be required to submit their combined acceptance and deposit fees within 14 days. 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, 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 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 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 start.

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

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

### **Technology Requirements**

Students are required to own an Apple iPad® second generation or newer with a minimum of 64 gigabytes (GB) of memory. 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

- Blackboard courses, including Tegrity® recordings via iShark
- electronic textbooks
- interactive learning via Turning Point®
- KBIT courses
- medical Spanish
- Web modules
- electronic library
- Up-To-Date
- academic/board review materials
- clinical procedures resources
- examinations

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 College of Osteopathic Medicine.
- Transfers from an LCME-accredited medical school must complete NSU 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 COM's graduation requirements.

Anyone wishing to transfer to NSU College of Osteopathic Medicine must meet the following criteria:

1. make a formal application to NSU College of Osteopathic Medicine Office of Admissions
2. satisfy all admission requirements to NSU 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.

### Advanced Placement

Request for advanced placement for any course at Nova Southeastern University College of Osteopathic Medicine must be declared and all supporting documentation must be submitted by the student no later than 45 days prior to the first day of class. The student must present all supporting documents to the College of Osteopathic Medicine Office of Student Affairs.

The student will be required to attend all classes and take all examinations until the disposition of the advanced placement request is finalized.

A student must have significant training or history of accomplishments in a basic science area that warrants consideration for advanced placement examinations. Students must pass a comprehensive examination given for the purpose of determining the student's competency in the subject involved. The passing requirement will be determined by the College of Osteopathic Medicine.

The decision regarding the request for advanced standing will be transmitted in writing to the student by the dean. The Office of the Registrar will be appropriately notified. Courses for which advanced standing is granted will be designated as advanced placement on the student's transcript and will not show a grade or contribute to the student's grade point average.

### Course of Study

The 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 of training primary-care physicians. 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 a rural practice setting. In rural clinics throughout the state of Florida, 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

### M1

Fall Term			Credit Hours
COM	5021	Medical Biochemistry	5.5
COM	5010	Gross Anatomy	6.0
COM	5020	Medical Histology	3.0
COM	5061	Medical Physiology I	3.0
COM	5830	Physical Diagnosis I	2.0
COM	5835	Humanism in Medicine I	1.5
COM	5121	OPP I	2.0
COM	5800	Foundations and Applications of Clinical Reasoning I	2.0
COM	5080	Basic Life Support	1.0
COM	5802	Tobacco Use and Dependence	0.5
COM	5171	IGC Preceptorship I	1.0

**Total: 27.5**

### Winter Term

COM	5062	Medical Physiology II	4.0
COM	5030	Medical Microbiology I	5.5
COM	5301	Medical Microbiology II	1.5
COM	5011	Medical Neuroanatomy	3.0
COM	5840	Physical Diagnosis II	2.0
COM	5122	OPP II	2.0
COM	5845	Humanism in Medicine II	2.0
COM	5801	Foundations and Applications of Clinical Reasoning II	2.0
COM	5172	IGC Preceptorship II	1.0

**Total: 23.0**

**Summer Term**

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COM	5990	Preclinical Medical Science Review	6.0
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**Total: 6.0**

**M2****Summer Term**

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COM	5900	Principles of Radiology	1.0
COM	6040	Principles of Pathology	2.0
COM	6050	Principles of Pharmacology	2.0

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**Total: 5.0**

**Fall Term**

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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	2.0
COM	6103	Cardiovascular System	3.0
COM	6105	Endocrine System	2.0
COM	6106	ECG	1.0
COM	6107	Musculoskeletal System	2.0
COM	6112	Neurology	2.5
COM	6173	IGC Preceptorship III	1.0
COM	6123	OPP III	2.0
COM	6300	Foundations and Applications of Clinical Reasoning III	3.0

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**Total: 23.5**

**Winter Term**

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COM	6001	Principles of Clinical Medicine II	2.0
COM	6002	Pre-Clerkship Seminar	0.5
COM	6005	Medical Jurisprudence	0.5
COM	6090	Geriatrics	0.5
COM	6104	Gastrointestinal System	3.0
COM	6108	Psychiatry and Behavioral Medicine	2.0
COM	6109	Renal/Urinary System	2.0
COM	6110	Women's Health	3.0
COM	6111	Pediatrics	2.5
COM	6124	OPP IV	2.0
COM	6221	ACLS	1.0
COM	6301	Foundations and Applications of Clinical Reasoning IV	3.0

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**Total: 22.0**

**Summer Term**

COM	6062	PALS	1.0
COM	6990	Preclinical Academic Review	3.0
COM	9990	Community Service	2.0
COM	9300	Medical Spanish	1.5
			<b>Total: 7.5</b>

**Predoctoral Fellows Curriculum**

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

**Third Year Curriculum**

Summer Term—Didactic Course			Credit Hours
COM	7990	Clinical Board Review Course COMPLEX 2CE	6.0
			<b>Total: 6.0</b>

**Fall and Winter Terms—Core Clinical Rotations**

COM	7093	Geriatrics	8.0
COM	7131	Pediatrics/Ambulatory	8.0
COM	7132	Pediatrics/Hospital	8.0
COM	7110	Obstetrics/Gynecology	8.0
COM	7094	Psychiatry	8.0
COM	7091	Family Medicine I	8.0
COM	7092	Family Medicine II	8.0
COM	7104	General Surgery I	8.0
COM	7105	General Surgery II	8.0
COM	7102	Internal Medicine I	8.0
COM	7103	Internal Medicine II	8.0
COM	7106	Internal Medicine III	8.0
			<b>Total: 96.0</b>

**Fourth Year Curriculum**

Summer Term—Didactic Course			Credit Hours
COM	8004	Senior Seminar	1.0
			<b>Total: 1.0</b>

**Fall and Winter Terms—Core Clinical Rotations**

COM	7095	Emergency Medicine	8.0
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COM	7151	Rural Medicine I	8.0
COM	7152	Rural Medicine II	8.0
COM	7153	Rural Medicine III	8.0

**Total: 32.0**

**Fall and Winter Terms—Clinical Elective Courses**

COM	8103	Allergy and Immunology • Clinical and Laboratory—Immunology	8.0
COM	8104	Anesthesiology • Critical Care Medicine • Pain Medicine • Pediatric Anesthesiology	8.0
COM	8105	Colon and Rectal Surgery	8.0
COM	8108	Dermatology • Dermatopathology	8.0
COM	8009	Emergency Medicine • Medical Toxicology • Pediatric Emergency Medicine • Sports Medicine	8.0
COM	8012	Family Medicine • Sports Medicine	8.0
COM	8015	Geriatric Medicine	8.0
COM	8018	Internal Medicine • Cardiovascular Disease • Clinical Cardiac Electrophysiology • Critical Care Medicine • Endocrinology, Diabetes, and Metabolism • Gastroenterology • Hematology • Hematology and Oncology • Infectious Disease • Interventional Cardiology • Nephrology • Oncology • Pulmonary Disease • Pulmonary Disease and Critical Care Medicine • Rheumatology • Sports Medicine	8.0
COM	8021	Medical Genetics	8.0
COM	8024	Neurological Surgery • Endovascular Surgical Neuroradiology	8.0
COM	8023	Neurology • Child Neurology • Clinical Neurophysiology • Neuromuscular Medicine • Pain Medicine	8.0
COM	8022	Nuclear Medicine	8.0
COM	8025	Obstetrics and Gynecology	8.0



		<ul style="list-style-type: none"> <li>• Women's Health</li> <li>• Reproductive Endocrinology</li> <li>• Maternal/Fetal Medicine</li> <li>• Gynecology/Oncology</li> </ul>	
COM	8027	OPP Medicine	8.0
COM	8028	Ophthalmology <ul style="list-style-type: none"> <li>• Retina</li> <li>• Cornea</li> </ul>	8.0
COM	8029	Orthopedic Surgery <ul style="list-style-type: none"> <li>• Adult Reconstructive Orthopedics</li> <li>• Foot and Ankle Orthopedics</li> <li>• Hand Surgery</li> <li>• Musculoskeletal Oncology</li> <li>• Orthopedic Sports Medicine</li> <li>• Orthopedic Surgery of the Spine</li> <li>• Orthopedic Trauma</li> <li>• Pediatric Orthopedics</li> </ul>	8.0
COM	8011	Otolaryngology <ul style="list-style-type: none"> <li>• Otolaryngology</li> <li>• Pediatric Otolaryngology</li> </ul>	8.0
COM	8031	Pathology—Anatomic and Clinical <ul style="list-style-type: none"> <li>• Blood Banking/Transfusion Medicine</li> <li>• Chemical Pathology</li> <li>• Cytopathology</li> <li>• Forensic Pathology</li> <li>• Hematology</li> <li>• Medical Microbiology</li> <li>• Neuropathology</li> <li>• Pediatric Pathology</li> <li>• Selective Pathology</li> </ul>	8.0
COM	8032	Pediatrics <ul style="list-style-type: none"> <li>• Adolescent Medicine</li> <li>• Neonatal/Perinatal Medicine</li> <li>• Pediatric Cardiology</li> <li>• Pediatric Critical Care Medicine</li> <li>• Pediatric Emergency Medicine</li> <li>• Pediatric Endocrinology</li> <li>• Pediatric Gastroenterology</li> <li>• Pediatric Hematology and Oncology</li> <li>• Pediatric Infectious Disease</li> <li>• Pediatric Nephrology</li> <li>• Pediatric Ophthalmology</li> <li>• Pediatric Pulmonology</li> <li>• Pediatric Rheumatology</li> <li>• Pediatric Sports Medicine</li> </ul>	8.0
COM	8038	Physical Medicine and Rehabilitation <ul style="list-style-type: none"> <li>• Pain Medicine</li> <li>• Spinal Cord Injury Medicine</li> </ul>	8.0
COM	8035	Plastic Surgery <ul style="list-style-type: none"> <li>• Craniofacial Surgery</li> <li>• Hand Surgery</li> </ul>	8.0

COM	8030	Preventive Medicine • Medical Toxicology	8.0
COM	8036	Psychiatry • Addiction Psychiatry • Child and Adolescent Psychiatry • Forensic Psychiatry • Geriatric Psychiatry • Pain Medicine	8.0
COM	8170	Public Health	8.0
COM	8020	Radiation Oncology	8.0
COM	8037	Radiology—Diagnostic • Abdominal Radiology • Cardiothoracic Radiology • Endovascular Surgical Neuroradiology • Musculoskeletal Radiology • Neuroradiology • Nuclear Radiology • Pediatric Radiology • Vascular and Interventional Radiology	8.0
COM	8040	Rural/International Medicine	8.0
COM	8014	Surgery—General • Hand Surgery • Pediatric Surgery • Surgical Critical Care • Vascular Surgery • Vascular Surgery—Integrated	8.0
COM	8042	Thoracic Surgery	8.0
COM	8044	Urology • Pediatric Urology	8.0

**Total: 240.0**

Electives may be taken in half-month or one-month increments.  
No more than four half-month electives may be taken in the fourth year.

## College of Osteopathic Medicine Course Descriptions

### 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.

#### 6.0 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.

#### 3.0 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.

#### 2.0 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.

**2.0 Credit Hours**

### **COM 5171—IGC 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 College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) site, a clinical subspecialty 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—IGC 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 College of Osteopathic Medicine in Community Service (COM<sup>2</sup>Serve) site, a clinical subspecialty 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.

**2.0 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.

**2.0 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.

**0.5 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.

## 1.5 Credit Hours

### COM 5900—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.

## 6.0 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.

## 2.5 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 6002—Pre-Clerkship Seminar

A series of presentations at the end of the sophomore year to reinforce knowledge and skills useful for clinical rotations. Topics include risk management, medical record documentation, OSHA regulations, doctor/patient relationships, standard health maintenance care of adults and children, hospital protocols, literature research, and educational resources.

## 0.5 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—PALS**

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.

#### **0.5 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.

#### **2.0 Credit Hours**

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

This course covers pathophysiology, diagnosis, and management of common cardiovascular disorders. It teaches electrocardiography and includes training in the use of "Harvey."

#### **3.0 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.

#### **3.0 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.

#### **1.0 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.

#### **2.0 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.

#### **2.0 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.

#### **3.0 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 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.

## **2.0 Credit Hours**

### **COM 6124—Osteopathic Principles and Practice 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.

## **2.0 Credit Hours**

### **COM 6173—IGC 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 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—ACLS**

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 Nova Southeastern University 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.

## **3.0 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 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.

#### **6.0 Credit Hours**

##### **COM 7091—Family Medicine I**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7092—Family Medicine II**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7093—Geriatrics**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7094—Psychiatry**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7095—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.

#### **4.0–24.0 Credit Hours**

##### **COM 7102—Internal Medicine I**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7103—Internal Medicine II**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7104—General Surgery I**

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. It will also provide experience and help acquire skills in a surgical setting.

#### **4.0–24.0 Credit Hours**

##### **COM 7105—General Surgery II**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7106—Internal Medicine III**

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.

#### **4.0–24.0 Credit Hours**

##### **COM 7110—Obstetrics and Gynecology**

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.

#### **4.0–24.0 Credit Hours**

**COM 7131—Pediatrics/Ambulatory**

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.

**4.0–24.0 Credit Hours**

**COM 7132—Pediatrics/Hospital**

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.

**4.0–24.0 Credit Hours**

**COM 7151—Rural Medicine I**

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.

**4.0–24.0 Credit Hours**

**COM 7152—Rural Medicine II**

Rural medicine incorporates family medicine training into the rural setting and stresses the development of the independent practitioner who, with a minimum use of sophisticated technical and ancillary services, will have the ability to diagnose and formulate a treatment plan based on the data gathered through history, physical examinations, and minimal laboratory work. The core medical knowledge and practical experience gained in the didactic years and in family medicine rotations will provide the platform for learning to diagnose and provide cost-effective treatment and education for patients within the rural setting.

**4.0–24.0 Credit Hours**

**COM 7153—Rural Medicine III**

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.

**4.0–24.0 Credit Hours**

**COM 7990—Clinical Board Review Course  
COMLEX 2CE**

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 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.

**6.0 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 8009—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.

**4.0–24.0 Credit Hours**

**COM 8011—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.

**4.0–24.0 Credit Hours**

**COM 8012—Family 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.

**4.0–24.0 Credit Hours**

**COM 8014—Surgery—General**

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.

**4.0–24.0 Credit Hours**

**COM 8015—Geriatric 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.

**4.0–24.0 Credit Hours**

**COM 8018—Internal 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.

**4.0–24.0 Credit Hours****COM 8020—Radiation Oncology**

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.

**4.0–24.0 Credit Hours****COM 8021—Medical Genetics**

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.

**4.0–24.0 Credit Hours****COM 8022—Nuclear 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.

**4.0–24.0 Credit Hours****COM 8023—Neurology**

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.

**4.0–24.0 Credit Hours****COM 8024—Neurological 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.

**4.0–24.0 Credit Hours****COM 8025—Obstetrics and Gynecology**

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.

**4.0–24.0 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.

**4.0–24.0 Credit Hours****COM 8028—Ophthalmology**

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.

**4.0–24.0 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.

**4.0–24.0 Credit Hours****COM 8030—Preventive Medicine**

Pain management is considered an elective rotation to be taken during fourth-year clerkships. COM students performing this elective clerkship will be exposed to patients with chronic pain syndromes and the management of these unique diseases by a physician who specializes in this area of medicine.

**4.0–24.0 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.

**4.0–24.0 Credit Hours****COM 8032—Pediatrics**

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.

**4.0–24.0 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.

**4.0–24.0 Credit Hours****COM 8036—Psychiatry**

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.

**4.0–24.0 Credit Hours**

**COM 8037—Radiology—Diagnostic**

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.

**4.0–24.0 Credit Hours**

**COM 8038—Physical Medicine and Rehabilitation**

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.

**4.0–24.0 Credit Hours**

**COM 8040—Rural/International Medicine**

Rural medicine incorporates family medicine training into the rural setting and stresses the development of the independent practitioner who, with a minimum use of sophisticated technical and ancillary services, will have the ability to diagnose and formulate a treatment plan based on the data gathered through history, physical examinations, and minimal laboratory work. The core medical knowledge and practical experience gained in the didactic years and in family medicine rotations will provide the platform for learning to diagnose and provide cost-effective treatment and education for patients within the rural setting.

**4.0–24.0 Credit Hours**

**COM 8042—Thoracic 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.

**4.0–24.0 Credit Hours**

**COM 8044—Urology**

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.

**4.0–24.0 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.

**4.0–24.0 Credit Hours**

**COM 8104—Anesthesiology**

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.

**4.0–24.0 Credit Hours**

**COM 8105—Colon and Rectal 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.

**4.0–24.0 Credit Hours**

**COM 8108—Dermatology**

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.

**4.0–24.0 Credit Hours**

**COM 8170—Public Health**

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 to the solution of community health problems.

**4.0–24.0 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 College of Osteopathic Medicine (COM). 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 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 9502—Integration of Biomedical and Clinical Sciences**

Review of basic science as it pertains to osteopathic medical knowledge considered essential for osteopathic generalists to practice medicine without supervision.

#### **1.0 Credit Hour**

### **COM 9600—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 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**

**Aventura Hospital**  
North Miami Beach

**Bay Pines Veteran Affairs Medical Center**  
St. Petersburg

**Bethesda Memorial Hospital**  
Boynton Beach  
DME: Victor Jaffee, D.O.

**Broward Health Coral Springs**  
Coral Springs  
DME: Natasha Bray, D.O.

**Broward Health Medical Center**  
Fort Lauderdale  
Associate Medical Education  
Director: Glenn R. Singer, M.D.  
DME: Natasha Bray, D.O.

**Broward Health North Broward Hospital**  
Pompano Beach  
Associate Medical Education  
Director: H. Murry Todd, M.D.

**Florida Hospital East Orlando**  
Orlando  
DME: Patricio Bruno, D.O.

**Florida Medical Center**  
Fort Lauderdale

**GEO Care**  
Pembroke Pines  
DME: Luis Castillo, M.D.

**Jackson Health Systems Main**  
Miami  
Director of Emergency Care Center:  
Kathleen Schrank, M.D.

**Jackson Health Systems North**  
North Miami Beach  
DME: John Abt, D.O.

**Kendall Regional Medical Center**  
Miami

**Lakeside Medical Center**  
Belle Glade  
DME: Nikerson Geneve, D.O.

**Largo Medical**  
Largo  
Regional Dean and  
DME: Anthony Ottaviani, D.O., M.P.H.

**Larkin Community Hospital**  
Miami-Dade  
VPME: Robert Fernandez, D.O.  
DME: Ivan Rodriguez, D.O.

**Lee Memorial Hospital**  
Fort Myers  
DME: Eric Goldsmith, D.O.

**Magnolia Regional Health Center**  
Corinth, Mississippi  
DME: David Pizzimenti, D.O.

**Memorial Hospital Health System**  
Hollywood  
Director of Medical Affairs:  
Stanley Marks, M.D.

**Miami Children's Hospital**  
Miami  
Osteopathic Program Director:  
Mark Gabay, D.O.

**Mount Sinai Medical Center/Miami Heart**  
Miami Beach  
DME: Gary Merlino, D.O.

**Naples Community Hospital**  
Naples  
DME: Dan Kaplan, D.O.

**Osceola Hospital**  
Kissimmee  
DME: Mark Palazzalo, D.O.

**Osteopathic Institute of the South**  
Atlanta  
President: Barry Doublestein, D.S.L.

**Palmetto General Hospital**  
Hialeah  
DME: Marc Morganstine, D.O.

**Palms West Hospital**  
Loxahatchee  
DME: Randi Sperling, D.O.

**Regional Medical Center Bayonet Point**  
Hudson  
DME: Steven Strobbe, D.O.

**Southeast Alabama Medical Center**  
Dothan, Alabama  
DME: James Jones, D.O.

**Southampton Hospital**  
Southampton, New York  
DME: Shawn Cannon, D.O.

**University Hospital**  
Tamarac  
DME: Marlene Caraballo, D.O.

**West Palm Beach Veterans Affairs Medical Center**  
West Palm Beach  
Administrator: John Ribnikar  
DME: Darin Rubin, D.O.

**West Palm Hospital**  
West Palm Beach  
VPME: Bradley Feuer, D.O., J.D.  
DME: David Stern, D.O.

**Westside Regional Hospital**  
Plantation  
Administrator: Wendy Levenson

## 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 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.

### **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.

### **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 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 the inner city of northern Miami-Dade 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.

### **Consortium for Excellence in Medical Education (CEME)**

In January 1999, the College of Osteopathic Medicine established an innovative program to revolutionize clinical education and postgraduate medical training. The Consortium for Excellence in Medical Education (CEME), in affiliation with NSU College of Osteopathic Medicine, was formed to increase opportunities for postdoctoral medical training, including internships, residencies, fellowships, and continuing education programs.

The CEME is an alliance of affiliated clinical training sites linked through electronic networks; teaching, research, and community health collaborations; and a shared commitment to excellence in the education of tomorrow's physicians. CEME partners are joining forces on postgraduate clinical education, research initiatives, and public health and preventative medicine programs to benefit Florida's elderly, indigent, and minority patient populations. The CEME creates a unified medical education

system composed of Nova Southeastern University College of Osteopathic Medicine and its multiple affiliated teaching hospitals and hospital systems spanning the state of Florida and includes ambulatory centers, county health departments, and veterans administration health care centers. Several additional affiliated programs are located in Georgia and Mississippi.

The CEME, as a dynamic consortia of affiliated regional academic training centers, uses distance learning systems to strengthen teaching, research, and community health collaboration while also nurturing a shared commitment to excellence in the education of tomorrow's physicians.

### **West Palm Beach Veterans Affairs Medical Center**

The College of Osteopathic Medicine has a major affiliation with the West Palm Beach Veterans Affairs Medical Center (VAMC). This state-of-the-art health care facility's close academic ties with the college includes sharing academic positions, granting faculty appointments to VAMC staff members, a shared residency training program in preventive medicine, and major participation in the clinical program of the college. The VAMC employs a computerized paperless patient record system. It also permits X rays to be visualized with high resolution, includes laboratory and other reports that can be retrieved and tracked, has systems that ensure the selection of appropriate drugs for patient safety, and facilitates arrangements for specialist consultations. Students may spend as much as six months at the facility during their clinical years.

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

Since its establishment in 1979, the 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.

### **Preventive Medicine**

Prevention, in its broadest sense, is practiced by all physicians and other health professionals who help their patients to stay healthy. Preventive medicine, however, is also a distinct medical specialty, one of 25 recognized by the American Board of Medical Specialties.

The specialty of preventive medicine is based on our knowledge that promoting health and preventing disease requires work with both individuals and communities. Preventive medicine physicians are trained in both clinical medicine and public health. They have the skills to understand and reduce the risks of disease, disability, and premature death both in individuals and population groups. The distinctive aspects of preventive medicine include knowledge and competence in

- biostatistics
- bioterrorism
- epidemiology
- environmental and occupational health
- planning, administration, and evaluation of health services
- the social and behavioral aspects of health and disease
- the practice of prevention in clinical medicine

The American Osteopathic Association grants certificates to physicians who have successfully completed three years of supervised training and a written examination in any one of three areas: general preventive medicine/public health, occupational medicine, or aerospace medicine. Specialists in general preventive medicine/public health focus their skills on population groups, such as the residents of a particular community or state or the patient population of a health center, hospital, or managed care organization.

Preventive medicine specialists work in a wide variety of settings, including primary care and managed care settings, public health and community agencies, industry, and academia. These physicians usually engage in multiple activities, including planning, administration and evaluation of disease prevention and health promotion programs, research, teaching, and direct patient care. The varied career paths include managed care, public health, occupational medicine, aerospace medicine, clinical medicine, informatics, policy development, academic medicine, international medicine, and research, covering all levels of government, educational institutions, organized medical care programs in industry, as well as voluntary health agencies and health professional organizations. About 6,000 physicians nationally are board-certified in preventive medicine.

In addition to the need for more physicians trained in the specialty of preventive medicine, there is a need for more training in prevention in all the other medical



specialties, especially in primary care. Toward this end, the Department of Preventive Medicine is initiating efforts to strengthen prevention education, particularly in relation to individual patient care. This will be accomplished by weaving the distinctive aspects of preventive medicine throughout all coursework offered to medical students at the College of Osteopathic Medicine. Specialists in preventive medicine, who have skills in population-based prevention as well as individual preventive interventions, can assist the other specialties in the further development of education in prevention and the population-based health sciences for residents and medical students alike.

### **Geriatric Teaching Program**

The College of Osteopathic Medicine has a strong commitment to teaching students, residents, and physicians about the care of the geriatric patient. As a result, the college requires a didactic geriatric course in the M-2 year, which addresses “successful aging.” Attention is given to elderly populations and their diverse profiles and circumstances. During the M-3 year, students participate in a monthlong, required geriatric clerkship, where they care for elders in a variety of settings under the supervision of a geriatric specialist.

The College of Osteopathic Medicine also provides clinical teaching in geriatrics for second-year family medicine residents from its Palmetto Family Medicine Residency during a one-month rotation. The College of Osteopathic Medicine, along with the North Broward Hospital District, sponsors a geriatric fellowship training program for family medicine physicians who successfully complete an American College of Osteopathic Family Physicians (ACOFP) approved family medicine residency program. This will prepare the physician for a Certificate of Added Qualifications (CAQ) in geriatrics. We are excited about what we are doing in geriatrics and are looking for ways to expand our programs and teaching facilities.

### **M.B.A. Program**

The Master of Business Administration program is available to all students who are academically in good standing and have completed the first semester of their first year. The H. Wayne Huizenga School of Business and Entrepreneurship administers the M.B.A. degree. Students may contact the Huizenga School program representative for details on this program. Participation in this program is at the discretion of the dean of the College of Osteopathic Medicine.

### **M.P.H. Program**

The Master of Public Health Program is available to students who are academically in good standing and have completed the first semester of the first year. This degree program is administered by the College of Osteopathic Medicine. Students may contact the public health

program director for further information. Participation is at the discretion of the dean of the College of Osteopathic Medicine.

### **M.P.H. Scholarship**

All College of Osteopathic Medicine students who have completed the first semester of their first year and are currently enrolled in NSU-COM classes and in good academic standing are eligible to receive a scholarship 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. scholarship, a brief letter must be submitted to the dean of the College of Osteopathic Medicine. The student should indicate the reasons for requesting the scholarship in the letter. Students who receive the scholarship must remain in good standing with the college. Students are eligible for the scholarship while they are enrolled in the College of Osteopathic Medicine. The scholarship is not available after graduation, unless the student continues as an intern, resident, or fellow with any of the Nova Southeastern University College of Osteopathic Medicine affiliated institutions. All scholarships require renewal by the College of Osteopathic Medicine each academic year.

### **Master of Health Law**

Students in good academic standing matriculated at the College of Osteopathic Medicine may, with the permission of the dean, apply for admission to the NSU Shepard Broad Law Center for the 30-credit Master of Health Law Program. This program, available to students upon completion of their first year of study, is designed to prepare future physicians to identify legal issues within their health professional responsibilities. It will help them acquire in-depth knowledge of the laws and regulations governing medical care and health professional practice. Students who complete the D.O./M.H.L. dual degree also will be especially qualified for leadership positions in managed health care environments as well as other organizations and programs that continue to evolve in the complex world of health care.

### **Master of Science in Education**

The Abraham S. Fischler School of Education, in collaboration with the College of Osteopathic Medicine, offers a certificate or Master of Science degree in medical education for osteopathic medical faculty members who wish to improve their skills as medical educators. The certificate is 18 credit hours, while the master's degree is 36 credit hours. It is designed for career medical faculty members, helping them to become master educators who are better able to train medical students and residents, develop curriculum, and evaluate education and training programs.

## **D.O. Program for Doctors of Podiatric Medicine (D.P.M.)**

A program has been established leading to the D.O. degree for D.P.M.s in an accelerated period of time. It is designed for students from podiatric medical schools accredited by the Council on Podiatric Medical Education who have been accepted to a podiatric medical and surgery residencies. Particular interest is in those applicants who intend to acquire the D.O. degree to provide added value to podiatric medical practice. A limited number of D.P.M.s will be accepted each year. The program leads to a D.O. degree and a license to practice osteopathic medicine in states requiring one year of internship as well as to eligibility for certification by the American Board of Podiatric Orthopedics and Primary Podiatric Medicine (ABPOPPM). Applicants admitted to the program will be granted credit for the core basic sciences courses in the D.O. curriculum. The ABPOPPM will determine the amount of credit it will grant toward the completion of the two-year residency in podiatric medicine and surgery. Applicants may apply from all states but preference will be granted to those who are legal residents of Florida. Additional information about the program, including details about the curriculum, may be obtained by contacting the associate dean of education, planning, and research, NSU College of Osteopathic Medicine, 3200 South University Drive, Fort Lauderdale, Florida 33328-2018.

## **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 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.

## **Master of 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.

### **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

### **Goal: Research**

To contribute to the discovery and application of knowledge in public health

### **Goal: Service**

To provide public health leadership and service in the community

### **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 a written comprehensive examination. 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 a written comprehensive examination 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 Web site: [www.nova.edu/ph](http://www.nova.edu/ph).

### Accreditation and Authorization

The M.P.H. Program is accredited by the Council on Education for Public Health (CEPH) ([www.ceph.org](http://www.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 Web site ([www.nova.edu/ph](http://www.nova.edu/ph)) for the exact deadline and start dates. All application materials should be sent to

Nova Southeastern University  
Enrollment Processing Services  
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 [www.nova.edu/ph/admissions/procedures.html](http://www.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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [www.ece.org](http://www.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 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 comprehensive examination. 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 5516 Public Health Informatics  
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 comprehensive examination 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 Web site ([www.nova.edu/ph](http://www.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 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 2014–2015 is \$550 per credit hour. 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 \$1,050 is also required annually.

Tuition for the Graduate Certificate Programs for 2014–2015 is \$550 per credit hour. An NSU student service fee of \$1,050 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 Student Progress and Advising 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, 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 comprehensive examination
- 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	6
PUH	6604	Research Methods in Public Health	30	30	3

Elective Courses			Instruction	Practice Hours	Semester Hours
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
PUH	6690	Comprehensive Examination	0	60	0

## Master of Public Health Program Courses

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 (0-200-6)

### **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 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 also approved and monitored by the course director. (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 6690—Comprehensive Examination**

Each M.P.H. student must take, and pass, the comprehensive examination at the end of his or her course of study. The purpose of the exam is to assess the individual student's competency to begin work in public health. This short-answer written examination requires critical thinking to integrate learning and apply it to public health scenarios. The student writes the examination with appropriate references during a scheduled, one-week period toward the end of the registered semester. (0-60-0)

## Biomedical Informatics Program

Nova Southeastern University 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

The Biomedical Informatics 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 Biomedical Informatics 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

### 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 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 letter of recommendation (must be from someone that knows applicant professionally)

or academically, on letterhead, specific to the program, and contain a handwritten signature with contact information)

- submit official transcripts of all undergraduate, graduate, and professional education

Please mail all supplemental admissions material to

Nova Southeastern University  
Enrollment Processing Services  
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 College of Osteopathic Medicine.

Should you have any questions, please email [msbi@nova.edu](mailto:msbi@nova.edu) or call 800-356-0026, ext. 21032.

### 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 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.B.I. 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.

### Nondegree Certificates and Other Degree Options

Graduate Certificates in Medical Informatics and Public Health Informatics are now available. Certificates consist of six courses (18 credit hours) at the graduate-level. Courses, presented using online technology, are within

the M.S.B.I. degree curriculum. Specific certificate curricula are located at [www.medicine.nova.edu/msbi/medicalinformatics.html](http://www.medicine.nova.edu/msbi/medicalinformatics.html) and [www.medicine.nova.edu/msbi/publichealth.html](http://www.medicine.nova.edu/msbi/publichealth.html).

Certificate-seeking students are not guaranteed acceptance into the Master of Science in Biomedical Informatics degree-seeking program. If, after taking courses in the program, a certificate-seeking student decides to pursue the M.S.B.I. degree, the student must apply to the M.S.B.I. program as a new student and meet all requirements for admission. If accepted into the degree program, credits with the prefix MI that were taken as a certificate-seeking student will be automatically applied toward the degree.

An M.S.N. in Nursing Informatics is offered in conjunction with the College of Nursing. For more information, visit [www.nova.edu/nursing/msntracks/html](http://www.nova.edu/nursing/msntracks/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 [www.nova.edu/internationalstudents/prospective/credentialservices.html](http://www.nova.edu/internationalstudents/prospective/credentialservices.html).) 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 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 is \$660 per credit hour at the College of Osteopathic Medicine. Students taking courses at other NSU schools or colleges may be subject to varying tuition rates. An NSU student services fee of \$1,050 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-COM Biomedical Informatics Program may petition for a transfer of a maximum of 12 credit hours toward their degree from a regionally accredited institution for degree-seeking students and a maximum of 6 credit hours toward their certificate for certificate-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 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 M.S.B.I. 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 five years of matriculation, the course of study required for the M.S.B.I. degree (minimum of 43 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

To develop a comprehensive biomedical informatics program at NSU-COM, a curriculum has been developed that includes teaching, clinical care, research, and development.

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.

## Biomedical Informatics Program Curriculum Outline

Required Courses			Credits
MI	5120	Management Information Systems in Health Care	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	5160	System Analysis and Design in Health Care	3
MI	5200	Survey of Medical Informatics	3
MI	5204	Clinical Decision Support Systems	3

MI	5205	Program Evaluations in Health Information Technology	3
MI	5401	Managing Organizational Behavior for Medical Informatics	3
MI	7000	Health Informatics Practicum	4
<b>Subtotal</b>			<b>31</b>

<b>Elective Courses (12 credits required)</b>			<b>Credits</b>
MI	5153	Telecommunications and Computer Networking 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	6414	Basic Skills for Clinical Analysts	3
MI	6415	Information Technologies in Medicine and Telehealth	3
MI	6416	Lean Six Sigma for Health Care	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
<b>Total Credits</b>			<b>43</b>



## **Master of Science in Biomedical Informatics Program Core Courses**

### **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. (3 credits)

### **MI 5121—Information Systems Project Management in Health Care**

This course introduces the fundamental principles of project management from an information technology perspective, with an emphasis on health care industry applications. Fundamental aspects of project management are covered including project integration, the management of scope, time, cost, quality, human resources, communications, and risks. Discussion also includes project management software as well as organizational management aspects such as project planning, team building, organizational structure, and control mechanisms. (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 system. Topics include introduction, design principles, intrusion detection, policy assurance, attacks and penetration, access control, risks and vulnerabilities, database security, Web security, cryptography, identity theft, viruses, authentication technologies, 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 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 5200—Survey of Medical Informatics**

This online, interactive 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. 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 5204—Clinical Decision Support Systems**

With the increasing complexity of clinical medicine, clinical decision support systems (CDSS) will become essential for diagnostic and treatment purposes. In fact, the Meaningful Use provisions of the HITECH Act now require all health care providers to implement five clinical decision support rules per year in order to qualify for EHR implementation incentive payments.

Clinical decision support systems have been utilized in many areas of clinical medicine, nursing, pharmacy, health care administration, and research. This course introduces students to theoretical, statistical, and practical concepts underlying modern medical decision making. It then proceeds to review the multiple methods for knowledge generation for CDSS. The course provides hands-on experience to students in creating their own prototype of CDSS. Current implementations of stand-alone and integrated CDSS will be evaluated. Techniques for planning and evaluation of CDSS implementation will be reviewed. Human factors, including work-flow integration and the ethical, legal, and regulatory aspects of CDSS use will be explored. (3 credits)

### **MI 5205—Program Evaluation in Health Information Technology**

This online, 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 5401—Managing Organizational Behavior for Medical Informatics**

This online course is an introduction to the management of employees in health care organizations. 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. Through experiential learning, students will learn to integrate home, work, and educational observations and experiences and to convert them into proactive, practical applications for growth and renewal. (3 credits)

### **MI 7000—Health Informatics Practicum**

This is a required course for all M.S.B.I. 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 goals and measurable learning outcomes will be determined by the student, the site preceptor, and the NSU-based faculty adviser. These goals 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)

## **Elective Courses**

### **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 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 6401—Biostatistics**

This course enhances student knowledge about principles and practice of biostatistics through applied statistical methods in health/clinical study designs, and the appropriate use of health information system (collection, storage, retrieval, analysis, and interpretation of health data). (3 credits)

### **MI 6403—Epidemiology**

Epidemiology is the core science of public health. This course will cover the fundamentals of epidemiology including basic concepts in epidemiology concerning the distribution and determinants of disease frequency in human populations and their investigation. Familiarity with epidemiologic principals is essential to the student's understanding of the important health problems faced by our society; scientific and clinical activities designed to ameliorate these problems; strategies to promote health and prevent disease; and the lifestyle-related behaviors, disease-producing agents, and environmental exposures related to serious health problems. Topics to be covered will include basic demography, measures of disease frequency,

disease screening and surveillance, descriptive and analytic study design, introduction to clinical trials, analysis of epidemiologic studies, and sources of error in investigations and investigation of disease outbreaks. (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 public health. 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. (3 credits)

#### **MI 6408—Health Policy, Planning, and Management**

This course discusses the principles and logic involved in health policy and the application of strategies in 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 provides an in-depth study of basic planning and evaluation techniques for the implementation of a community health care program. It addresses 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**

This course provides an introduction to, and overview of, consumer health informatics and Web 2.0 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 Web 2.0 in medicine. 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 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**

Medical data transmission using wireless technology plays an increasing role in the health care industry. This course introduces fundamental knowledge of telemedicine technology. Essential aspects of wireless technology in patient care, medical information processing, telemedicine systems deployment, safeguarding medical data and privacy, and future trends in health care technology are

covered. Discussions also include technical perspectives, an overview of telemedicine, planning and deployment considerations, scalability to support future growth, integration with existing infrastructure, information security, cryptography, and other critical components of telemedicine technology. (3 credits)

#### **MI 6416—Lean Six Sigma for Health Care**

Lean Six Sigma for Health Care (Green Belt) participants learn the skills, tools, and techniques to deliver breakthrough business improvements and cost reductions and prepare for the Lean Six Sigma Green Belt certification exam. Lean Six Sigma Green Belt candidates will learn to function simultaneously inside two frameworks, the business framework and the Six Sigma cultural framework. They will learn to develop a comprehensive set of 15–20 Lean Six Sigma process improvement toolsets by focusing on the define, measure, analyze, improve, and control (DMAIC) approach to process improvement. They will learn techniques for both quantitative and nonquantitative 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 and how to gain a basic understanding of statistical analysis. Finally, students will learn how to perform basic experiments and analyze data, in order to determine the most effective way to improve and stabilize a process. Candidates work on either an integrated health care case study or an actual business project, which they will apply classroom techniques to. (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, Objective C 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 digital image processing, image analysis, image compression, and recognition. (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)

#### **Prerequisite Courses**

These courses are offered to students who do not have sufficient health care background or computer science knowledge.

#### **MI 4201—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 4202—Health Organization and Administration**

This course provides students with an overview of health care management, organization behavior, marketing operations, organizational strategy, quality assurance, information systems, and financial management. The importance of integrating these components is emphasized. (3 credits)

### MI 4203—Introduction of Information and Communication Technologies in Health Care

This online, interactive course will provide students with an overview of information technology in the health care environment. Students will gain a basic understanding of information and communication technologies relevant to patient care delivery. Course content covers health information technology (HIT) terminology, basics of computing (hardware and software), HIT applications, and introductory topics in biomedical informatics, including databases, decision support systems, networks, program evaluation, and information security/privacy in health care. The course is designed to build a solid information baseline regarding communications technology knowledge relevant to the Master of Science in Biomedical Informatics Program curriculum. (3 credits)

## Master of Science in Disaster and Emergency Preparedness Program

### Program Overview

The Master of Science degree in Disaster and Emergency Preparedness (M.S. DEP) is part of the Institute for Disaster and Emergency Preparedness in the College of Osteopathic Medicine. The program will provide students with the knowledge, skills, and basic research capabilities to enter one of the fastest-growing new 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 emergency management and preparedness. It will allow students from a variety of disciplines to specialize in one of several tracks (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, asynchronous activities. In addition, all students in the program will be required to participate in a cohort orientation at the beginning of the program and a final presentation at the conclusion of their studies. The tracks for the Master of Science degree include **maritime safety and security, cyber security, criminal justice, public health, environmental hazards, and fire administration**. Distinct tracks will allow the students to apply the principles of emergency preparedness to these areas of particular interest and need.

The M.S. in Disaster and Emergency Preparedness is designed to provide students with theoretical knowledge and applied 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. This will give them the knowledge and skills necessary to work in an all-hazards preparedness environment. Disaster preparedness 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 preparedness professionals at local, state, national, and international levels. The Master of Science in Disaster and Emergency Preparedness not only develops the skills in leadership, but facilitates students in gaining specialized training in emergency preparedness and disaster response related to: 1) maritime safety and security,

2) cyber security, 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 new 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 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 track 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 preparedness can help to create an environment in which all-hazards initiatives include preparedness, mitigation, rapid 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 preparedness 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. DEP program consists of five core courses (15 credit hours), including a required community research practicum (3 credit hours). Along with the core requirements, the student can choose one of several specialization tracks or elect to pursue a general track. These tracks require four core courses (12 credit hours) in the chosen discipline. To complete the degree, an additional 9 credit hours will be taken from general electives or electives in one of the six areas of specializations (i.e., tracks) that include maritime safety and security, cyber security, criminal justice, public health, environmental hazards, and fire administration. Students also have the option of choosing from the electives list for the Master of Science in National Security Affairs, a partner degree program offered by the Graduate School of Humanities and Social Sciences, part of the Division of Applied Interdisciplinary Studies.

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 track. 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 preparedness 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 related programs at NSU, such as conflict resolution, sociology, or psychology, as a substitute for up to 6 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 Preparedness program evaluates the overall quality of its applicants, including academic achievement, life experience, recommendations, knowledge of the field of emergency management, and personal motivation.

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 or MAT 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 university or from a college or university accredited Distance Education and Training Council (DETC) Accrediting Commission. An applicant who does not have a GRE or MAT, he or she 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 Preparedness program accepts applications year-round. Applicants may apply for matriculation into any one of three semesters (fall, winter, or summer). Application deadline will be 30 days prior to the start of each semester.

For an application to be considered by the admissions committee, applicants must submit

- the online application found at [https://webSTAR.nova.edu/pls/PROD/bwskalogs.P\\_DisplginNon](https://webSTAR.nova.edu/pls/PROD/bwskalogs.P_DisplginNon) (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 GRE or MAT 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. 21850, or visit our Web site at [www.nova.edu/idep](http://www.nova.edu/idep) 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 Preparedness (DEP) 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. DEP 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 the 2014–2015 academic year is \$550 per credit hour for all M.S. DEP courses, with the exception of courses in the Cyber Security track. Courses with the MMIS designation are facilitated in partnership with NSU's Graduate School of Computer and Information Sciences and their tuition rates will apply. Tuition for 2014–2015 will subsequently be posted on our Web site ([www.nova.edu/idep](http://www.nova.edu/idep)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually. All tuition and fees are subject to change by the board of trustees without notice.

A 30 percent tuition discount will be offered to full-time members of the Broward Sheriff's Office. A 20 percent tuition discount will be offered to all other full-time law enforcement officers, fire fighters, and emergency services personnel. Students currently enrolled full time in the NSU College of Osteopathic Medicine's Doctor of Osteopathic Medicine degree program will receive a \$100/credit hour discount on their tuition, per NSU policy.

## Graduation Requirements

In order for students to graduate and receive the M.S. in Disaster and Emergency Preparedness 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, both full- and part-time.

## Curriculum Outline

### Core Courses (15 credit hours)

Required Courses (9 credit hours)			Credit Hours
DEP	5001	Biostatistics	3
DEP	5050	Introduction to Disaster and Emergency Preparedness	3
DEP	6010	Practicum in Selected Track	3

### Management and Leadership Cluster (3 credit hours)

DEP	5010	Leadership and Organizational Behavior for Emergency Preparedness	3
DEP	5020	Preparedness, Planning, Mitigation, and Continuity Management	3
DEP	5030	Executive Leadership and Administration	3
DEP	5040	Security Management in a Global Society	3



**Threats, Hazards, and Impacts Cluster (3 credit hours)**

DEP	5060	Environmental Hazards in Emergency Preparedness	3
DEP	5070	Risk Assessment and Mitigation	3
DEP	5080	Agroterrorism and Food System Disasters	3
DEP	5090	Weapons of Mass Threat and Communicable Diseases	3

**Elective Courses (21 credit hours)**

(Students must take four courses from the chosen track, plus three additional courses selected from the entire curriculum.)

General Electives (12 credit hours)			Credit Hours
DEP	6110	Community Vulnerability Assessment	3
DEP	6120	Psychosocial Dimensions of Disaster	3
DEP	6130	Risk and Crisis Communications	3
DEP	6150	Grant Writing for Emergency Preparedness	3
DEP	6160	Leadership Topics in Disaster and Emergency Preparedness	3
DEP	6170	Elective Practicum	3

**Maritime Safety and Security Track Electives (12 credit hours)**

DEP	6210	Introduction to Maritime Safety	3
DEP	6220	Maritime Safety and Security Leadership	3
DEP	6230	Maritime Safety for the Cruise and Yachting Industries	3
DEP	6240	Concepts in Shipboard Safety Management	3
DEP	6250	History of Maritime Disasters	3
DEP	6260	Maritime Environmental Responsibilities	3

**Cyber Security Track Electives (12 credit hours)**

MMIS	653	Telecommunications and Computer Networking	3
MMIS	683	Fundamentals of Security Technologies	3
MMIS	684	Information Security Management	3
MMIS	685	Information Security Governance	3
MMIS	686	Information Systems Auditing	3
MMIS	687	Information Security Project	3

**Criminal Justice Track Electives (12 credit hours)**

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DEP	6423	Interagency Disaster Communication	3
DEP	6424	Community Disaster Preparedness	3
DEP	6404	Community Planning, Response, and Recovery for Families and Children	3
DEP	6410	Emergency Preparedness Public Policy and Law	3
DEP	6440	Conflict Management in Times of Crisis	3

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**Public Health Track Electives (12 credit hours)**

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DEP	6500	Epidemiology of Disasters	3
DEP	6501	Foundations of Public Health	3
DEP	6510	Public Health Issues in Emergency Preparedness	3
DEP	6520	Veterinary Challenges in Disasters	3
DEP	6140	Social Vulnerability: Implications in the Disaster Cycle	3

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**Environmental Hazards Track Electives (12 credit hours)**

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DEP	5060	Environmental Hazards in Emergency Preparedness	3
DEP	5080	Agroterrorism and Food System Disasters	3
DEP	6501	Foundations of Public Health	3
DEP	6260	Maritime Environmental Responsibilities	3
DEP	6710	Weather and Disaster and Emergency Preparedness	3

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**Fire Administration Track Electives (12 credit hours)**

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DEP	6610	Fire Service Operations	3
DEP	6620	Fire Service Leadership	3
DEP	6423	Interagency Disaster Communication	3
DEP	6410	Emergency Preparedness Public Policy and Law	3

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## Course Descriptions

### DEP 5001—Biostatistics

This course focuses on the principles and reasoning underlying modern biostatistics and on 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. The examples utilized will be derived from issues involved in all-hazards preparedness. (3 credit hours)

### DEP 5050/PUH 5112/CJI 6121/HCP 6101/GERO 5050—Introduction to Disaster and Emergency 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)

### DEP 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

### DEP 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)

### DEP 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)

### DEP 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)

### DEP 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

### DEP 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)

### DEP 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)

### DEP 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)

### DEP 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:** DEP 5050/PUH 5112/CJI 6121 (3 credit hours)

### **General Electives Track**

#### **DEP 6110—Community Vulnerability Assessment**

This course will review the components of a community vulnerability assessment. Students will be actively involved in a community assessment and develop a report for recommended steps for action. (3 credit hours)

#### **DEP 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)

#### **DEP 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)

#### **DEP 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)

#### **DEP 6160—Leadership Topics in Disaster and Emergency Preparedness**

This is a guided self-study course designed to address a specific area of interest in emergency preparedness for the student. This is a didactic course, rather than involving original research or a field experience. (3 credit hours)

#### **DEP 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)

### **Maritime Safety and Security Track Electives**

#### **DEP 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)

#### **DEP 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:** DEP 6210 (3 credit hours)

#### **DEP 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:** DEP 6210 (3 credit hours)

#### **DEP 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)

#### **DEP 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)

#### **DEP 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)

### **Cyber Security Track Electives**

(Note: This track will be facilitated in partnership with NSU's Graduate School of Computer and Information Sciences)

#### **MMIS 653—Telecommunications and Computer Networking**

This course provides the framework for understanding computer network functionality, characteristics, and configurations. Topics include network topologies, protocols, and architectures, as well as emerging trends in network technologies and services. The role of optical technologies in supporting national and international implementations is explored. Strategies for network planning, implementation, management, and security are introduced. Recent advances in standardization; Internet working; and deployment of LANs (local area networks), MANs (metropolitan area networks), and WANs (wide area networks) are introduced. (3 credit hours)

#### **MMIS 683—Fundamentals of Security Technologies**

This course provides an overview of the technical aspects of information security. Issues discussed include authentication, confidentiality, access control, trust, and non-repudiation. Investigation of fundamental assurance technologies that can be applied to interface specifications, architectures, and implementations of information security mechanisms will be discussed. The selection of appropriate security applications, security lifecycles, and interoperability issues will also be covered. **Prerequisite:** MMIS 653 (3 credit hours)

#### **MMIS 684—Information Security Management**

This course provides an understanding to implement effectively the information security vision and strategy set forth by the executive management. The emphasis will be on the management of an information security program. Focus is on information security policy implementation, information security planning, information security processes development, and information security measures establishment. Concepts and techniques from the management and organizational behavior disciplines will be integrated to identify and propose solutions to the problems of information security administration. **Prerequisite:** MMIS 683 (3 credit hours)

#### **MMIS 685—Information Security Governance**

This course is designed to bring to the forefront the challenges and opportunities of effectively governing an organization's information security requirements and resources. Information specific to security governance lays out the vision for the information security program. Discussions include what constitutes good information security governance and the development of an effective information security strategy and policy. Attention is also focused on how to improve information security

accountability, regulatory compliance, and maturity. **Prerequisite:** MMIS 684 (3 credit hours)

#### **MMIS 686—Information Systems Auditing**

Fundamental concepts related to an information systems audit are explained. Principles and practices relate to the secure operation of existing information technology, information security accountability, development of internal control objectives and framework, and identification of appropriate audit procedures for a secure information system. **Prerequisite:** MMIS 684 (3 credit hours)

#### **MMIS 687—Information Security Project**

This project course integrates the body of knowledge accumulated through the previous courses and serves as a capstone for the Cyber Security Track. The class focuses on best practices demonstrated through case studies and systems assessment. Students may enroll in this class only after completing all of the Cyber Security Track courses. **Prerequisite:** MMIS 686 (3 credit hours)

### **Criminal Justice Track Electives**

(Note: This track will be facilitated in partnership with NSU's Institute for the Study of Human Service, Health, and Justice.)

#### **DEP 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)

#### **DEP 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 nonintentional, law enforcement may be charged with enforcing public health orders, securing contaminated areas and health facilities, providing protection and support for the transportation of 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)

**DEP 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)

**DEP 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)

**DEP 6440/CARD 6640—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 Track Electives**

(Note: This track will be facilitated in partnership with the Public Health Program at NSU's College of Osteopathic Medicine)

**DEP 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 communicable disease, environmental health, occupational health, injury, and mental and behavioral health as they relate to disasters. (3 credit hours)

**DEP 6501/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)

**DEP 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)

**DEP 6520—Veterinary Challenges in Disasters**

This course will identify the planning, mitigation, response, and recovery issues and challenges for pets and animals in both confined and unconfined areas. (3 credit hours)

**DEP 6140 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)

**Environmental Hazards Track Electives**

**DEP 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)

**DEP 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)

### **DEP 6501/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)

### **DEP 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)

### **DEP 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)

### **Fire Administration Track Electives**

#### **DEP 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)

#### **DEP 6620—Fire Service Leadership**

This course is designed to provide a framework for effective leadership styles and techniques and supervisory practices. Topics addressed in this course will include decision-making, organizational communication, influence and persuasion, conflict management, managing multiple roles and how those roles and processes may change in context of the various stages of the disaster cycle, and response to complex incidents. (3 credit hours)

### **DEP 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)

### **DEP 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)

### **M.S. in National Security Affairs Electives**

- NSA 501—Current Historical Issues in National Security Affairs
- NSA 502—Terrorists and Terrorism: Theory and Practice
- NSA 503—National Intelligence Collection and Analysis: Theory and Practice
- NSA 504—Border Protection and Military Issues
- NSA 505—Research and Evaluation in National Security Affairs
- CARM 7250—Public Policy
- CARM 6643—Social Aspects of Terrorism
- CARM 6633—International War and Its Resolution
- CARD 6632—Civil Wars and Their Resolutions
- CARM 6654—Islam, Conflict, and Peacemaking
- CARM 6130—Practicum I: Supervised Field Experience
- CARM 6640—Critical Incidents Response
- CARM 6638—Conflict and Crisis Management
- CARM 7250—Public Policy
- CARD 6641—Conflict and Crisis Negotiation
- CARM 6130—Practicum I: Supervised Field Experience

## College of Osteopathic Medicine Departments

### ANATOMY

Chair and Professor: **G. R. Conover** | Professors: **L. Dribin, N. Lufti, A. Mariassy, C. Purvis, K. Tu, 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**

### MICROBIOLOGY

Chair and Professor: **H. Hada** | Professors: **D. Burris, K. Davis, H. E. Laubach** | Associate Professor: **B. Mayi**

### PATHOLOGY

Chair and Professor: **M. A. Khin** | Professors: **B. C. Jones, K. Khin, A. B. Trif** | Assistant Professor: **A. Varela**

### PHARMACOLOGY

Chair and Associate Professor: **M. Parker** | Professors: **T. Panavelil, C. Powell** | Assistant 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** | Professor: **S. Cohen** | Associate Professor: **D. Shaw** | Assistant Professor: **R. Jacobs**

### DIVISION OF MEDICAL HUMANITIES

Chair and Professor: **S. Cohen**

### FAMILY MEDICINE

Chair and Assistant Professor: **B. Arcos** | Professors: **J. DeGaetano, H. Neer, R. Oller, A. Silvagni** | Associate Professors: **P. Anderson-Worts, S. Simpson** | Assistant Professors: **T. Barber, R. Cherner, P. Cohen, R. Ferrero III, V. Jaffe, S. Ledbetter, J. Schaffer, S. Scott-Holman, C. Todd, A. Whitehead, M. Wilkinson, J. Ross, N. Schoepp**

### DIVISION OF COMMUNITY MEDICINE

Chair and Professor: **S. Zucker** | Professors: **R. Foster, F. Lippman** | Assistant Professor: **D. Steinkohl**

### GERIATRICS

Chair and Professor: **N. Pandya** | Assistant Professors: **H. Masri, K. Rivas**

### PREVENTIVE MEDICINE

Chair and Clinical Assistant Professor: **J. Pellosie** | Professor: **M. Fernandez** | Assistant Professor: **R. Jacobs**

### RURAL MEDICINE

Chair and Professor: **J. Howell**

### DIVISION OF CORRECTIONAL MEDICINE

Chair and Professor: **D. Thomas**

### OSTEOPATHIC PRINCIPLES AND PRACTICE

Chair and Associate Professor: **M. Sandhouse** | Professor: **E. Wallace** | Associate Professor: **D. Newman**

### DEPARTMENT OF NEUROMUSCULOSKELETAL MEDICINE

Chair and Associate Professor: **D. Boesler** | Assistant Professor: **Y. Qureshi**

### DIVISION OF PHYSICAL MEDICINE AND REHABILITATION

Chair and Clinical Assistant Professor: **J. Diaz**

### DEPARTMENT OF SPORTS MEDICINE



Chair and Assistant Professor: **A. Kusienski** | Assistant Professors: **H. McCarthy, S. Russo, P. Sprague** | Instructor: **F. Laboy**

#### INTERNAL MEDICINE

Chair and Associate Professor: **S. Snyder** | Assistant Professors: **A. Bhasin, N. Bray, M. Echols, J. Hamstra, R. Hasty, G. Hill**

#### DIVISION OF CARDIOVASCULAR MEDICINE

Chair and Professor: **A. A. Greber** | Clinical Professors: **M. Chizner, R. Kaufman**

#### DEPARTMENT OF DERMATOLOGY

Chair and Assistant Professor: **T. Favreau** | Clinical Professor: **H. Schwartzberg** | Instructor: **A. Combs**

#### 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 Associate 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**

#### OBSTETRICS AND GYNECOLOGY

Chair and Associate Professor: **K. Johnson** | Assistant Professors: **R. Alexis, W. Alexis**

#### PEDIATRICS

Chair and Professor: **E. Packer** | Professor: **C. Blavo** | Clinical Professor: **D. Mulligan-Smith** | Associate Professor: **H. DeGaetano** | Assistant Professors: **R. Failace, M. Gabay, O. Marriott**

#### SURGERY

Chair and 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 and Professor: **D. Thomas** | Clinical Assistant Professors: **D. Rectine, P. Roberts**

#### DIVISION OF GENERAL SURGERY

Chair and Clinical Associate Professor: **E. Wiener**

#### 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** | Clinical Professor: **G. Ghoniem**

#### **MASTER OF PUBLIC HEALTH PROGRAM**

Director and Professor: **C. Blavo** | Professors: **G. Bowen, M. Fernandez, R. Foster, J. Howell, H. Laubach, L. Levy, J. Lou, C. Rokusek** | Associate Professors: **J. Dodds, J. Fleisher, P. Hardigan, K. Johnson, G. Suci** | Assistant Professors: **D. Celestine, A. Perez, D. Steinkonl, X. Yu**

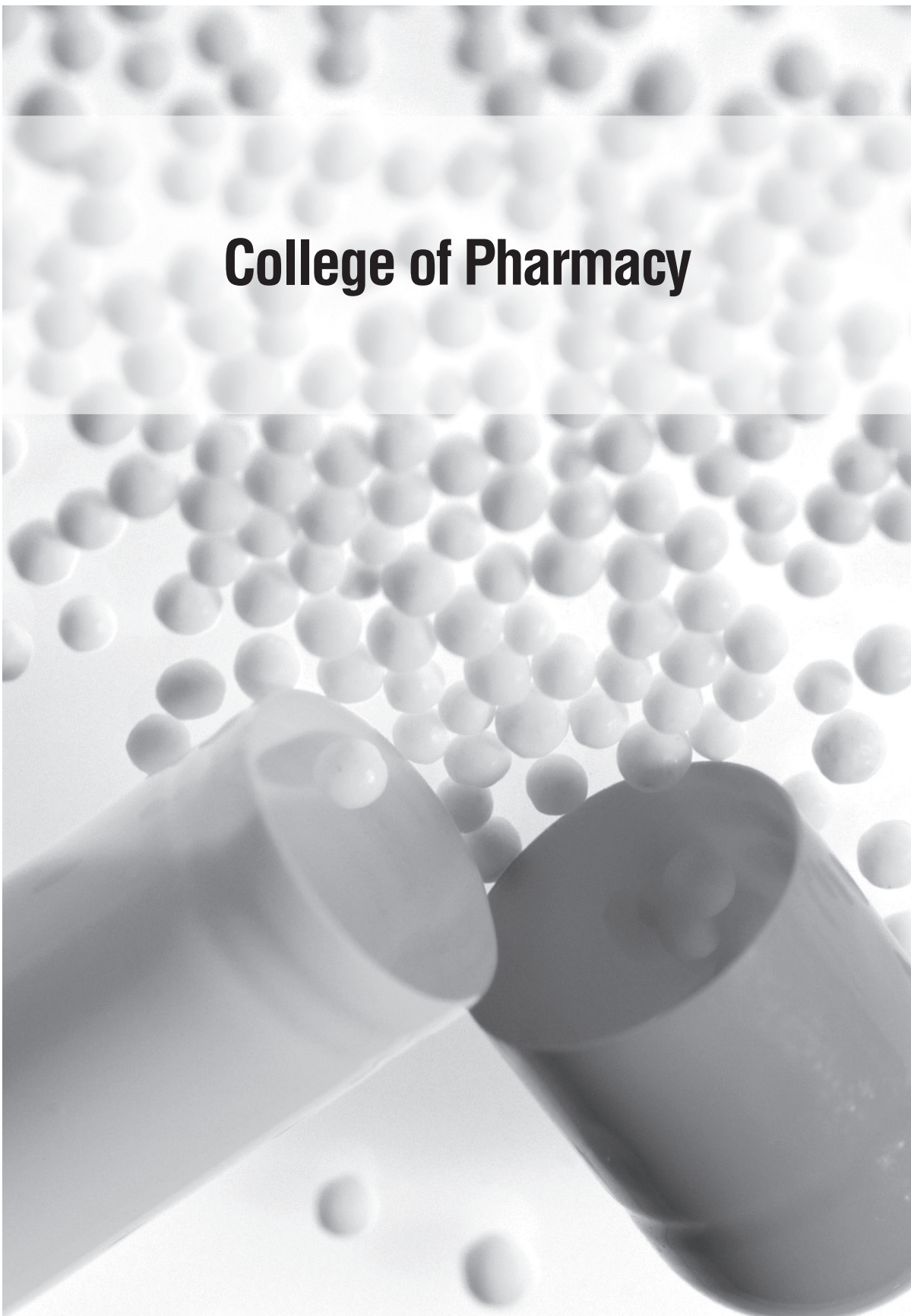
#### **MASTER OF SCIENCE IN BIOMEDICAL INFORMATICS PROGRAM**

Director and Professor: **J. Lou** | Professors: **R. Foster, L. Levy, R. Ownby, C. Radlauer** | Associate Professor: **D. Shaw** | Assistant Professors: **S. Bronsburg, R. Jacobs, V. Jaffe, A. Rana**

#### **MASTER OF SCIENCE IN DISASTER AND EMERGENCY PREPAREDNESS PROGRAM**

Director and Professor: **K. Davis** | Professors: **L. Levy, C. Rokusek** | Assistant Professors: **K. Messer, E. Sklar**

# College of Pharmacy





# College of Pharmacy



Lisa Deziel, B.S.,  
Pharm.D., Ph.D.  
Dean

## Mission Statement

To educate professionals who will address the pharmacy-related needs of society.

## Vision Statement

Through our programs of innovative teaching, service, research, and scholarship, we will achieve the distinction of being a premier college of pharmacy.

## Values

- entrepreneurship
- excellence
- innovation
- integrity
- professionalism
- respect for diversity
- service
- teamwork

## Administration

**Lisa Deziel**, B.S., Pharm.D., Ph.D.  
Dean

**Robert McGory**, M.S., Pharm.D.  
Associate Dean, Professional Program

**Michelle Clark**, B.A., M.S., Ph.D.  
Interim Associate Dean, Research and Graduate Education  
Chair, Pharmaceutical Sciences

**Appu Rathinavelu**, B.S., M.S., Ph.D.  
Associate Dean, Institutional Planning  
and Development

**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, Experiential Education  
and Student Services

**Goar Alvarez**, B.S., Pharm.D.  
Assistant Dean, Pharmacy Services

**Nile M. Khanfar**, B.S., M.B.A., Ph.D.  
Assistant Dean, Palm Beach Program

**Blanca Ortiz**, Pharm.D.  
Assistant Dean, Puerto Rico Program

**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

**William D. Hardigan**, B.S., M.S., Ph.D.  
Dean Emeritus

## Pharmacy

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 more patient-oriented role. The College of Pharmacy is educating its students in practices vital to meeting the challenges facing the profession and important to improving health and 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 3,500 pharmacy professionals. The college offers the Doctor of Pharmacy (Pharm.D.) degree program and began offering a graduate Ph.D. program in 2010.

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 interpersonal 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.

It is because of these challenges and opportunities that pharmacy has assumed a wider role and become an increasingly rewarding profession involving patient counseling, compliance, and education.

### **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, Web site: [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 is headquartered 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, near the Health Professions Division's research laboratories. Experiential sites are primarily located throughout Central and South Florida.

In the fall of 2000, the NSU College of Pharmacy opened a program in northern Palm Beach County. After spending many years in 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 Palm Beach Regional 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. Classes will be held at NSU's Puerto Rico Regional Campus beginning in the fall of 2014. The San Juan location will have state-of-the-art facilities for pharmacy students and is equipped with lecture halls; student study rooms; computer, pharmaceuticals, and patient care management laboratories; a Drug Information Center; and additional meeting and classroom space fully equipped for compressed interactive video.

Each regional campus has administrators and faculty and staff members. Interactive video technology is used to

provide lectures among the three sites 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 sites. 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. As part of its innovative approach to research, education, and service, Nova Southeastern University College of Pharmacy has created the first Center for Consumer Health Informatics Research (CCHIR) in the country. It is located at the Palm Beach Regional Campus. The mission of the CCHIR is to generate discoveries that leverage the potential of consumer health informatics to improve patient health. This will be realized through the foci of consumer health informatics, medicines information, and public health.

### **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, professional program. The request must include a copy of the transcript (containing the course title and final grade) and a course syllabus. 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. 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.

The dean's office will evaluate the courses and determine appropriate credits. A minimum of 30 credit hours of didactic coursework and all advanced pharmacy practice experiences must be completed at Nova Southeastern University.

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 may 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.

## Entry-Level Program Doctor of Pharmacy Degree

### Admissions Requirements for 2015 Entering Class

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 evaluation.

#### Pre-Pharmacy Studies

1. Prior to matriculation, 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:

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
Humanities/Social and Behavioral Sciences/ Other Electives	
Social and Behavioral Sciences .....	3
Humanities .....	3
Electives in either discipline .....	9*
Advanced Sciences (cellular or molecular biology, microbiology, biochemistry or genetics) .....	6
<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.

2. Students must have a GPA of 2.75 or higher on a 4.0 scale. To ensure a well-rounded background for professional studies and adequate preparation in mathematics and sciences, the college requires students to earn a grade of 2.0 or better in each required pre-pharmacy course and a minimum grade of 2.0 in all biology, chemistry, and mathematics courses. Preference will be given to students with a cumulative grade point average of 3.0 or higher. However, the dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

3. Applicants are required to submit official scores from the Pharmacy College Admission Test (PCAT). A national, standardized examination, the PCAT is designed to measure verbal and quantitative abilities, reading comprehension, and knowledge of biology and chemistry. PCAT scores must be dated within three years of the time of interview. Applicants should take the PCAT no later than January prior to the expected date of matriculation.

Candidates should schedule pre-pharmacy coursework so they complete biology and some chemistry courses before taking the PCAT. The half-day test is offered in July, September, October, and November of 2014 and January of 2015 at locations throughout the United States and Canada. You may register online at [www.pcatweb.info](http://www.pcatweb.info) or call 800-622-3231 if you have any questions.

### 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Pharmacy, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

## Application Procedures

### Initial Application Process

The college participates in the Pharmacy College Application Service (PharmCAS) for the receipt and processing of all applications for students wishing to enter our Fort Lauderdale, Palm Beach, or Puerto Rico sites. PharmCAS takes no part in the selection of students.

To start the application process, please visit the PharmCAS Web site ([www.pharmacas.org](http://www.pharmacas.org)). Applicants choosing to submit a paper application may contact PharmCAS directly for an application packet at

PharmCAS  
P.O. Box 9109  
Watertown, Massachusetts 02471  
(617) 612-2050

Listed below are the steps necessary to complete the initial application process.

The applicant should submit the following materials to PharmCAS:

- a completed PharmCAS application
- an official transcript from the registrars of all colleges and universities attended (This must be mailed directly to PharmCAS by the college or university.)
- a letter of recommendation from the pre-professional committee, (if such a committee does not exist, letters of evaluation from two science professors and a liberal arts professor are necessary)
- a letter of evaluation from a pharmacist is highly recommended and may substitute for a letter from a professor
- PCAT score(s) within the past five years

The PharmCAS application process could take four to six weeks.

The deadline for submitting a PharmCAS application for NSU-COP is January 1.

### Supplemental Application Process

Nova Southeastern University requires the completion of a supplemental application. Upon receipt of the PharmCAS application, NSU-COP will electronically forward a supplemental application.

Listed below are the steps necessary to complete the supplemental application process.

The applicant should submit the following materials to Nova Southeastern University:

- a completed supplemental application
- a nonrefundable application fee of \$50

The deadline date for submitting the supplemental application for NSU-COP is March 1.

All admission materials sent to Nova Southeastern University should be sent 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

### Interview Process

Upon receipt of the completed application and the required credentials, the most-qualified applicants will be selected for an 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

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.

### 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.

### Program Requirements

All students are required to have ongoing access to a computer and an active account with an Internet service provider. Entering students must purchase an iPad for in-class online testing. Specifics will be provided by the college. 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. Puerto Rico students should anticipate completion of experiential education at sites outside of the commonwealth of Puerto Rico. During the final month of the fourth professional year, all students return to their respective campuses for a week of live instruction and board exam preparation.

### Computer Requirements

In addition to the device for in-class, online testing, students are also required to 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.

### Tuition and Fees

- Tuition—Fort Lauderdale and Palm Beach, Florida

Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$28,985 for Florida residents and \$32,725 for out-of-state students.

Eligible students must request in-state tuition on the 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.

- Tuition—Puerto Rico

Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$28,985 (U.S.) for Florida and Puerto Rico residents and \$32,725 (U.S.) for non-Florida and non-Puerto Rico residents.

- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.

- 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 three weeks of an applicant's acceptance.

- Preregistration fee is \$500.

This is due March 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 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 because of the limited number of positions available in each class. Applicants should have specific plans for financing four years 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. For more information about NSU's required health insurance, visit our Web site at [www.nova.edu/smc/health\\_insurance.html](http://www.nova.edu/smc/health_insurance.html).

### Undergraduate/Pharm.D. Dual Admission Program

Nova Southeastern University Health Professions Division has established a dual admission program with the Nova Southeastern University Farquhar College of Arts and Sciences and Pontificia Universidad Catolica de Puerto Rico 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, contact one of the following:

- Office of Admissions  
Farquhar College of Arts and Sciences  
Nova Southeastern University  
3301 College Avenue  
Fort Lauderdale, Florida 33314-7796
- Office of Admissions  
Pontificia Universidad Catolica de Puerto Rico  
2250 Avenida Las Americas  
Suite 584  
Ponce, Puerto Rico 00717-0777

### Pharmacy Intern

Internship hours must be completed within the guidelines of the Florida Board of Pharmacy as set forth in the Rule, Chapter 64B16-26 and also by the Board of Pharmacy in the state in which the student plans to be licensed. A Social Security number is necessary in order to obtain an intern license from the state of Florida. All efforts should be made by the student to obtain a Social Security number prior to matriculation. It is the responsibility of any student who does not have U.S. citizenship or permanent resident status to ensure that his or her visa status allows for the issue of a Social Security number. An intern license is a requirement for placement on practice experiences. Without practice experiences, a student cannot complete the curriculum or the requirements of the Pharm.D. degree program. Any student who has concerns regarding visa or Social Security status 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). The directors of experiential education will provide assistance and guidance to students regarding pharmacy practice experiences and earning required hours.

## 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 didactic component of the curriculum builds a foundation in the medical and pharmaceutical sciences. Traditional courses in physiology and pathophysiology, biochemistry, microbiology, research design, and statistics are provided in order to develop a solid foundation. Pharmaceutical sciences courses including Pharmaceutics, Pharmacokinetics, and Nonprescription Therapies are designed to provide students with a strong understanding of the principles of drug therapy. The innovative curriculum also includes the integration of medicinal chemistry and pharmacology into one course titled Pharmacodynamics, which runs five semesters. Insight into the business, human relations, communication, marketing, and legal aspects of pharmacy and the health care system are also provided. Students are actively involved in the two-semester Introduction to Professionalism and Leadership course that covers topics such as ethics and professionalism and promotes student advocacy in the profession and the community.

Additionally, the curriculum includes courses that focus on application of material learned in previous semesters. Pharmacotherapy addresses the use of drugs in the disease process and physical assessment provides students with hands-on opportunities to develop skills essential to monitoring and managing medication therapy. Students hone their analytical skills with courses in pharmacoconomics and outcomes research and biomedical literature evaluation. All students must complete a minimum of 6 semester hours of elective credit.

Unique aspects of the curriculum include an introductory pharmacy practice experience program and an integrated laboratory. Opportunities for the students to experience pharmacy practice first hand are provided early in the curriculum. In the first year, students participate in the Introduction to Professionalism and Leadership course, which is designed to begin the development of abilities including thinking and learning; social and cultural awareness; active citizenship and leadership; personal, ethical, and legal judgment; and communication. In the second year of the curriculum, students spend four hours per week in a community pharmacy setting. Practice experiences in the third year involve eight hours per week in hospital and pharmacy service preclinical settings. Patient Care Management Lab is initiated during the

second year and continues through the third. This provides an opportunity for students to integrate information learned in all courses of the curriculum in order to facilitate application of the material in real-life practice settings.

During the fourth year, through experiential coursework, students will complete nine 160-hour Advanced Pharmacy Practice Experience (APPE) courses, six in direct patient care areas and three selective 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 term of the fourth year curriculum includes a Curricular Review course that offers student-initiated review and update of calculations and case-based drug therapy evaluations. During the final month of the fourth professional year, all students return to their respective campuses for a week of live instruction and board exam preparation.

Note: The advanced pharmacy practice experiences 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. Experiences may be taken in any sequence, however students may not enroll in advanced practice experiences until all didactic work has been satisfactorily completed. The curriculum is designed so that knowledge gained in one semester becomes the foundation for material covered in subsequent semesters. Therefore, if students do not successfully complete the coursework specified for one semester, it will impede their ability to take courses in the future semesters. (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 years from the date of matriculation.

## Travel Study

Opportunities for travel study programs may be provided during the summer. Students who are on probation will not be allowed to participate in travel study programs.

## Graduation Requirements

To receive a degree, a student must fulfill the following requirements:

- be of good moral character
- pass all required courses
- complete a minimum of 145 semester hours of coursework in the College of Pharmacy within six academic years

- satisfactorily complete the assigned curriculum requirements for the degree, including all assignments, with a GPA of 2.0 on a four-point scale or a numerical average of 70 percent or above
- satisfactorily complete the P3 capstone examination
- satisfactorily meet all financial and library obligations
- complete a minimum of 30 credit hours of didactic coursework in addition to five advanced pharmacy practice experiences if transferring from another college of pharmacy
- submit to the registrar's office an application for degree/diploma by March 15. Applications received after March 15 will not be considered for that year's commencement, unless approved by the dean
- must attend the commencement program in person
- receive approval by a College of Pharmacy faculty vote

## Entry-Level Curriculum Outline

First Year—Fall Semester			Credits
PHRC	4000	Medical Terminology (online)	0
PHRC	4110	Pharmaceutics I	3
PHRC	4200	Pharmacy Calculations (online)	1
PHRC	4210	Pharmacodynamics I	3
PHRC	4300	Pharmacy and the U.S. Health Care Systems	2
PHRC	4410	Physiology and Pathophysiology I	4
PHRC	4580	Introduction to Professionalism and Leadership I	1
PHRC	4700	Biochemistry	4
<b>Total</b>			<b>18</b>

First Year—Winter Semester			Credits
PHRC	4120	Pharmaceutics II	2
PHRL	4130	Pharmaceutics Compounding Lab	1
PHRC	4220	Pharmacodynamics II	3
PHRC	4250	Pharmacokinetics	4
PHRC	4420	Physiology and Pathophysiology II	4
PHRC	4550	Introduction to Drug Information Resources and Health Informatics	2
PHRC	4680	Introduction to Professionalism and Leadership II	1
<b>Total</b>			<b>17</b>

<b>Second Year—Fall Semester</b>			Credits
PHRC	5000	Physical Assessment (hybrid)	2
PHRC	5230	Pharmacodynamics III	4
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	5700	Microbiology	3
<b>Total</b>			<b>20.5</b>

<b>Second Year—Winter Semester</b>			Credits
PHRC	5150	Nonprescription Therapies	3
PHRC	5240	Pharmacodynamics IV	4
PHRC	5330	Communication in Patient Care	2
PHRC	5420	Pharmacotherapy II	5
PHRC	5570	Biomedical Literature Evaluation	2
PHRC	5680	IPPE: Community II	1.5
PHRL	5710	Patient Care Management Lab I	1
<b>Total</b>			<b>18.5</b>

<b>Third Year—Fall Semester</b>			Credits
PHRC	6250	Pharmacodynamics V	3
PHRC	6350	Pharmacy Management	3
PHRC	6370	Pharmacoeconomics/Outcomes Research	2
PHRC	6430	Pharmacotherapy III	6
PHRC	6580	IPPE: Health System	2
PHRL	6720	Patient Care Management Lab II	1
PHRE		Elective 1	2
<b>Total</b>			<b>19</b>

<b>Third Year—Winter Semester</b>			Credits
PHRC	6380	Public Health and Pharmacy Practice	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	2
PHRE		Elective 3	2
<b>Total</b>			<b>16</b>

<b>Fourth Year—Summer/Fall/Winter</b>			Credits
PHRC	7610	APPE: Internal Medicine	4
PHRC	7620	APPE: Ambulatory Care	4
PHRC	7630	APPE: Community Patient Care I	4
PHRC	7640	APPE: Community Patient Care II	4
PHRC	7650	APPE: Acute Patient Care I	4
PHRC	7660	APPE: Acute Patient Care II	4
PHRC	7670	APPE: Selective I	4
PHRC	7680	APPE: Selective II	4
PHRC	7690	APPE: Selective III	4
PHRC	7801	Curricular Review I	0
PHRC	7802	Curricular Review II	0
PHRC	7803	Curricular Review III	0
<b>Total</b>			<b>36</b>

IPPE = Introductory Pharmacy Practice Experience

APPE = Advanced Pharmacy Practice Experience

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.

## International Pharmacy Graduates, Advanced Standing Doctor of Pharmacy Degree

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. degree program with advanced standing. Upon completion of the degree program, students are eligible to take the North American Pharmacy Licensing Examination (NAPLEX). 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 pharmacoeconomics and outcomes research and biomedical literature evaluation. All students must complete a minimum of 4 semester hours of elective credit.

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 applying for the entry-level program 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 entry-level program.

The curriculum stresses innovative delivery and assessment methods. Courses will be on campus and will be taught by interactive video; the college's experiential sites will be used extensively. All lectures, handouts, reading materials, and exams will be in English.

### Admissions Requirements

The College of Pharmacy selects students based on previous academic performance, TOEFL, IELTS, or Pearson's Test of English scores (if applicable), GRE

or PCAT scores, written applications, and letters of recommendation.

Prior to matriculation, College of Pharmacy applicants must complete and receive a Bachelor of Science degree in Pharmacy from a program accredited by the country of residence. Applicants may be required to complete some pre-pharmacy coursework from the College of Pharmacy.

The Test of English as a Foreign Language (TOEFL), the International English Language Test System (IELTS), or the Pearson Test of English—Academic, is required of all applicants whose native language is not English. These tests, administered worldwide, measures the ability of non-native speakers to understand and use North American English. Preference will be given to students with TOEFL scores of at least 213 on the computer-based exam or 79–80 on the Internet-based exam. A score of 6.0 on the IELTS or a score of 54 on the Pearson Test of English—Academic is required. Scores must be no more than two years old at the time of application.

You can receive the TOEFL brochure from the Office of Admissions, by visiting TOEFL's Web site ([www.toefl.org](http://www.toefl.org)), or by forwarding a written request to

TOEFL/TSE Services  
P.O. Box 6153  
Princeton, NJ 08541-6153  
(609) 771-7100

The following coursework, with a grade of C or higher, is currently required for admission:

- anatomy and physiology (6 semester hours)
- biochemistry (4 semester hours)
- microbiology (3 semester hours)
- pharmacology (6 semester hours)
- pharmaceuticals (6 semester hours)
- pharmacokinetics (4 semester hours)

It is required that applicants have a minimum 2.75 GPA on a 4.0 scale.

### Application Procedures

Candidates for admission are responsible for submitting an application form, application fee, a complete set of official transcripts, official foreign coursework evaluation if applicable, official TOEFL, IELTS, or Pearson's Test of English scores if applicable, and letters of evaluation.

A completed international application form along with a \$50 (U.S.), nonrefundable application fee must be submitted to the Office of Admissions no later than February 1 of the year of anticipated entry. An application is available on our Web site (<http://pharmacy.nova.edu/intpharmd/admissions.html>) or by contacting the Office of Admissions.

In order to complete an application, a candidate must arrange to have his or her transcripts, test scores, and letters of evaluation forwarded to the Office of Admissions no later than March 1 of the year of anticipated entry.

### Interview Process

Upon receipt of the completed application and the required credentials, the most qualified applicants will be invited to interview. Those applicants selected will be notified in writing of the time and place. Applicants may request to complete the interview process via Skype. 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.

### Transcripts

Official college transcripts from all undergraduate and graduate institutions attended in the United States or U.S. territories must be forwarded directly from the institutions 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

It is the applicant's responsibility to ensure that arrangements are made for these to be sent. Final and official transcripts of all of the applicant's work must be forwarded to the Office of Admissions prior to matriculation. Photocopies and facsimiles will not be accepted. A transcript is required for each college or university even though transfer credit from one institution may appear on another institution's transcript.

### 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)

- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Pharmacy, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

Proof of English proficiency is required of all applicants. The following standardized tests currently satisfy NSU College of Pharmacy English requirements for non-native English speakers:

- Test of English as a Foreign Language (TOEFL)—213 on a computer-based test; 79–80 on the Internet-based test
- International English Language Testing System (IELTS)—6.0 on the test module
- Pearson Test of English—Academic—score of 54

Scores may be no more than two years old at the time of application.

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.

### Graduate Record Examination or Pharmacy College Admission Test

It is required that applicants submit official scores from either the Graduate Record Examination (GRE) or the Pharmacy College Admission Test (PCAT). A combined GRE score greater than 1000 is preferred. The PCAT is designed to measure verbal ability, quantitative ability, reading comprehension, and knowledge of biology and chemistry. PCAT scores must be no more than five years old at the time of the interview.

### Letters of Evaluation

Three letters of recommendation/evaluation are required. One should be from the dean/director of a pharmacy program. In addition, a letter of reference from a registered pharmacist is recommended. Forms for letters of evaluation are available on our Web site (<http://pharmacy.nova.edu/intpharmd/admissions.html>) or by contacting the Office of Admissions.

Note: All documents submitted to the Office of Admissions become the property of Nova Southeastern University. Originals or copies of originals will not be returned to the applicant or forwarded to another institution, agency, or person.

Admission inquiries should be directed to

Nova Southeastern University  
Attention: Pharmacy Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

(954) 262-1101  
877-640-0218  
[www.nova.edu](http://www.nova.edu)

### Program Requirements

All students are required to have ongoing access to a computer and an active account with an Internet service provider.

Entering students must purchase an iPad for in-class, online testing. Specifics will be provided by the college. 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 month of the third professional year, all students return to their respective campuses for a week of live instruction and board exam preparation.

### Computer Requirements

In addition to the device for in-class online testing, students are also required to 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.

### Tuition and Fees

The board of trustees has established the following tuition and fees for 2014–2015, which are subject to change at any time at the board's discretion:

- Tuition is \$39,995 (U.S.). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.
- Preregistration fee is \$1,000.

This fee is due May 15, and 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.

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 permitted to register until their financial obligations have been met.

### Graduation Requirements

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 complete a minimum of 108 credit hours of coursework at the College of Pharmacy within five academic years.

### International/Immigration 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. Inquiries can be directed to

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)  
[www.nova.edu/internationalstudents/index.html](http://www.nova.edu/internationalstudents/index.html)

### Pharmacy Intern

Internship hours must be completed within the guidelines of the Florida Board of Pharmacy as set forth in the Rule, Chapter 64B16-26.2032 and also by the Board of Pharmacy in the state in which the student plans to be licensed. A Social Security number is necessary in order to obtain an intern license from the state of Florida. All efforts should be made by students to obtain a Social Security number prior to matriculation. It is the responsibility of any student who does not have U.S. citizenship or permanent resident status to ensure that his or her visa status allows for the issue of a Social Security number. An intern license is a requirement for placement on practice experiences. Without these experiences, a student can not complete the curriculum or the requirements of the Pharm.D. degree program. Any student who has concerns regarding visa or Social Security status should contact the Office of International Students and Scholars by phone at (954) 262-7240 or 800-542-6682, ext. 27240, or by email at [intl@nova.edu](mailto:intl@nova.edu). The directors of experiential education will provide assistance and guidance to students regarding pharmacy practice experiences and earning required intern hours.



## Advanced Standing Curriculum Outline

First Year—Fall Semester			Credits
PHRC	4000	Medical Terminology (online)	0
PHRC	4200	Pharmacy Calculations (online)	1
PHRC	4300	Pharmacy and the U.S. Health Care Systems	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 1	2
			<b>Total 17.5</b>

Second Year—Fall Semester			Credits
PHRC	5000	Physical Assessment (hybrid)	2
PHRC	6250	Pharmacodynamics V	3
PHRC	6350	Pharmacy Management	3
PHRC	6370	Pharmacoeconomics/Outcomes Research	2
PHRC	6430	Pharmacotherapy III	6
PHRC	6580	IPPE: Health System	2
PHRL	6720	Patient Care Management Lab II	1
			<b>Total 19</b>

<b>Second Year—Winter Semester</b>			Credits
PHRC	5570	Biomedical Literature Evaluation	2
PHRC	6380	Public Health and Pharmacy Practice	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	2
<b>Total</b>			<b>16</b>

<b>Third Year—Summer/Fall/Winter</b>			Credits
PHRC	7610	APPE: Internal Medicine	4
PHRC	7620	APPE: Ambulatory Care	4
PHRC	7630	APPE: Community Patient Care I	4
PHRC	7640	APPE: Community Patient Care II	4
PHRC	7650	APPE: Acute Patient Care I	4
PHRC	7660	APPE: Acute Patient Care II	4
PHRC	7670	APPE: Selective I	4
PHRC	7680	APPE: Selective II	4
PHRC	7690	APPE: Selective III	4
PHRC	7801	Curricular Review I	0
PHRC	7802	Curricular Review II	0
PHRC	7803	Curricular Review III	0
<b>Total</b>			<b>36</b>

IPPE = Introductory Pharmacy Practice Experience

APPE = Advanced Pharmacy Practice Experience

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.

## 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.

### Basic Medical Sciences

#### 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 4700—Biochemistry

This course covers the structure, function, and metabolism of lipids, proteins, carbohydrates, and nucleic acids. Their interactions to compose body systems and their relevance in pharmaceutical applications will be emphasized. (64-0-4)

#### PHRC 5700—Microbiology

Covers the underlying nature of infectious microorganisms. Emphasizes cause, prevention, and control of infectious diseases; immunology; mycology; parasitology; bacteriology; virology. (48-0-3)

### Pharmacy—Required 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:** PHRC 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—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)

#### 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 **Corequisite:** PHRC 4420 (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 Systems**

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 4550—Introduction to Drug Information Resources and Health Informatics**

Drug information resources 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), the role of data analytics and visualization, and both the benefits and limitations associated with the use of health information technology. (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 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 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)

### **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 physiological 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 the 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 discussed to help students understand patients' perspectives of health and illness, as well as their implications for pharmacists' 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 design are covered in this course. Students are expected to survey statistical applications to understand and evaluate clinical, biomedical, and health care services research. (48-0-3)

#### **PHRC 5380—Pharmacy Law**

This course provides a framework for students to gain knowledge of the interplay between pharmacy and the law. It provides practical guidance to act lawfully, professionally, and ethically. The material covers federal and state statutes, rules and regulations, and case law with emphasis on understanding the laws affecting the practice of community and institutional pharmacy. **Corequisite:** PHRC 4300 (32-0-2)

#### **PHRC 5410—Pharmacotherapy I**

The overarching goal of the pharmacotherapy curricular component is to integrate concepts from previous courses in the Doctor of Pharmacy 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 (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)

#### **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 theory provides students with interprofessional interactions, patient encounters, and additional active learning exercises to compliment laboratory activities. Students are assessed for their knowledge of commonly used medications throughout the course. (0-28-0)

#### **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 help students develop the skills needed to operate a pharmacy effectively. **Prerequisite:** PHRC 4300 (48-0-3)

#### **PHRC 6370—Pharmacoeconomics and Outcomes Research**

This course provides an overview of the theories and methodologies of pharmacoeconomics and outcomes research. Application of the allocation of limited health care resources in clinical practice, the pharmaceutical industry, and managed care are explored using examples from the primary literature. **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**

Pharmacotherapy III is the third 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 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. **Prerequisite:** PHRC 5410 (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. **Prerequisites:** PHRC 5410 (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**

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 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 covers the following specific pharmacotherapeutic topics (parallel to those in PHRC 6430): genitourinary conditions, arthritis, diseases affecting special populations such as geriatric patients, asthma and COPD, endocrine disorders, and mental health. Pain management is also addressed. There is a focus on ambulatory and community pharmacy. The weekly classroom component of the course theory exposes students to interprofessional interactions, patient encounters, and additional exercises to 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. (0-28-0)

**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 (parallel to those in PHRC 6440): infectious diseases (including HIV)

and cancer, with a focus on health-system pharmacy. The weekly classroom component of the course theory exposes students to interprofessional interactions, patient encounters and additional exercises to 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. (0-28-0)

**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 (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 (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 will actively participate in obtaining patient medical and medication histories, evaluating drug therapies, developing pharmacy care plans, assessing patients, monitoring patients' therapeutic outcomes, consulting with other health care providers, and providing education to patients and health care professionals. Students will apply and synthesize didactic information to the activities of a pharmacist as they develop their professional maturity and judgment skills. Students will 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 (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 nondistributive, direct patient care in the outpatient, community 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. The course focuses on technical skills in the distribution of prescriptions and the practice of medication therapy management. **Prerequisite:** Successful completion of all didactic coursework (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 direct patient care in the outpatient, community 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. The course focuses on technical skills in the distribution of prescriptions and the practice of medication therapy management. **Prerequisite:** Successful completion of all didactic coursework (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 (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 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 (0-160-4)

### **PHRC 7670/7680/7690—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. Students complete a total of three selective (elective) experiences in a pharmacy practice specialty area that will allow them 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 (0-160-4)

### **PHRC 7801—Curricular Review I**

The primary goal for the Curricular Review course series is to assess and strengthen student knowledge and skills developed during the four-year pharmacy curriculum. In Curricular Review I, students will start preparing for the NAPLEX by completing assigned practice questions and doing a practice NAPLEX-like exam. **Prerequisite:** PHRC 6440 (16-0-0)



### **PHRC 7802—Curricular Review II**

In this course, students will continue preparing for the NAPLEX by completing assigned practice problems in the areas of pharmacotherapy and by completing several practice NAPLEX-like examinations. **Prerequisite:** PHRC 6440 (16-0-0)

### **PHRC 7803—Curricular Review III**

Students will continue preparing for the NAPLEX by completing assigned practice problems and by completing a required pre-NAPLEX examination. Students will be provided with an individual pre-NAPLEX ID for one-time use. During the on-campus portion of the course, a NAPLEX review course is provided. **Prerequisite:** PHRC 6440 (16-0-0)

## **Elective Courses**

### **PHRE 5101—Pharmaceutical Technology**

This course is designed to provide a deeper understanding of pharmaceutical industry emphasizing formulation and process development of oral solid dosage forms. (32-0-2)

### **PHRE 5105—Overview of Consulting Pharmacy Practice**

This course is intended to provide 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 5111—Applied Pharmaceutical Kinetics**

This course provides comprehensive coverage of current applications of chemical pharmacokinetic theory in drug research, product development, quality control, and manufacturing activities of the pharmaceutical industry in the United States. (32-0-2)

### **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 5115—Advances in Drug Delivery**

The course discusses the science and technology of novel drug formulations and delivery systems. It emphasizes the development of controlled release formulations and delivery systems for various routes of administration. (32-0-2)

### **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 5119—Current Advances in Pharmaceutical Sciences**

The focus of this course is on an array of pharmaceutical science topics recently highlighted by the media. Working in groups, students will prepare and give oral presentations and written reports on groundbreaking changes in the discovery, development, manufacturing, and dispensing of pharmaceuticals that will directly affect the practice of pharmacy. Topics selected by the instructor will be those that have recently appeared in scientific journals and may also have received attention from the news media. Active participation in class discussion is expected. (32-0-2)

### **PHRE 5121—Entrepreneurship and Strategic Management**

This course provides the students with complementary knowledge in management and leadership by familiarizing students with topics such as operation management, value creation in pharmacy services, labor law, and emotional intelligence, helping them to become more cognizant of the legal, ethical, social, and business aspects of decision making. The student will have the opportunity to think in concrete terms and to propose solutions to common situations encountered during the course of delivering pharmacy services. At the same time, students will be able to identify their own strengths and areas in need of improvement and define their roles as future entrepreneurs. (32-0-2)

### **PHRE 5123—Individualized Pharmacotherapy**

This course will give 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 individual patient's needs. **Prerequisites:** PHRC 4210, 4220, 5230, and 5240 (16-0-1)

#### **PHRE 5203—Consumer Health Informatics and Web 2.0 in Health Care**

This course provides an introduction to, and overview of, the consumer health informatics and Web 2.0 applications used in health care. It explores the development of consumers as ePatients and health information seekers, using tools such as patient-controlled electronic health records as well as the fluid nature of Web 2.0 in medicine. **Prerequisite:** PHRC 4550 (32-0-2)

#### **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 that are currently used to fight genetically determined diseases. (32-0-2)

#### **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. **Prerequisites:** PHRC 5410 and 5420 (32-0-2)

#### **PHRE 5225—Principles of Neuropharmacology**

This course covers the principles of membrane support and bioelectricity, synaptic transmission, and recent molecular biological approaches and techniques that have revolutionized the understanding of membrane channels. **Prerequisites:** PHRC 5410 and 5420 (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 explore issues arising from advances in biotechnology, resource allocation, research using human subjects, informed consent, the function of ethics committees, and the right to privacy as they affect the legal rights and responsibilities of patients, health care providers, and 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 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. **Prerequisite:** PHRC 4300. (32-0-2)

#### **PHRE 5321—Strategic 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 students' knowledge of the practice of marketing, to develop market research skills, and to formulate marketing plans and strategies. (32-0-2)

#### **PHRE 5335—Drug-Induced Disease**

The course will describe and discuss the most serious negative and undesired effects of drugs, as well as their impact on public health. The course emphasizes the role of pharmacists in the recognition of early signs and symptoms of life-threatening adverse drug events and in the prevention of such events. Medical terminology; understanding and discussion of case reports; and evidence-based management of the most common, severe, adverse drug reactions are important aspects of the course. When appropriate, the role of pharmacogenomics in determining drug-induced disease will be discussed. The course is designed to acquaint students with the FDA actions and policies implemented to protect human health and with the FDA medical products reporting program and policies for product recalls and withdrawals. (16-0-1)

#### **PHRE 5385—Pharmacy Law Seminar**

This seminar of pharmacy law topics is designed to promote the application of law to practice and enhance critical thinking, communication, writing, and social perspective. It will cover timely and controversial issues including controlled substances, duty to warn, the FDA, and the pharmaceutical industry. **Prerequisites:** PHRC 4300 and 5380 (32-0-2)

**PHRE 5387—Pharmacy Case Law**

This course teaches students pharmacy case law. Students will learn the source of case law, its authority, limitations to the law, and its impact on practice. Students are required to present in-depth reviews of pharmacy law cases. Cases are presented as live lectures to the class. **Prerequisites:** PHRC 4300 and 5380 (32-0-2)

**PHRE 5389—Pharmacy Law of Puerto Rico**

This course teaches the laws and regulations governing pharmacy in Puerto Rico, including the material manufacturing, distribution, and dispensing of medications in the commonwealth. (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 ranges, methods of compounding, and ultimate role in the diagnosis and treatment of diseases. (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**

Introduction to Pharmacometrics: Modeling and Simulation (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 in the 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. (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 5511—Survey of Complementary Therapies**

In this course, students will be provided with information about complementary therapies, which are frequently seen or could be recommended for various disease states. Nutritional supplements, herbal remedies, homeopathic remedies, and others will be studied in this course. The proper dosing, side effects, and drug and disease state interactions will also be considered in recommending these therapies. (32-0-2)

**PHRE 5563—Rounds 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. **Prerequisite:** PHA 5610 (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, and 6430 (32-0-2)

**PHRE 5615—Women's Health**

This course focuses on the role of the pharmacist in providing optimal preventive health care and drug therapy to women of all ages. It encompasses a variety of topics, including contraception, infertility, pregnancy, eating disorders, and menopausal and postmenopausal health. **Prerequisites:** PHRC 4300 and 5300 (32-0-2)

**PHRE 5617—Landmark Clinical Trials and Their Impact on Practice**

The course will cover pivotal clinical trials that have influenced the way medications are used in clinical practice. Emphasis is placed on literature evaluation and interpretation. Students will have the opportunity to communicate this information through open discussion and formal presentations. **Prerequisites:** PHRC 5410 and 5420 **Corequisite:** PHRC 6430 (32-0-2)

### **PHRE 5623—Hispanic Health**

This course examines the health status and the cultural, social, economic, and environmental factors affecting the health and delivery of health care services to Hispanics in the United States. Resources available to improve the health status of Hispanics are addressed. (32-0-2)

### **PHRE 5627—Adult Acute Care Medicine**

Adult Acute Care Medicine will expand the student's knowledge base on selected topics covered in therapeutics and pathophysiology I, as well as other related topics. The course will improve the student's understanding of acute care medicine in the adult population, while focusing on frequent complications of common disease states and the unique way they are managed in the acute care setting. In addition, it will include a review of common procedures and devices used in the inpatient setting. **Prerequisites:** PHRC 5410 and 5420 (32-0-2)

### **PHRE 5629—Primary Literature Evaluation of Ambulatory Care Medicine**

This course offers students the opportunity to strengthen their clinical skills by allowing them to synthesize, analyze, and incorporate current medical literature into their baseline knowledge about pharmacotherapy. Students will be expected to present two or more times during the semester, either individually or as part of a group. Students will peer evaluate and complete weekly, 20-minute quizzes composed of essay-type questions. **Prerequisites:** PHRC 5410, 5420, and 6430 (32-0-2)

### **PHRE 5633—Introduction to Health Promotion and Education**

This course explores why and how pharmacists get involved with health promotion and education programs. It identifies the steps involved in the development of these programs, as well as resources needed. Applicability to vulnerable populations is emphasized. Students are expected to develop a health promotion and education program. **Prerequisite:** PHRC 4300 (32-0-2)

### **PHRE 5635—Applied Medicinal Chemistry**

The course describes the principles of structure activity relationships for several pharmacological classes of drugs. Students evaluate several case scenarios and select the most appropriate therapeutic option, relying heavily on the chemical structures of available drug products. (32-0-2)

### **PHRE 5637—History of Pharmacy**

This course reveals the proud heritage of the profession of pharmacy and its service to humanity. Significant drug discoveries will be examined and individuals who contributed to the evolution of pharmacy will be discussed. Minerals, selected drugs, and plants of historical value will be described. Evolution of pharmacy associations, education, pharmaceutical research, and manufacturing will be presented. (32-0-2)

### **PHRE 5639—Clinical Neuropsychopharmacology**

This course will incorporate lecture, classroom discussion, 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 of the mentally ill patient. **Prerequisites:** PHRC 5410 and 5420 (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 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**

This course provides students with an opportunity to work under the direct supervision of one or more faculty members. Students will be assigned directed readings, evaluations, and analysis of scientific literature in the fields of pharmacology, pharmaceuticals, biopharmaceuticals, pharmacokinetics, drug delivery systems, pharmaceutical technology, biotechnology, toxicology and others. Students will be mentored and trained on how to retrieve scientific information, build a hypothesis, write papers, and write reviews. With the professor, students are involved in planning and executing an approved research project using basic techniques of scientific research. The student will be awarded 3 or 4 semester credits on the basis of 48 laboratory hours per credit. (0-[144-192]-[3-4])

**PHRE 5995—Research in Sociobehavioral and Administrative Pharmacy I**

This course consists of individual work conducted by students under the direction/supervision of one or more faculty members. The research may include planning, analysis, and execution of a project. **Prerequisite:** PHRC 4300 (0-[48-144]-[1-3])

**PHRE 5997—Research in Sociobehavioral and Administrative Pharmacy II**

This course is a continuation of PHRE 5995 (Research in Sociobehavioral and Administrative Pharmacy I). **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 6301—Statistical Methods in Pharmacy**

This course focuses on inferential statistics for students interested in conducting quantitative research in pharmacy. It is designed to enable students to gather data and apply experimental design models toward improving the efficiency of pharmaceutical and health care services. **Prerequisite:** PHRC 5350. (48-0-3)

**PHRE 6441—Health Care Entrepreneurship**

This course prepares students to compete as entrepreneurs in the health care sector. It teaches students to evaluate business opportunities, form management teams, raise capital, and manage new ventures. **Prerequisites:** PHRC 4300 and 6350 (32-0-2)

**PHRE 6703—Residency Interviewing Preparatory Seminar (RIPS)**

This course is a *Pass/Fail* elective course offered to fourth-year pharmacy students who are applying to a residency program. The course will focus on improving a student's interviewing and presentation skills. The course will also help students in developing their curricula vitae, personal statements, and letters of intent. Due to the interactive nature of the course, it will not be broadcasted to other sites. **Prerequisite:** P4 standing (16-0-1)

**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.

**PHRE 7695—Advanced Pharmacy Practice Experience: Selective IV**

This is an optional Advanced Pharmacy Practice Experience for students who have completed all nine required APPEs. This option provides additional depth or breadth of practice knowledge and skills. It is an additional APPE option only and will not count as a required APPE or elective course. **Prerequisite:** Successful completion of all didactic coursework and college approval (0-160-4)

## Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences

### Admissions Requirements

Students will be recruited for the Ph.D. program from the NSU College of Pharmacy and other U.S. schools/colleges of pharmacy. Graduates with degrees in pharmacy-related fields (such as chemistry, biology, biochemistry, anatomy, or physiology); graduates with degrees in fields related to social, economic, behavioral, and administrative pharmacy; and graduates from international institutions (especially those with pharmacy degrees from India, China, Europe, Canada, the Middle East, Latin America, and the Caribbean) will also be recruited for the program. Successful applicants, whether foreign or domestic, will be required to comply with the guidelines outlined below.

1. All applicants must have an earned baccalaureate degree from an accredited institution of higher education.
2. With few exceptions, all applicants' degrees should be in pharmacy or a related area.
3. All applicants should have earned a GPA equal to 3.0 or better.
4. All applicants must include GRE results, proof of proficiency in English, a formal application form, three letters of reference, transcripts received directly from the degree-granting institution, and a brief written essay on their goals in their applications.

### Application Procedures

Applicants may apply for matriculation into the fall semester. The Office of Admissions processes applications on a rolling admissions basis; therefore, it is in the best interest of the applicant to apply as early as possible. Priority will be given to applicants who complete the application form and submit all required supporting documents and a nonrefundable fee of \$50 to Nova Southeastern University by February 1. Final application deadline is March 1.

Applicants may apply for admission electronically by using an interactive Web-based application at <http://pharmacy.nova.edu/admissions>. Applicants may also have an application mailed to them. Please contact the Office of Admissions. In order to be processed, all supporting documents must be submitted no later than March 1 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

### Interview Process

Upon receipt of the completed application and required credentials, the Committee on Admissions will select those applicants to be interviewed. The chosen candidates will be interviewed on the Nova Southeastern University main campus. The Office of Admissions will notify those who are selected for an interview of the date and time of such an interview. Being granted an interview is not a guarantee of admission.

### Transcripts

Official transcripts of all work attempted at all colleges and universities must be forwarded directly to the Enrollment Processing Services (EPS) by the institutions attended. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent. A final transcript covering all of the applicant's work must be forwarded to EPS prior to matriculation.

### 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Pharmacy Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

### Test Scores

All applicants are required to submit official Graduate Record Examination (GRE) scores. The NSU code is 5522. GRE scores must be less than five years old prior to the candidate's matriculation.

### Letters of Evaluation

Three individual letters of evaluation from professors or supervisors in the applicant's major field of study are required.

### Tuition and Fees

Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$26,265 for all students. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.

## Social and Administrative Pharmacy Sequence

### Program Description

Nova Southeastern University College of Pharmacy (COP) offers a program of graduate study and research in Social and Administrative Pharmacy, leading to the Doctor of Philosophy (Ph.D.) degree. This sequence focuses on coursework and research skills that address the dynamic and complex nature of the use and distribution of pharmaceutical products and the provision of pharmacy services. Students who select this sequence may specialize in areas such as sociobehavioral and cultural pharmacy, pharmacy economics and outcomes, or pharmaceutical management and marketing. Students will be primarily under the tutelage of faculty members in the Department of Sociobehavioral and Administrative Pharmacy, a group with expertise in development and implementation of sustainable pharmacy services, pharmacoeconomics, pharmacy administration, outcomes research, health disparities and vulnerable populations, cultural competency, and related areas.

The Health Professions Division (HPD) at NSU requires all graduate students who are enrolled in health-related Ph.D. programs, including pharmacy, to take a series

of core courses in their first and second years. After completing the first year of study, students will focus primarily on the Social and Administrative Pharmacy core courses, elective courses, written comprehensive and oral qualifying examinations, and research in a Social and Administrative Pharmacy area that is consistent with faculty member expertise in the College of Pharmacy. Because of its exclusive emphasis on pharmacy topics, the program **does not** duplicate degrees or courses offered by other NSU centers. 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.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. A grade of *B* or better is expected in the didactic work. No less than 54 of the credits will be taken at NSU. Coursework aimed at correcting an academic deficiency in a student's background will not count toward program requirements. Graduate teaching assistants and graduate research assistants will be limited to a maximum of 13 and a minimum of 6 credits per semester during the fall and spring semesters. Other students will be limited to a maximum of 15 and a minimum of 9 credits per semester.

At the completion of this course of study and research, students will be able to

- demonstrate the knowledge base expected at the Ph.D. level in a pharmacy specialty
- design and conduct independent research that adds to the understanding of their pharmacy specialty
- prepare and defend rational and structured proposals seeking support for research efforts
- prepare and present lucid reports on their own research, as well as the research of others

## Curriculum Outline

First Year—Fall Semester			Credits
HPH	7210	Bioethics: Principles of Life Science Research*	3
PHRP	7001	Health Economics	3
HPH	7300	Biostatistics I*	3
PHRP	7021	Population Health and Public Policy	3
PHRP	7002	Graduate Seminar	1
<b>Total</b>			<b>13</b>

First Year—Winter Semester			Credits
PHRP	7023	Pharmaceutical Marketing	3
HPH	7400	Research Design*	3
HPH	7310	Biostatistics II*	3
PHRP	7025	Pharmacy Management and Finance	3
PHRP	7008	Graduate Seminar	1
<b>Total</b>			<b>13</b>

First Year—Summer Semester			Credits
PHRP	7011	Graduate Research	3
OR			
PHRP	7013	Internship	3
<b>Total</b>			<b>3</b>

Second Year—Fall Semester			Credits
PHRP	7211	Theories of Health-Seeking Behavior	3
PHRP	7205	Advanced Quantitative Methods	3
PHRP	7207	Elective	3
PHRP	7201	Graduate Research	2
PHRP	7200	Graduate Seminar	1
<b>Total</b>			<b>12</b>

Second Year—Winter Semester			Credits
PHRP	7209	Pharmacoeconomics	3
PHRP	7203	Social Measurement and Techniques	3
HPH	7610	Scientific Writing*	1
PHRP	7213	Elective	3
PHRP	7225	Graduate Research	2
PHRP	7210	Graduate Seminar	1
<b>Total</b>			<b>13</b>

Second Year—Summer Semester			Credits
PHRP	7227	Graduate Research	2
HPH	7620	Research Funding and Proposal Development*	1
<b>Total</b>			<b>3</b>



<b>Third Year—Fall Semester</b>			Credits
PHRP	7305	Elective	3
PHRP	7307	Elective	3
PHRP	7303	Graduate Research	2
PHRP	7300	Graduate Seminar	1
<b>Total</b>			<b>9</b>

<b>Third Year—Winter Semester</b>			Credits
PHRP	7325	Dissertation Research	8
PHRP	7310	Graduate Seminar	1
PHRP	7241	Written Comprehensive and Oral Qualifying Exams	0
<b>Total</b>			<b>9</b>

<b>Third Year—Summer Semester</b>			Credits
PHRP	7327	Dissertation Research	8
<b>Total</b>			<b>8</b>

<b>Fourth Year—Fall Semester</b>			Credits
PHRP	7421	Dissertation Research	8
PHRP	7400	Graduate Seminar	1
<b>Total</b>			<b>9</b>

<b>Fourth Year—Winter Semester</b>			Credits
PHRP	7425	Dissertation Research	8
PHRP	7410	Graduate Seminar	1
PHRP	7800	Dissertation Defense	0
<b>Total</b>			<b>9</b>

\*HPD core course

The curriculum was approved by the faculty, pending approval by the university provost. 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.

## Drug Development (Pharmaceutics) Sequence

### Program Description

Nova Southeastern University College of Pharmacy (COP) offers a program of graduate study and research in Drug Development (Pharmaceutics), leading to the Doctor of Philosophy (Ph.D.) degree. This sequence emphasizes the coursework, laboratory, and literature-search skills that are integral to the theory and practice associated with the incorporation of drug entities into the forms and formulations that best deliver the drugs to the site of the intended medical action. Students who pursue this track will be primarily under the tutelage of faculty members in the Department of Pharmaceutical Sciences, a group with expertise in pharmaceutics-related disciplines. Particular areas of expertise include a variety of drug formulations and novel drug delivery systems.

The Health Professions Division (HPD) at NSU requires all graduate students who are enrolled in health-related Ph.D. programs, including pharmacy, to take a series of core courses in their first and second years. After completing the first year of study, students will focus primarily on the Drug Development (Pharmaceutics) core courses, elective courses, written comprehensive and oral qualifying examinations, and research in a Drug Development area that is consistent with faculty member expertise in the College of Pharmacy. Because of its exclusive emphasis on pharmacy topics, the program **does not** duplicate degrees or courses offered by other NSU centers. In addition, the Ph.D. program is consistent with the criteria for accreditation set by the Southern Association of Colleges and Schools Commission on Colleges.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. A grade of *B* or better is expected in the didactic work. No less than 54 of the credits will be taken at NSU. Coursework aimed at correcting an academic deficiency in a student's background will not count toward program requirements. Graduate teaching assistants and graduate research assistants will be limited to a maximum of 13 and a minimum of 6 credits per semester during the fall and spring semesters. Other students will be limited to a maximum of 15 and a minimum of 9 credits per semester.

At the completion of this course of study and research, students will be able to

- demonstrate the knowledge base expected at the Ph.D. level in a pharmacy specialty
- design and conduct independent research that adds to the understanding of their pharmacy specialty
- prepare and defend rational and structured proposals seeking support for research funding
- prepare and present lucid reports on their own research, as well as the research of others

## Curriculum Outline

First Year—Fall Semester			Credits
HPH	7210	Bioethics: Principles of Life Science Research*	3
PHRP	7004	Advanced Physical Pharmacy	3
HPH	7300	Biostatistics I*	3
PHRP	7000	Graduate Research	2
PHRP	7002	Graduate Seminar	1
<b>Total</b>			<b>12</b>

<b>First Year—Winter Semester</b>			Credits
PHRP	7012	Advanced Pharmacokinetics and Biopharmaceutics	3
PHRP	7010	Graduate Research	2
HPH	7400	Research Design*	1
HPH	7610	Scientific Writing*	1
PHRP	7008	Graduate Seminar	1
<b>Total</b>			<b>8</b>

<b>First Year—Summer Semester</b>			Credits
PHRP	7011	Graduate Research	3
OR			
PHRP	7013	Internship	3
<b>Total</b>			<b>3</b>

<b>Second Year—Fall Semester</b>			Credits
PHRP	7204	Research Techniques and Instrumentation	3
PHRP	7228	Product Development and Industrial Pharmacy	4
PHRP	7208	Elective	3
PHRP	7202	Graduate Research	2
PHRP	7200	Graduate Seminar	1
<b>Total</b>			<b>13</b>

<b>Second Year—Winter Semester</b>			Credits
PHRP	7216	Elective: Polymers	3
PHRP	7218	Graduate Research	2
PHRP	7210	Graduate Seminar	1
<b>Total</b>			<b>6</b>

<b>Second Year—Summer Semester</b>			Credits
HPH	7620	Research Funding and Proposal Development*	1
PHRP	7230	Graduate Research	2
PHRP	7240	Written Comprehensive and Oral Qualifying Exams	0
<b>Total</b>			<b>3</b>

<b>Third Year—Fall Semester</b>			Credits
PHRP	7304	Advanced Topics in Pharmaceutical Sciences	1
PHRP	7324	Dissertation Research	8
PHRP	7300	Graduate Seminar	1
<b>Total</b>			<b>10</b>

<b>Third Year—Winter Semester</b>			Credits
PHRP	7306	Advanced Topics in Pharmaceutical Sciences	1
PHRP	7240	Written Comprehensive and Oral Qualifying Exams	0
PHRP	7326	Dissertation Research	8
PHRP	7310	Graduate Seminar	1
<b>Total</b>			<b>10</b>

<b>Third Year—Summer Semester</b>			Credits
PHRP	7328	Dissertation Research	8
<b>Total</b>			<b>8</b>

<b>Fourth Year—Fall Semester</b>			Credits
PHRP	7402	Advanced Topics in Pharmaceutical Sciences	1
PHRP	7420	Dissertation Research	8
PHRP	7400	Graduate Seminar	1
<b>Total</b>			<b>10</b>

<b>Fourth Year—Winter Semester</b>			Credits
PHRP	7424	Dissertation Research	8
PHRP	7410	Graduate Seminar	1
PHRP	7800	Dissertation Defense	0
<b>Total</b>			<b>9</b>

\*HPD core course

The curriculum was approved by the faculty, pending approval by the university provost. 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.

## Molecular Medicine and Pharmacogenomics Sequence

### Program Description

Nova Southeastern University College of Pharmacy (COP) offers a program of graduate study and research in Molecular Medicine and Pharmacogenomics, leading to the Doctor of Philosophy (Ph.D.) degree. This sequence emphasizes the coursework, laboratory, and literature-search skills that are integral to elucidation of the mechanism of action of drugs and the extent and character of drug actions. Students who pursue this sequence will be primarily under the tutelage of faculty members in the Department of Pharmaceutical Sciences, a group with expertise in pharmacology, medicinal chemistry, toxicology, cell biology, and biochemistry. Particular areas of expertise include neuropharmacology, neurophysiology, cardiovascular pharmacology, molecular pharmacology, anti-inflammatory steroids, and cancer pharmacology.

The Health Professions Division (HPD) at NSU requires all graduate students who are enrolled in health-related Ph.D. programs, including pharmacy, to take a series of core courses in their first and second years. After completing the first year of study, students will focus primarily on the Molecular Medicine and Pharmacogenomics core courses, elective courses, written comprehensive and oral qualifying examinations, and research in a Molecular Medicine and Pharmacogenomics area that is consistent with faculty member expertise in the College of Pharmacy. Because of its exclusive emphasis on pharmacy topics, the program **does not** duplicate degrees or courses offered by other NSU centers. In addition, the Ph.D. program is consistent with the criteria for accreditation set by the Southern Association of Colleges and Schools Commission on Colleges.

### Course of Study

Students are required to take a minimum of 60 credits, at least 36 of which must be in didactic coursework. A grade of *B* or better is expected in the didactic work. No less than 54 of the credits will be taken at NSU. Coursework aimed at correcting an academic deficiency in a student's background will not count toward program requirements. Graduate teaching assistants and graduate research assistants will be limited to a maximum of 13 and a minimum of 6 credits per semester during the fall and spring semesters. Other students will be limited to a maximum of 15 and a minimum of 9 credits per semester.

At the completion of this course of study and research, students will be able to

- demonstrate the knowledge base expected at the Ph.D. level in a pharmacy specialty
- design and conduct independent research that adds to the understanding of their pharmacy specialty
- prepare and defend rational and structured proposals seeking support for research efforts
- prepare and present lucid reports on their own research, as well as the research of others

### Curriculum Outline

First Year—Fall Semester			Credits
HPH	7210	Bioethics: Principles of Life Science Research*	3
PHRP	7006	Clinical Pharmacology or Elective**	4
HPH	7300	Biostatistics I*	3
PHRP	7000	Graduate Research	2
PHRP	7002	Graduate Seminar	1
<b>Total</b>			<b>13</b>

<b>First Year—Winter Semester</b>			Credits
PHRP	7012	Advanced Pharmacokinetics and Biopharmaceutics	3
PHRP	7014	Molecular and Cellular Pharmacodynamics	3
PHRP	7010	Graduate Research	2
PHRP	7020	Experimental Statistics and Informatics	1
HPH	7610	Scientific Writing*	1
PHRP	7008	Graduate Seminar	1
<b>Total</b>			<b>11</b>

<b>First Year—Summer Semester</b>			Credits
PHRP	7030	Graduate Research	3
OR			
PHRP	7016	Internship	3
<b>Total</b>			<b>3</b>

<b>Second Year—Fall Semester</b>			Credits
PHRP	7204	Research Techniques and Instrumentation	3
PHRP	7220	Advanced Pharmacogenomics and Molecular Medicine	3
PHRP	7202	Graduate Research	2
PHRP	7200	Graduate Seminar	1
<b>Total</b>			<b>9</b>

<b>Second Year—Winter Semester</b>			Credits
PHRP	7222	Applied Pharmacology	3
PHRP	7224	Elective	2
PHRP	7218	Graduate Research	2
PHRP	7226	Journal Club	1
HPH	7400	Research Design*	1
PHRP	7210	Graduate Seminar	1
<b>Total</b>			<b>10</b>

<b>Second Year—Summer Semester</b>			Credits
HPH	7620	Research Funding and Proposal Development*	1
PHRP	7230	Graduate Research	2
PHRP	7240	Written Comprehensive and Oral Qualifying Exams	0
<b>Total</b>			<b>3</b>

<b>Third Year—Fall Semester</b>			Credits
PHRP	7324	Dissertation Research	8
PHRP	7302	Elective	2
PHRP	7210	Graduate Seminar	1
<b>Total</b>			<b>11</b>

<b>Third Year—Winter Semester</b>			Credits
PHRP	7240	Written Comprehensive and Oral Qualifying Exams	0
PHRP	7326	Dissertation Research	8
PHRP	7310	Graduate Seminar	1
<b>Total</b>			<b>9</b>

<b>Third Year—Summer Semester</b>			Credits
PHRP	7328	Dissertation Research	8
<b>Total</b>			<b>8</b>

<b>Fourth Year—Fall Semester</b>			Credits
PHRP	7420	Dissertation Research	8
PHRP	7400	Graduate Seminar	1
<b>Total</b>			<b>9</b>

<b>Fourth Year—Winter Semester</b>			Credits
PHRP	7424	Dissertation Research	8
PHRP	7410	Graduate Seminar	1
PHRP	7800	Dissertation Defense	0
<b>Total</b>			<b>9</b>

\*HPD core course

\*\*Pharmacy graduates may take Clinical Pharmacology or an elective. Evaluation for graduate students will be more rigorous than for students in the professional program who also take this course.

The curriculum was approved by the faculty, pending approval by the university provost. 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.

## 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 7300—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 7310—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 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.

#### 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.

### Ph.D. Program Required Courses

#### 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.

#### PHRP 7205—Advanced Quantitative Methods

This course is a survey of advanced statistics and operations research methods applied to decision making in social and administrative pharmacy.

#### PHRP 7222—Applied Pharmacology

This course builds on the Pharmacodynamics Principles and Cardiovascular Pharmacology course, as well as the Molecular and Cellular Pharmacology course. Students will use pharmacology 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.

#### 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.

#### **PHRP 7006—Clinical 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.

#### **PHRP 7325—Dissertation Research**

This course deals with 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 course.

#### **PHRP 7002—Graduate Seminar**

This is a weekly lecture series 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 own research.

#### **PHRP 7000—Graduate Research**

This is a course designed to provide students with an introduction to research and is required every semester until they become degree candidates. Students will work one-on-one with faculty members to become familiar with the research interests, literature, and laboratory techniques of their mentors.

#### **PHRP 7003—Graduate Research in Population Health and Public Policy**

This 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. 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 provides skills for the conceptualization of research projects addressing current public health issues related to pharmacy.

#### **PHRP 7001—Health Economics**

This course will focus on the application of economic analysis as it relates to provision of health care and emerging health care trends in the United States and throughout the world. The course also focuses on understanding how health care markets differ from other markets, specifically on the economics of the health care sector and its major players, e.g., the government, insurers, providers, and patients. Economic concepts and tools will be used to analyze the health care system, and to examine implications and issues in health policy.

#### **PHRP 7014—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.

#### **PHRP 7209—Pharmacoeconomics**

This course addresses advanced concepts and definitions involved in the field of pharmacoeconomics. It emphasizes the principles and methodologies of pharmacoeconomic analysis and the strengths and weaknesses of specific methods.

#### **PHRP 7204—Research Techniques and Instrumentation**

This course is a survey of the research techniques and instrumentation used in the pharmaceutical sciences. Applications in academic, industrial, hospital, and community settings will be demonstrated in case studies.

#### **PHRP 7220—Advanced Pharmacogenomics and Molecular Medicine**

This course offers a presentation of 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 that are currently used to fight genetically determined diseases. **Prerequisite:** Molecular and Cellular Pharmacodynamics

#### **PHRP 7203—Social Measurement and Techniques**

This course is a survey of measurement theory, the types of measuring devices available, and their limitations, as well as the reliability and validity of measuring instruments.

The course includes practice in applying these concepts to evaluation and research processes in pharmacy.

#### **PHRP 7211—Theories of Health-Seeking Behavior**

This course underscores sociological aspects of pharmacy practice. Topics include psychosocial aspects of patients' illness behaviors, health care utilization, and consumer behaviors that influence the practitioner-patient relationship. The development of the profession from a historical perspective is addressed, along with attitude modification and changes occurring as a product of legal and organizational forces in society.

The following new courses are being developed to be offered beginning fall 2012.

#### **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.

#### **PHRP 7025—Pharmacy Management and Finance**

This course provides an overview of management theories, human resources, and financial management applied to pharmacy operations. Elements of supervision, management, and leadership are discussed in an effort to help students develop the skills needed to operate a pharmacy effectively.

#### **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.

#### **PHRP 7228—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 preformulation, 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, semisolid 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.

#### **PHRP 7304—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.

#### **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.

#### **PHRP 7226—Journal Club**

This course offers a survey of cutting-edge techniques and discoveries that are germane to the biomedical sciences, particularly in the area of molecular medicine and pharmacogenomics.

#### **PHRP 7021—Population Health and Public Policy**

This 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. 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 provides skills for the conceptualization of research projects addressing current public health issues related to pharmacy.

### **Ph.D. Program Elective Courses**

#### **PHRP 7232—Advanced CNS Pharmacology**

Emphasis is on the biochemistry, neuroanatomy, neurochemistry, neurophysiology, and pathophysiology relevant to various CNS maladies. Discussion of recent findings is detailed in the research literature. Pharmacological interventions (including current treatment options) and potential new therapies are discussed in light of recent laboratory findings.

#### **PHRP 7231—Advanced Complementary and Alternative Medicines**

This course offers scientific and rigorous coverage of the complementary and alternative medicine (CAM) approach to improvement of human health. The history and applications of herbology in the treatment of a wide range of health issues are stressed.

**PHRP 7234—Advanced Medicinal Chemistry**

This course offers a review of major drug classes and the chemical basis for their mechanism of action, as well as extensive case illustrations of how drugs were discovered, developed, and synthesized and the issues arising from scale-up from basic research through pilot plant quantities to the manufacture of the finished product for market.

**PHRP 7233—Advanced Pharmaceutical Care**

This course builds upon basic pharmaceutical care skills. The practice and implementation of pharmaceutical care will be analyzed in the context of the health care system, the pharmacy profession, and pharmacy practice. Advanced concepts of quality patient care in relation to the structure and financing of health care are addressed.

**PHRP 7236—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.

**PHRP 7312—Advanced Tablet and Capsule Technology**

This course offers a survey of practices and technologies that are shaping today's pharmaceutical tablet and capsule industry.

**PHRP 7308—Applied Medicinal Chemistry**

This course discusses the principles of structure activity relationships for several pharmacological classes and case scenarios that require students to select the most appropriate therapeutic option based solely on chemical structures.

**PHRP 7235—Cardiovascular Risk Factors**

This course reviews the major classes of cardiovascular risk factors as they relate to evidence-based therapy. Clinical studies will be discussed regarding new strategies to prevent and treat risk factors associated with cardiovascular disease. The course is designed to familiarize the student with the knowledge and skills needed to understand the actions of numerous drug classes. A segment of the course covers evidence-based therapy to treat and prevent all major cardiovascular risk factors through drug therapies and lifestyle modifications.

**PHRP 7237—Landmark Clinical Trials**

This course is designed to develop an understanding of how pharmaceutical sciences impact health professions and how they influence which and how medications are used in clinical practice.

**PHRP 7315—Legal and Ethical Regulation of Pharmaceuticals**

This course provides a broad overview of legal regulations and ethical aspects of the research continuum from concept to the pharmacy shelves and prescriber offices; as such, this course spans this continuum and provides a picture of the interrelationships between drug discovery, drug development, and determinants of drug use. Laws, regulations, and ethics relevant to pharmaceuticals are approached from an industry, rather than a profession, perspective.

**PHRP 7314—Pharmacokinetic Modeling**

This course presents the theoretical development, models, and equations used in pharmacokinetics. It evaluates relevant literature and approaches to design and recovery of essential drug disposition parameters. Presentations employ graphical and computer methods of applying pharmacokinetics to analysis of experimental and clinical data.

**PHRP 7317—Pharmacy and the Health Care System**

This course offers an overview of the foundations and structure of the United States Health Care System, with comparisons to other countries' health care systems and the historical context thereof. Principles of economic theory, health policy, and social and behavioral determinants of health will be discussed in relation to the functioning of health care systems.

**PHRP 7216—Polymers in Pharmaceutical and Biomedical Systems**

This course is designed to provide a background in basic polymer chemistry, physicochemical testing, and recent advances in controlled release technology as they apply to smart polymers for applications in pharmaceuticals, biomaterials, tissue engineering, and biotechnology. It will also discuss the limitations of advanced drug delivery over traditional methods.

## 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 club and class activities, and working to improve the quality of life for students at the College of Pharmacy.

### Other Organizations

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 (CPFII)
- 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)
- 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

Chairman and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam** | Assistant Professor: **W. G. Campbell**

### Microbiology

Chairman and Professor: **H. Hada** | Professors: **D. Burris, H. E. Laubach** Associate Professor: **K. Davis** | Assistant Professor: **B. Mayi**

### Physiology

Chairman and Professor: **W. Schreier** | Professors: **H. Mayrovitz, S. Taraskevich** | Assistant Professor: **L. Lyons**

### Pharmaceutical Sciences

Chair and Associate Professor: **M. Clark** | Professors: **L. Cubeddu, R. Speth** | Associate Professors: **A.M. Castejon, J. Latimer, H. Omidian, A. Rathinavelu** | Assistant Professors: **R. Ansari, Y. Kwon, A. Lympelopoulos, E. Nieves, M. Rawas-Qalaji, S. Rizvi, E. Santini** | Clinical Assistant Professors: **R. Finkel, D. Gazze** | Academic Facilitators/Instructors: **J. Marin, R. Rodriguez-Milan, F. Sircar-Ramsewak, M. Smith, J. Varela** | Research Associate/Lecturer: **V. Yugandhar**

### Sociobehavioral and Administrative Pharmacy

Chair and Professor: **M.J. Carvajal** | Professors: **B. Bleidt, L. Lai** | Associate Professors: **C. Harrington, N. Khanfar, S. Rabionet, J. Sanchez** | Assistant Professors: **G. Alvarez, G. Armayor, I. Popovici, A. Perez Rivera, B. Soto-Torres**

### Pharmacy Practice

Chair and Associate Professor: **M. Seamon** | Associate Professors: **S. Benavides, J. Caballero, K. Clauson, L. Deziel, R. McGory, J. Rey, D. Singh-Franco, A. Zapantis** | Assistant Professors: **L. Arce-Malavé, K. Ayala, A. Fass, E. Frenzel Shepherd, T. Gauthier, J. Gershman, D. Jennings, B. Ortiz, M. Shawaqfeh, E. Sherman, J. Steinberg, N. Unger, W. Wolowich** | Clinical Professor: **A. Silvagni** | Clinical Assistant Professors: **M. Acosta, E. Byrne, F. Colón Pratts, M. Metzner, J. Riskin**

## Experiential Sites

The following institutions are affiliated with the College of Pharmacy for experiential education.

- 5th Street Pharmacy  
Okeechobee, Florida
- Academy of Managed Care  
Alexandria, Virginia
- Advocate Lutheran General Hospital  
Parkridge, Illinois
- A.G. Holley State Hospital  
Lantana, Florida
- All-Med Infusion Services  
Miami Lakes, Florida
- American Pharmaceutical Services  
Longwood, Florida
- Apotex Corporation  
Weston, Florida
- APS Healthcare  
San Juan, Puerto Rico
- Arecibo, PR VA  
Arecibo, Puerto Rico
- Arnold Palmer Hospital for Women and Children  
Orlando, Florida
- Arthur's Original Pharmacy  
Tamarac, Florida
- ASCP  
Alexandria, Virginia
- Avella Specialty Pharmacy of Scottsdale  
Scottsdale, Arizona
- Aventura Hospital and Medical Center  
Aventura, Florida
- AXIUM Health Care de Puerto Rico  
Guaynabo, Puerto Rico
- Azalea Health  
Palatka, Florida
- Azalea Health  
St. Augustine, Florida
- Baptist Hospital  
Miami, Florida
- Bascom Palmer Eye Institute  
Miami, Florida
- Baxter's Pharmacy and Discount, Inc.  
Miami, Florida
- Bay Medical Center  
Panama City, Florida
- Bay Pines VAMC  
Bay Pines, Florida
- Bayamon Medical Plaza  
Bayamon, Puerto Rico
- Bella Vista Hospital  
Mayaguez, Puerto Rico
- Bethesda Memorial Hospital  
Boynton Beach, Florida
- Boca Pharmacy & Home Health Center  
Boca Raton, Florida
- Boca Raton Regional Hospital  
Boca Raton, Florida
- Broward County Health Department  
Fort Lauderdale, Florida
- Broward County VA Outpatient Clinic  
Sunrise, Florida
- Broward Health Coral Springs  
Coral Springs, Florida
- Broward Health Imperial Point  
Fort Lauderdale, Florida
- Broward Health Medical Center  
Fort Lauderdale, Florida
- Broward Health North  
Deerfield Beach, Florida
- Buford Road Pharmacy  
Richmond, Virginia
- Cape Coral Hospital  
Cape Coral, Florida
- Cardinal Health  
Fort Myers, Florida
- Carrell Discount Pharmacy  
Fort Myers, Florida
- CDT—PR La Playa—Consejo de Salud de la  
Comunidad de la Playa de Ponce, Inc.  
Ponce, Puerto Rico
- Center for Family Care, Florida Hospital East  
Cape Coral, Florida
- Center Pharmacy  
Cape Coral, Florida
- Centers for Disease Control  
Atlanta, Georgia
- Central Admixture Pharmacy Services, Inc. (CAPS)  
Miramar, Florida
- Central Florida Family Health Center  
Sanford, Florida

- Central Florida Family Health Center—Alfaya  
Orlando, Florida
- Central Florida Family Health Center East  
Orlando, Florida
- Central Florida Family Health Center—Hoffner  
Orlando, Florida
- Central Florida Family Health Center—  
South Side Clinic  
Orlando, Florida
- Central Florida Family Health Center—Underhill  
Orlando, Florida
- Centro Ararat  
Ponce, Puerto Rico
- Children’s Diagnostic & Treatment Center  
Fort Lauderdale, Florida
- Children’s Medical Services  
Fort Lauderdale, Florida
- Circles of Care  
Melbourne, Florida
- Cleveland Clinic Florida Health and Wellness Center  
West Palm Beach, Florida
- Cleveland Clinic Hospital  
Fort Lauderdale, Florida
- Cleveland Clinic Outpatient Pharmacy  
Weston, Florida
- Clinical Pharmacology Services  
Tampa, Florida
- CMC Home Infusion and Equipment  
Charlotte, North Carolina
- Columbia Hospital  
West Palm Beach, Florida
- Commcare Pharmacy  
Fort Lauderdale, Florida
- Compounding Docs, Inc.  
Boca Raton, Florida
- Consultant Pharmacy Services, Inc.  
St. Petersburg, Florida
- Coral Gables Hospital  
Coral Gables, Florida
- COSSMA Inc.  
San Lorenzo, Puerto Rico
- COSSMA Inc.  
Yabucoa, Puerto Rico
- COSSMA Inc.—Farmacia COSSMA Cidra  
Cidra, Puerto Rico
- Covenant Hospice, Inc.  
Pensacola, Florida
- Coventry Healthcare  
Sunrise, Florida
- CuraScript Pharmacy  
Orlando, Florida
- CVS  
Florida
- Delray Medical Center  
Delray Beach, Florida
- Dent Neurologic Institute  
Amherst, New York
- Diplomat Specialty Pharmacy  
Fort Lauderdale, Florida
- Doctors Hospital  
Coral Gables, Florida
- Dr. G’s Pharmacy by the Sea  
Lauderdale-by-the-Sea, Florida
- Dr. Robert L. Yeager Health Center—Rockland County  
Pomona, New York
- Drug Place, Inc.  
Pompano Beach, Florida
- Eli Lilly and Company  
San Juan, Puerto Rico
- Eli Lilly and Company Corporate Office  
Indianapolis, Indiana
- Family Health Center of Southwest Florida  
Fort Myers, Florida
- Family Medical and Dental Center  
Palatka, Florida
- Farmacia Belmonte—Cabo Rojo  
Cabo Rojo, Puerto Rico
- Farmacia Brau  
Anasco, Puerto Rico
- Farmacia Denirka  
Fajardo, Puerto Rico
- Farmacia El Apotecario  
Ponce, Puerto Rico
- Farmacia El Tuque  
Ponce, Puerto Rico
- Farmacia Irizarry—Cabo Rojo  
Cabo Rojo, Puerto Rico
- Farmacia La Aurora  
Yauco, Puerto Rico

- Farmacia La Concepcion  
Yauco, Puerto Rico
- Farmacia Lorraine  
Ponce, Puerto Rico
- Farmacia Lourdes—Ponce  
Ponce, Puerto Rico
- Farmacia Marce  
Corozal, Puerto Rico
- Farmacia Mediana #5 Carolina  
Rio Piedras, Puerto Rico
- Farmacia Nueva Comerio  
Comerio, Puerto Rico
- Farmacia Perpetuo Socorro  
Moca, Puerto Rico
- Farmacia Profesional  
Adjuntas, Puerto Rico
- Farmacia San Antonio  
San Sebastian, Puerto Rico
- Farmacia San Jose  
Moca, Puerto Rico
- Farmacia Villa Carmen  
Caguas, Puerto Rico
- FastMed Health Mart Pharmacy  
Sunrise, Florida
- Fawcett Memorial Hospital  
Port Charlotte, Florida
- Florida Atlantic University  
Boca Raton, Florida
- Florida Hospital Altamonte  
Altamonte Springs, Florida
- Florida Hospital—Celebration Health  
Celebration, Florida
- Florida Hospital—East Campus  
Orlando, Florida
- Florida Hospital—Kissimmee  
Kissimmee, Florida
- Florida Hospital—South Campus  
Orlando, Florida
- Florida Hospital—Waterman  
Tavares, Florida
- Florida Hospital Outpatient Clinic  
Orlando, Florida
- Florida I.V. Services  
Davie, Florida
- Florida Medical Center  
Fort Lauderdale, Florida
- Florida Pharmacy Association  
Tallahassee, Florida
- Florida Poison Information Center—Miami  
Miami, Florida
- Food and Drug Administration—CDER—Medical  
Informatics Staff  
Rockville, Maryland
- Food and Drug Administration—Division of  
Communications Management  
Rockville, Maryland
- Food and Drug Administration—  
Office of Generic Drugs  
Rockville, Maryland
- Food and Drug Administration—  
Office of Special Health Issues  
Rockville, Maryland
- Fort Lauderdale Health Center  
Fort Lauderdale, Florida
- Fort Myers VA Outpatient Clinic  
Fort Myers, Florida
- Fort Thompson Health Center  
Fort Thompson, South Dakota
- Gainesville VAMC  
Gainesville, Florida
- Gardens Drugs  
Palm Beach Gardens, Florida
- GE Healthcare  
Wood Dale, Illinois
- Good Samaritan Medical Center  
West Palm Beach, Florida
- Gulf Coast Medical  
Fort Myers, Florida
- Gurabo Community Health Center  
Gurabo, Puerto Rico
- Harris Family Medical Center Pharmacy  
Melbourne, Florida
- Health Care District of Palm Beach County  
West Palm Beach, Florida
- Health First Infusion  
Riviera, Florida
- Health Park Medical Center  
Fort Myers, Florida
- Health Plan Pharmacy  
Cape Coral, Florida

- Health South Rehabilitation Hospital  
Miami, Florida
- Health South Rehabilitation Hospital at Martin Health  
Stuart, Florida
- Health South/Sunrise Rehabilitation Center  
Sunrise, Florida
- Heartland Pharmacy  
Sebring, Florida
- Helios Pain and Psychiatry Center  
Tampa, Florida
- Hialeah Hospital  
Hialeah, Florida
- Hilton Head Hospital  
Hilton Head, South Carolina
- HIMA  
Caguas, Puerto Rico
- H. Lee Moffitt Cancer Center  
Tampa, Florida
- Holmes Regional Outpatient Services  
Melbourne, Florida
- Holy Cross Hospital  
Fort Lauderdale, Florida
- Homestead Hospital  
Homestead, Florida
- Hospice of the Comforter  
Altamonte Springs, Florida
- Hospital Damas  
Ponce, Puerto Rico
- Hospital Dr. Pila  
Ponce, Puerto Rico
- Hospital General Castañer  
Castañer, Puerto Rico
- Hospital Hermanos Melendez  
Bayamon, Puerto Rico
- Hospital Interamericano de Medicina Avanzada  
Caguas, Puerto Rico
- Hospital La Concepcion  
San German, Puerto Rico
- Hospital Menonita  
Caguas, Puerto Rico
- Hospital Menonita Aibonito  
Aibonito, Puerto Rico
- Hospital Metropolitano  
Arecibo, Puerto Rico
- Hospital Metropolitano  
Yauco, Puerto Rico
- Hospital Oncologico  
San Juan, Puerto Rico
- Hospital San Cristobal  
Ponce, Puerto Rico
- Hospital San Francisco  
Rio Piedras, Puerto Rico
- Hospital San Lucas  
Guayama, Puerto Rico
- Hospital San Lucas II  
Ponce, Puerto Rico
- Hughes Health Center  
Pompano Beach, Florida
- Humana Health Plan  
Ponce, Puerto Rico
- Humana Inc.  
Miramar, Florida
- Humana Inc. Louisville  
Louisville, Kentucky
- Indian Health Service—Acomita  
San Fidel, New Mexico
- Indian Health Service  
Cherokee, North Carolina
- Indian River Medical Center  
Vero Beach, Florida
- InfuPharma  
Hollywood, Florida
- JFK Medical Center  
Atlantis, Florida
- Jackson Memorial Hospital  
Miami, Florida
- Jackson Memorial Hospital North  
North Miami Beach, Florida
- Jackson Memorial  
Long Term Care Center  
Miami, Florida
- Jackson South Community Hospital  
Miami, Florida
- James Haley VAMC Tampa  
Tampa, Florida
- Joe Dimaggio Children’s Hospital  
Hollywood, Florida
- Jupiter Medical Center  
Jupiter, Florida



- Kala Pharmacy Inc  
Brooklyn, New York
- Kendall Regional Medical Center  
Miami, Florida
- Kindred Hospital—Central Florida  
Tampa, Florida
- Kindred Hospital—Coral Gables  
Coral Gables, Florida
- Kindred Hospital—Fort Lauderdale  
Fort Lauderdale, Florida
- King’s Daughter Medical Center  
Ashland, Kentucky
- Kmart  
Front Royal, Virginia
- Kmart  
Oakland Park, Florida
- Kmart Pharmacy  
Puerto Rico
- Kusler’s Pharmacy  
Snohomish, Washington
- Lakeland Regional Medical Center  
Lakeland, Florida
- Lakeland VA Community-Based Outpatient Clinic  
Lakeland, Florida
- Las Villas Pharmacy  
Hialeah, Florida
- Lawnwood Pavilion  
Fort Pierce, Florida
- Lawnwood Regional Medical Center  
Fort Pierce, Florida
- Lee Memorial Hospital  
Fort Myers, Florida
- Leesburg Regional Medical Center  
Leesburg, Florida
- Leon Medical Centers Health Plans  
Miami, Florida
- Linden Pharmacy  
Brooklyn, New York
- Longs Drugs  
Honolulu, Hawaii
- Lorraine Medical Center  
Ponce, Puerto Rico
- Lower Brule Health Center  
Pharmacy—Indian Health Service  
Lower Brule, South Dakota
- Mallinckrodt/Tyco Healthcare  
Fort Lauderdale, Florida
- Manatee Memorial Hospital  
Bradenton, Florida
- Manati Medical Center  
Manati, Puerto Rico
- Marco Drugs & Compounding  
Miami, Florida
- Martin Memorial Medical Center  
Stuart, Florida
- Matrix Health Care Services  
Tampa, Florida
- Matrix Pharmacy  
Tampa, Florida
- Mayaguez VA  
Mayaguez, Puerto Rico
- Mease Dunedin Hospital  
Dunedin, Florida
- MedChoice  
Cooper City, Florida
- Medic Pharmacy and Surgical  
Fort Lauderdale, Florida
- Medicap Pharmacies, Inc.  
Palm Springs, Florida
- Medicine Shoppe—Tampa  
Tampa, Florida
- Medicine Shoppe Pharmacy—Winter Garden  
Winter Garden, Florida
- Memorial Hallandale Pharmacy  
Hallandale, Florida
- Memorial Healthcare System  
Miramar, Florida
- Memorial Hospital  
Miramar, Florida
- Memorial Hospital of Tampa  
Tampa, Florida
- Memorial Hospital Pembroke  
Pembroke Pines, Florida
- Memorial Hospital West  
Pembroke Pines, Florida
- Memorial Primary Care  
Hollywood, Florida
- Memorial Primary Care Center  
Miramar, Florida

- Memorial Regional Hospital  
Hollywood, Florida
- Memorial Regional Hospital South  
Hollywood, Florida
- Mercy Hospital  
Miami, Florida
- MGC Pharmacy  
Hiialeah, Florida
- MMM Healthcare, INC.  
San Juan, Puerto Rico
- Miami Beach Community Health Center  
Miami Beach, Florida
- Miami Children's Hospital  
Miami, Florida
- Miami VA Oakland Park Outpatient Clinic  
Fort Lauderdale, Florida
- Miami VAMC  
Miami, Florida
- Mikimbin Pharmacy  
Miami, Florida
- Milton Medical Drug Co.  
Miami Beach, Florida
- Moose Professional Pharmacy  
Concord, North Carolina
- Morales Pharmacy  
Miami, Florida
- Morton Plant Hospital  
Clearwater, Florida
- Mount Sinai Medical Center  
Miami Beach, Florida
- Naples Community Hospital  
Naples, Florida
- Natural Standard Research Collaboration  
Somerville, Massachusetts
- Navarro's  
Florida
- North Florida Regional Medical Center  
Gainesville, Florida
- North Florida South Georgia Veterans Health System  
Gainesville, Florida
- North Shore Medical Center  
Miami, Florida
- Northwest Medical Center  
Margate, Florida
- NSU—College of Pharmacy  
Fort Lauderdale, Florida
- NSU—Ponce, Puerto Rico  
Ponce, Puerto Rico
- NSU—West Palm Beach  
Palm Beach Gardens, Florida
- Nutri-Force Nutrition  
Miami Lakes, Florida
- NYU Langone Clinical Cancer Center  
New York, New York
- Oak Park Pharmacy  
Brooklyn, New York
- O'Connell Pharmacy  
Sun Prairie, Wisconsin
- Omnicare of South Florida  
Fort Lauderdale, Florida
- Optima Infusion Pharmacy  
Dorado, Puerto Rico
- Option Care—Miami  
Miramar, Florida
- Orange County Medical Clinic  
Orlando, Florida
- Orange Park Medical Center  
Orange Park, Florida
- Orlando Regional Medical Center  
Orlando, Florida
- Orlando Regional South Lake Hospital  
Clermont, Florida
- Orlando VA Outpatient Clinic  
Orlando, Florida
- Palm Beach Gardens Medical Center  
Palm Beach Gardens, Florida
- Palm Coast Pharmacy  
Palm Coast, Florida
- Palmetto General Hospital—Pharmacy  
Hiialeah, Florida
- Palm Springs General Hospital  
Hiialeah, Florida
- Palms West Hospital  
Loxahatchee, Florida
- Park Shore Pharmacon  
Hallandale Beach, Florida
- Park Shore Pharmacy  
Hallandale Beach, Florida

- Pasteur Pharmacy  
Hialeah, Florida
- Patient Care Pharmacy  
Port Charlotte, Florida
- Petmed Express, Inc.  
Pompano Beach, Florida
- Pfizer  
Coral Springs, Florida
- Pharmacy and Office H.C.P.A  
Boynton Beach, Florida
- Pharmacy Insurance  
Corporation of America  
San Juan, Puerto Rico
- Pharmamax La Candelaria  
Lajas, Puerto Rico
- PharMerica  
Pompano Beach, Florida
- PharmPix Corp  
Guaynabo, Puerto Rico
- Physician Preferred Pharmacy  
Margate, Florida
- PICC Line Plus  
Boynton Beach, Florida
- Pill Box Pharmacy & Surgical  
Pembroke Pines, Florida
- Pill Box Pharmacy—Weston  
Weston, Florida
- Pine Island Drugs, Inc.  
Davie, Florida
- Plantation General Hospital  
Plantation, Florida
- Post Haste Pharmacy  
Hollywood, Florida
- Preferred Care Partners  
Miami, Florida
- Premier Compounding  
Palm Beach Gardens, Florida
- PrescribeITRx  
Miami, Florida
- Procure Pharmacy  
Miramar, Florida
- ProX Pharmacy Consultants  
Sunrise, Florida
- Publix  
Florida
- Ramtown Pharmacy  
Howell, New Jersey
- Raulerson Hospital  
Okeechobee, Florida
- Rite Aid Pharmacy  
Los Angeles, California
- Rite Aid Pharmacy  
Washington, District of Columbia
- Romano's Pharmacy  
Coral Springs, Florida
- Royal Palm Compounding Pharmacy  
Wellington, Florida
- RXperts Pharmacy Services, INC.  
Hollywood, Florida
- Ryder Memorial Hospital  
Humacao, Puerto Rico
- Saint Joseph's Hospital  
Tampa, Florida
- Salud en el Hogar y Hospicio San Lucas  
Ponce, Puerto Rico
- San Jorge Children's Hospital  
Santurce, Puerto Rico
- San Juan VA Medical Center  
Bayamon, Puerto Rico
- San Luis Pharmacy  
San Lorenzo, Puerto Rico
- Sand Lake Hospital  
Orlando, Florida
- Sarasota Memorial Hospital  
Sarasota, Florida
- Sarasota VA Primary Care Clinic  
Sarasota, Florida
- Seventh Avenue Family Health Center  
Fort Lauderdale, Florida
- Simfarose Pharmacy  
Pembroke Pines, Florida
- Singer Mental Health  
Rockford, Illinois
- Skip's Pharmacy  
Boca Raton, Florida
- SkyeMed Pharmacy  
Pompano Beach, Florida
- South Broward Community Health Service—  
Hollywood  
Hollywood, Florida

- South Florida State Hospital  
Pembroke Pines, Florida
- South Miami Hospital  
South Miami, Florida
- South Miami Pharmacy  
Miami, Florida
- Special Care Pharmacy Services  
San Juan, Puerto Rico
- Specialty Care Center  
Fort Lauderdale, Florida
- St. Joseph's Hospital  
Tampa, Florida
- St. Lucie Medical Center  
Port St. Lucie, Florida
- St. Luke's Hospital  
Jacksonville, Florida
- St. Mary's Medical Center  
West Palm Beach, Florida
- St. Vincent's Medical Center  
Jacksonville, Florida
- Stuart S. Shipe D.O.M., P.A.  
Port St. Lucie, Florida
- Super Farmacia Juana Diaz  
Juana Diaz, Puerto Rico
- Super Farmacia La Rampla  
Yabucoa, Puerto Rico
- Super Farmacia Nueva, Inc  
Naranjito, Puerto Rico
- SW Florida Regional Medical Center  
Fort Myers, Florida
- Sylvester Comprehensive Cancer Center  
Miami, Florida
- Tampa General Healthcare  
Tampa, Florida
- Target  
Brooklyn, New York
- Target  
Florida
- Tequesta Drugs  
Tequesta, Florida
- Town Center Pharmacy  
Exton, Pennsylvania
- Town Total Health  
Melville, New York
- Treasure Coast Hospice  
Stuart, Florida
- Tripler Army Medical Center  
Honolulu, Hawaii
- Triple-S Salud  
San Juan, Puerto Rico
- Truman Medical Center—Behavioral Health  
Kansas City, Missouri
- Ulti-Med Pharmacy Services  
Miami, Florida
- United Healthcare  
Sunrise, Florida
- United States Naval Hospital—Jacksonville  
Jacksonville, Florida
- Universal Arts Pharmacy  
Hialeah, Florida
- University Community Hospital  
Tampa, Florida
- University Hospital & Medical Center  
Tamarac, Florida
- University of Miami  
Miami, Florida
- USCG Academy Division  
New London, Connecticut
- USCG Air Station Miami Clinic  
Opa-Locka, Florida
- US Rx Care  
Sunrise, Florida
- VA Caribbean Healthcare System  
San Juan, Puerto Rico
- VA Central Office Pharmacy  
Benefits Management SHG  
Washington, D.C.
- VH Pharmacy  
Miami, Florida
- Walgreens  
Bellevue, Washington
- Walgreens  
Florida
- Walgreens  
New Lenox, Illinois
- Walgreens  
Puerto Rico
- Walgreens  
Tulsa, Oklahoma

- Wal-Mart  
Florida
- Wal-Mart  
Puerto Rico
- Wellington Regional Medical Center  
West Palm Beach, Florida
- West Boca Medical Center  
Boca Raton, Florida
- West Kendall Baptist Hospital  
Miami, Florida
- West Palm Beach Veterans Affairs Medical Center  
West Palm Beach, Florida
- West Palm Hospital  
West Palm Beach, Florida
- Westside Regional Medical Center  
Plantation, Florida
- Winn-Dixie  
Florida
- Winships Prescription Center  
North Palm Beach, Florida
- Woodward Pharmacy  
Bloomfield Hills, Michigan
- Xcenda, L.L.C.  
Palm Harbor, Florida
- Yamato Pharmacy  
Boca Raton, Florida



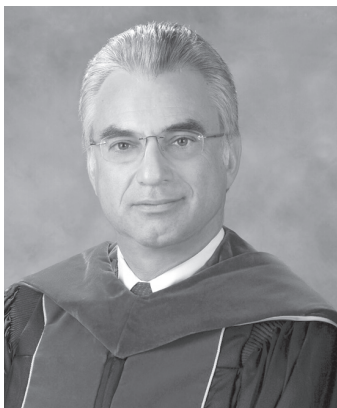
# College of Optometry







# College of Optometry



David Loshin, O.D.,  
Ph.D., FAAO  
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  
Dean

Josephine Shallo-Hoffmann, Ph.D., FAAO  
Associate Dean for Academic Affairs

Michael Bacigalupi, O.D., M.S., FAAO  
Assistant Dean for Student Affairs

Linda Rouse, O.D., FAAO  
Assistant Dean for Finance and Operations

Barry Frauens, O.D., FAAO  
Chair, Clinical Education

Joseph Sowka, O.D., FAAO  
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 [www.optomcas.org](http://www.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 15.

### 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

Web site: <https://www.ada.org/oat/index.html>

### 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?

### **Tuition and Fees**

- Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$28,210 for Florida residents and \$31,800 for out-of-state residents. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 Farquhar College of Arts and Sciences 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 Farquhar College of Arts and Sciences 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  
Farquhar College of Arts and Sciences  
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 2014–2015 (subject to change by the board of trustees) is \$23,105 for Florida residents and \$26,045 for out-of-state residents for the first three years. 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
- Beta Sigma Kappa
- Canadian Association of Optometry Students
- College of Optometrists in Vision Development
- Fellowship of Christian Optometrists International
- Florida Optometric Student Association
- Gold Key Honor Society
- National Optometric Student Association
- Nova Optometric Practice Management Association
- Optometric Student Association for Ocular Disease
- Student Volunteers in Optometric Services to Humanity

### **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 Web site at <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

Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$535 per credit hour.

## 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
OPT	1011	Histology and Embryology	18	0	1.0
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	1511*	Psychophysical Methodology	18	0	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	Contemporary Issues in Optometry	18	0	1.0
<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	18	1.0
OPT	2323*	Visual Optics	36	0	2.0
OPT	2422*	Ocular Anatomy	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
<b>Total Semester Hours:</b>					<b>22.0</b>

First Year—Summer Term			Lecture	Laboratory	Semester Hours
OPT	3122*	Ocular Physiology	36	0	2.0
OPT	3344A*	Psychophysics/Monocular Sensory Processes I	36	0	2.0
OPT	4811	Epidemiology	18	0	1.0
<b>Total Semester Hours:</b>					<b>5.0</b>

<b>Second Year—Fall Term</b>			Lecture	Laboratory	Semester Hours
OPTC	3033	General Pathology	54	0	3.0
OPTC	3244	General Pharmacology I	72	0	4.0
OPT	3344B*	Psychophysics/Monocular Sensory Processes II	72	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	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	36	0.5
OPT	7162	Seminars in Laser and Surgical Ophthalmic Care	18	0	1.0
OPT	9997	Advanced Care Clinic**	0	8	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
OPT	5412	Physical Diagnosis Lecture	36	0	2.0
OPTL	5412	Physical Diagnosis Laboratory: Testing, Pharmacological Aspects, and Injection Technique	0	27	0.75
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 II	0	36	0.5
OPT	9997	Advanced Care Clinic**	0	8	1.0

**Total Semester Hours: 19.75/20.75\*\***

<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	6522	Practice Management	36	0	2.0
OPT	6633	Pediatric Optometry and Learning-Related Vision Problems	54	0	3.0
OPTL	6633	Pediatric Optometry and Learning-Related Vision Problems Laboratory	0	36	0.5
OPT	7132	Primary Care Clinic III	0	144	2.5
OPT	7171	Optical Services III	0	16	0.5
OPT	9997	Advanced Care Clinic**	0	8	1.0
OPT	9998	Board Review	18	0	1.0

**Total Semester Hours: 15.5/16.5\*\***



<b>Third Year—Summer Term</b>			Lecture	Laboratory	Semester Hours
OPT	7146	Primary Care Clinical Externship	0	320	5.5
OPT	9996	Mini M.B.A. Certificate	36	0	2.0
<b>Total Semester Hours:</b>					<b>7.5</b>

<b>Fourth Year—Fall and Winter Terms***</b>			Lecture	Laboratory	Semester Hours
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	Current Topics in Practice Management	18	0	1.0
<b>Fourth Year Total Semester Hours:</b>					<b>33.0</b>

\*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.

## Extended Program Curriculum Outline

<b>First Year—Fall Term</b>				Semester Hours
OPT	1011	Histology/Embryology		1.0
OPTC	1134	Gross Anatomy/Anatomy of the Head and Neck		4.0
OPT	1233	Biochemistry		3.0
OPT	1323	Microbiology		3.0
OPT	1511*	Psychophysical Methodology		1.0
OPT	1831	Contemporary Issues in Optometry		1.0
<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	2422*	Ocular Anatomy		2.0
OPT	2522*	Visual Neurophysiology		2.0
OPT	2622*	Ocular Motility		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	Community Outreach I	1.0
<b>Total Semester Hours:</b>			<b>16.0</b>

<b>Second Year—Winter Term</b>			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	4811	Epidemiology	1.0
OPT	4951B	Community Outreach II	1.0
<b>Total Semester Hours:</b>			<b>13.0</b>

<b>Second Year—Summer Term</b>			Semester Hours
OPT	3122*	Ocular Physiology	2.0
OPT	3344A*	Psychophysics/Monocular Sensory Processes I	2.0
<b>Total Semester Hours:</b>			<b>4.0</b>

<b>Third Year—Fall Term</b>			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	3533	Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management	3.0
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
<b>Total Semester Hours:</b>			<b>14.5</b>

<b>Third Year—Winter Term</b>			Semester Hours
OPT	4122*	Ocular Pharmacology	2.5
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
<b>Total Semester Hours:</b>			<b>17.0</b>

<b>Third Year—Summer Term</b>			Semester Hours
OPT	1612	Health Systems, Economics, Policy, and Ethics	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
<b>Total Semester Hours:</b>			<b>6.0</b>

<b>Fourth Year—Fall Term</b>			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	5233	Ocular and Systemic Eye Disease: Diagnostic, Medical, and Pharmacological Management	3.0
OPT	5322	Clinical Medicine: Diagnostic and Pharmacological Management of Systemic Diseases	2.0
OPT	5521	Practice Management I	1.0
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	7162	Seminars in Laser and Surgical Ophthalmic Care	1.0
<b>Total Semester Hours:</b>			<b>19.0</b>

<b>Fourth Year—Winter Term</b>			<b>Semester Hours</b>
OPT	6122	Contact Lenses II	2.0
OPTL	6122	Contact Lenses II Lab	1.0
OPT	6233	Neuro-Eye Disease: Diagnostic, Medical, and Pharmacological Management	3.0
OPT	6521	Practice Management II	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	9998	Board Review	1.0
OPT	7162	Seminars in Laser and Surgical Ophthalmic Care	1.0
<b>Total Semester Hours:</b>			<b>15.5</b>

<b>Fourth Year—Summer Term</b>			<b>Semester Hours</b>
OPT	7146	Primary Care Clinical Externship	5.5
<b>Total Semester Hours:</b>			<b>5.5</b>

<b>Fifth Year—Fall and Winter Terms</b>			<b>Semester Hours</b>
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	Current Topics in Practice Management	1.0
<b>Total Semester Hours:</b>			<b>27.5</b>

\*Successful completion of these courses can lead to a Bachelor of Science degree in Vision Science.

## 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.

#### OPT 1011—Histology and Embryology

This course presents a general overview of microscopic anatomy with an emphasis on the basic cells and tissues morphology necessary for the understanding of the histology of the eye and surrounding tissues. The microscopic anatomy is correlated with both gross anatomy and physiological processes. This course also serves as a foundation for understanding diseased cells and tissues. Lectures are supplemented with light and electron microscopic projection slides. The slides are used to train students to recognize the tissues by their microscopic appearance. Slide sets are available to students on CDs distributed by the student government. (18-0-1)

#### OPT 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. (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

Microbiology is taught using several approaches. The basic biology of microorganisms is covered followed by a general medical approach to each disease. Special emphasis is placed on taxonomy, physiology, pathogenesis, diagnosis, and treatment. Infectious agents are presented in specific groups: bacteria, viruses, fungi, and parasites, with an emphasis on infections of the eye. (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 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. (72-0-4)

#### OPTC 3033—General Pathology

The course consists of a study of fundamental concepts of pathology (general pathology) and systemic pathology (consideration of particular organ systems such as cardiovascular diseases, pulmonary diseases, etc.), supplemented by demonstrations and clinicopathological discussions on selected diseases. The emphasis will be given in this course on ocular manifestations of systemic diseases whenever relevant. (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; prism; refraction at curved surface; object-image relationship in thin lenses, cylindrical lenses, thick lenses, and lens systems; reflection at plane; and curved surfaces. The emphasis is to use required laws, principals, relationships, and formulas to solve problems. (54-0-3)

#### OPTL 1443—Theoretical Optics I Lab

The purpose of this course is to learn how to set up an experiment in the area of geometrical optics, the collection and plotting of data, the use of that data in calculations to identify some unknown variables, and to write an adequate lab report. There will be applications and demonstration of concepts and material presented in the Theoretical Optics I lecture OPT 1443. (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 theory and Fourier analysis and spatial vision are introduced in terms of their application to the 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**

The course is designed specifically for the extended optometry students during the winter semester of their first year. It includes didactic introduction and clinical application of basic optometric skills such as visual acuity, pupillary distance, extraocular motilities, color vision, stereopsis, case history, noncontact tonometry, autorefraction, confrontation visual fields, and hand neutralization. The students are also assigned to clinic observation of the third- or fourth-year students. (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 is designed to give an overview of the optometric profession, including history, present, and future opportunities. This course provides insight into critical thinking and problem solving. Students are introduced to ethics and professionalism, as well as optometry's role in the U.S. health care system. (18-0-1)

**OPT 2223\*—Theoretical Optics II**

This course is a continuation of Theoretical Optics I. The primary emphasis will be given to 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 use required laws, principals, relationships, and formulas to solve problems. (54-0-3)

**OPTL 2223\*—Theoretical Optics II Lab**

The purpose of this course is to learn how to set up an experiment in the area of physical optics, collect and plot data, use that data in calculations to identify some unknown variables, and write an adequate lab report. There will be application and demonstration of concepts and material presented in the Theoretical Optics II lecture. (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. (36-18-2)

**OPT 2422\*—Ocular Anatomy**

Gross and microscopic anatomy of the eye and adnexa. Relationships between tissues; the vascular supply to the eye; the anatomy of the visual pathway; and the embryonic origin of ocular tissues. Eye dissections teach the functional relations between ocular tissues. (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 to establish clinical entry-level knowledge and competence in this area. The ocular motor system and the laws relating to it are detailed in terms of normal neurophysiology and neuroanatomy. Information from basic research is synthesized in a form that is directly applicable to the interpretation of clinical disorders of eye movements. (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**

General physiological principles and processes. Typical physiologic function of ocular tissues are discussed and contrasted with the outcomes of abnormal physiology as well as the physiological relationship of ocular tissues and the mechanisms of ocular functions. (36-0-2)

**OPT 3344A\*—Psychophysics/Monocular Sensory Processes I**

This course is a survey of spatial and temporal monocular visual performance, emphasizing perceptual aspects of brightness, contrast sensitivity, spatial and temporal resolution, and flicker. Color vision—both theoretical and practical aspects—are covered in depth. Various testing techniques and frequently encountered abnormalities are discussed in the context of clinical optometric practice. (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. (72-0-2)

**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**

Hands-on training and experience in the neutralization of single vision and conventional multifocal spectacle lenses and the selection, ordering, fitting, and dispensing of spectacles. (0-36-1)

**OPT 3533—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. (54-0-3)

**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. (27-0-2.5)

**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**

As a continuation of Ophthalmic Optics I Lab, this course is designed to complement the didactic material with practical experience in ophthalmic dispensing. Training will continue in the use of instruments essential for spectacle verification, chief amongst them, the lensometer and the lens clock. In addition, new training will be provided in measuring PDs, measuring SHs and FCHs, dispensing SMFs and PALs, and fabricating and adjusting spectacles. At the completion of the course, you'll have the ability to take all measurements necessary to ensure quality vision with any type of lens, be able to verify the accuracy of any type of lens, adjust spectacles to optimize vision and comfort, and appreciate the skill required to fabricate spectacles. (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 anisometropic 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, and evaluation. (18-0-1)

**OPT 4951 B—Community Outreach II**

Continuation of Community Outreach I (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: Diagnostic and Pharmacologic Management of Systemic Diseases**

Clinical overview of the pathophysiological process of various systemic diseases, their diagnosis, and their pharmacological management. (36-0-2)

**OPTL 5322—Physical Diagnosis Laboratory: Testing, Pharmacologic Aspects, and Injection Techniques**

Physical Diagnosis Laboratory offers a hands-on experience in many of the diagnostic techniques employed in the work-up of the systematic conditions covered in the Clinical Medicine course, with emphasis on those conditions that occur in the primary eye care setting. These include the physical examination, neurological screening, in-office lab tests, and imaging techniques. Injection procedures and anaphylaxis management is 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**

Etiology, demography, and clinical characteristics of low vision needed to understand functional implications of

visual impairment. Systematic approach to diagnosis, and management of visual disorders emphasizes improving life quality, functional capacity of the visually impaired by magnification, illumination control, and visual field enhancement. (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. (0-36-0.5)

**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. (0-36-0.5)

#### **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. (0-16-0.5)

#### **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)

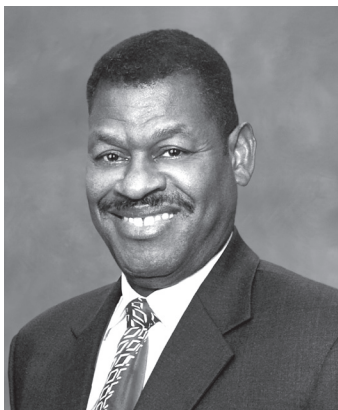
\*Successful completion of these courses can lead to a Bachelor of Science degree in Vision Science.



**College of Health Care Sciences**



# College of Health Care Sciences



Stanley Wilson,  
PT, Ed.D.  
Dean

## Vision

The 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 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

**Guy M. Nehrenz**, Ed.D., RRT  
Executive Associate Dean

**Peter Taylor**, Ph.D.  
Associate Dean, Academic Affairs

**William H. Marquardt**, M.A., PA-C  
Associate Dean, Physician Assistant Education

**Terry Morrow**, M.S., Ph.D.  
Assistant Dean, Student Affairs

**Sandee Dunbar**, D.P.A., OTR/L, FAOTA  
Assistant Dean, Professional Development  
and Education

**Christine M. Kircher**, B.S.  
Budget Manager

**Chrystal L. Randle**, B.A., M.S.  
Employee Services Manager

**Lorilee H. Butler**, M.P.A.S., M.Ed., PA-C, DFAAPA  
Chair, Physician Assistant  
Department—Orlando

**Ricardo C. Carrasco**, Ph.D., OTR/L, FAOTA  
Chair, Occupational Therapy Department—Tampa

**Melissa J. Coffman**, M.P.A., PA-C  
Chair, Physician Assistant Department—  
Fort Lauderdale

**Erica B. Friedland**, B.A., M.S., Au.D.  
Chair, Audiology Department

**Sandrine Gaillard-Kenney**, M.A., Ed.D.  
Chair, Health Science Department

**Madeleine Hellman**, M.H.M., Ed.D., PT  
Chair, Physical Therapy Department  
Director, Ph.D. Program

**Marianne Jankowski**, D.H.Sc., RRT  
Chair, Department of Cardiopulmonary Sciences

**Julie Keena**, B.A., M.M.Sc./PA-C  
Chair, Physician Assistant Department—  
Southwest Florida

**Wendy Stav**, Ph.D., OTR/L, SCDCM, FAOTA  
Chair, Occupational Therapy Department—  
Fort Lauderdale

**Kerry L. Whitaker**, M.S.H.S., RT(R), PA-C  
Chair/Program Director, Physician Assistant  
Department—Jacksonville

**Brianna Black Kent**, R.N., M.Ed., Ph.D.  
Associate Chair, Health Science  
Director, Ph.D. in Health Science Program

**Robert S. Wagner**, M.M.Sc., AA-C  
Associate Chair, Master of Science in Anesthesia  
Programs—Fort Lauderdale and Tampa

**M. Samuel Cheng**, PT, M.S., Sc.D.  
Director, Physical Therapy Doctor of Philosophy Program

**Rachelle Dorne**, Ed.D., OTR  
Director, Master of Occupational Therapy Program

**Anthony Dyda**, M.P.A.S., D.H.Sc., PA-C  
Director, Master of Health Science Program

**Jorge Han**, M.D., RVT, RDCS, RDMS  
Director, Bachelor of Science—Medical Sonography—  
Fort Lauderdale

**Patricia E. Kelly**, Ed.D., PA-C

Director, Doctor of Health Science Program

**Bini Litwin**, M.B.A., Ph.D., D.P.T., PT

Director, Transition Doctor of Physical Therapy Program

**Christopher Mitchell**, B.A., M.S.

Director, Bachelor of Health Science Program

**Cathy Peirce**, Ph.D., OTR

Director, Occupational Therapy

Dr.OT Program

**Shari Rone-Adams**, M.H.S.A., D.B.A., PT

Director, Entry-Level Doctor of Physical Therapy Program

**Mary Blackinton**, Ed.D., PT

Associate Director, Hybrid Entry-Level Physical

Therapy Program

**Samuel Yoders**, M.H.Sc., RVT

Director, Bachelor of Science—Cardiovascular

Sonography—Tampa

**Mike Stout**

Director, Master of Science in Anesthesia Program—

Fort Lauderdale

**Kristin Winston**, Ph.D., OTR/L

Director, Occupational Therapy Doctor of

Philosophy Program

## College of Health Care Sciences

The College of Health Care Sciences 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:

### Audiology

· Audiology Assistant Program

· Doctor of Audiology

### Health Science

· Bachelor of Health Science

· Bachelor of Science—Cardiovascular Sonography

· Bachelor of Health Science—General and Vascular Sonography

· Bachelor of Science—Medical Sonography

· Master of Health Science

· Master of Science in Anesthesia

· Accelerated Dual Degree M.H.Sc./D.H.Sc.

· Doctor of Health Science

· Doctor of Philosophy in Health Science

### Occupational Therapy

· Master of Occupational Therapy

· Doctor of Occupational Therapy (Dr.OT)

· Entry-level Doctor of Occupational Therapy (O.T.D.)

· Doctor of Philosophy in Occupational Therapy (Ph.D.)

### Physician Assistant

· Master of Medical Science in Physician Assistant

### Physical Therapy

· Entry-level Doctor of Physical Therapy

· Transition Doctor of Physical Therapy

· Doctor of Philosophy in Physical Therapy

### Respiratory Therapy

· Bachelor of Science in Respiratory Therapy

## 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 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 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.

## Promotion, Suspension, Dismissal, and Readmission

The policies for promotion, suspension, dismissal, and readmission are outlined in the *College of Health Care Sciences Student Handbook*, which is revised, updated, and distributed annually to all students.

## Audiology Department

### Audiology Program Overview

The Audiology Department 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 Audiology Department 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 (ACAЕ). 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 Audiology Department 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.)

Six hours of coursework in speech and language disorders is required before graduation and three hours of coursework in Normal Language is required before taking Pediatric Audiology. If a student did not complete these courses as an undergraduate, he or she can take them during the Au.D. course of study. However, they require 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 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 Audiology Department 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 [www.nova.edu/aud](http://www.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 Audiology Department 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  
Audiology Department 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  
[www.nova.edu/aud](http://www.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 2014–2015 postbachelor's on-campus Doctor of Audiology program is \$21,325 (subject to change by the board of trustees without notice).

Tuition for the United Kingdom Au.D. program is \$625 per credit hour (subject to change by the board of trustees without notice).

- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 80 percent
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 37.5 hour/week, 50-week clinical externship experience
6. apply for a diploma
7. attend the commencement program at which the degree is conferred

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 Web site at [www.nova.edu/aud](http://www.nova.edu/aud).

## **Curriculum Outline: Postbachelor's Program**

### Typical Plan of Study

<b>YEAR 1—Semester 1: Fall</b>			<b>Credit Hours</b>
AUD	5301L	Diagnostics I Lab	1
AUD	5302	Acoustics and Instrumentation	3
AUD	5304	Anatomy and Physiology of the Auditory and Vestibular Mechanisms	3
AUD	5301	Diagnostics I: Audiologic Diagnostic Procedures Across the Life Span	3

<b>YEAR 1—Semester 2: Winter</b>			<b>Credit Hours</b>
AUD	6402	Diagnostics II: Site of Lesion	2
AUD	6404	Auditory and Vestibular Pathologies	4
AUD	5405	Overview of Amplification I	3
AUD	5405L	Amplification Lab I	1
AUD	6402L	Diagnostics II Lab	1
AUD	6408	Introduction to Auditory Processing Evaluation and Treatment	2

<b>YEAR 1—Semester 3: Summer</b>			<b>Credit Hours</b>
AUD	5070	Research Methods in Audiology I: Introduction	3
AUD	5402	Introduction to Auditory Electrophysiology	2
AUD	5404	Introduction to Vestibular Evaluation	2
AUD	5403L	Electrophysiology Lab	1
AUD	5303	Psychoacoustics and Speech Perception	3
AUD	6603	Clinic I	1

<b>YEAR 2—Semester 1: Fall</b>			<b>Credit Hours</b>
AUD	6406	Overview of Amplification II	3
AUD	6406L	Amplification Lab II	1
AUD	7130	Pediatric Audiology	3
AUD	7079	Coding and Reimbursement	1
AUD	6604	Clinic II	2

<b>YEAR 2—Semester 2: Winter</b>			<b>Credit Hours</b>
AUD	6502	Hearing Conservation	3
AUD	6503	Topics in Audiology	3
AUD	7120	Electrophysiology: Auditory	4
AUD	6605	Clinic III	2
AUD	6504	Implantable Hearing Technologies	2

<b>YEAR 2—Semester 3: Spring</b>			<b>Credit Hours</b>
AUD	7075	Counseling in Audiology	3
AUD	7100	Advanced Seminar in Amplification	2
AUD	7135	Pediatric Audiologic Rehabilitation	3
AUD	7160	Advanced Vestibular Evaluation and Treatment	3
AUD	7607	Internship I	3

<b>YEAR 3—Semester 1: Fall</b>			<b>Credit Hours</b>
AUD	6310	Adult Audiologic Rehabilitation	3
AUD	7180	Diagnostics III: Integration of Audiologic Test Results	3
AUD	7200	Case Studies I	1
AUD	7608	Internship II	3

YEAR 3—Semester 2: Winter			Credit Hours
AUD	7050	Audiologic Research Methods II: Applications	3
AUD	7071	Biochemistry and Pharmacology for Audiologists	2
AUD	7080	Practice Management for Audiology	2
AUD	7201	Case Studies II	1
AUD	7609	Internship III	3

YEAR 3—Semester 3: Spring			Credit Hours
AUD	7078	Ethics for Audiologists	1
AUD	7610	Externship I	8

YEAR 4—Semester 1: Fall			Credit Hours
AUD	7611	Externship II	8

YEAR 4—Semester 2: Winter			Credit Hours
AUD	7612	Externship III	8

**Postbachelor's Program Total Credit Hours: 119**

## Curriculum Outline: UK Program

Typical Plan of Study for UK Degree Program

			Credit Hours
AUD	7050	Research Methods II: Applications	3
AUD	7071	Pharmacology for Audiologists	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 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 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 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. (3 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 6310—Adult Audiologic Rehabilitation**

This course focuses on intervention and remediation strategies for individuals with auditory communication handicaps. (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. Students will demonstrate performance of these procedures. 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 supplements AUD 5301, providing students with practical assignments. (1 credit)

### **AUD 6402—Diagnostics II Audiologic Site-of-Lesion Assessment**

Students will learn to conduct and interpret basic immittance, multifrequency/multicomponent immittance, otoacoustic emissions testing, and behavioral auditory processing measures to determine auditory site of lesion. (2 credits)

### **AUD 6402L—Diagnostics II Laboratory**

This course is designed to develop student competency with audiology test procedures, such as immittance, multi-frequency tympanometry, and otoacoustic emissions. (1 credit)

### **AUD 6408—Introduction to 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 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. (2 credits)

### **AUD 5404—Introduction to Vestibular Evaluation**

Basic procedures and interpretation for vestibular assessment, including electro/videonystagmography and bedside evaluations, are discussed. (2 credits)

### **AUD 5403L—Introduction to Electrophysiology Lab**

This lab supplements AUD 5402 and AUD 5404, providing students with practical assignments. (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 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 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 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. (3 credits)

#### **AUD 6503—Topics in Audiology**

Current topics in assessment, management, and treatment of hearing and balance are examined. (3 credits)

#### **AUD 6603—Clinic I**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. (1 credit)

#### **AUD 6604—Clinic II**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. (2 credits)

#### **AUD 6605—Clinic III**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. (2 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 7609—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)

#### **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 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 7078—Ethics for Audiologists**

Theories of ethics and applications to audiology in the clinical, research, and academic arenas. Analysis of ethical scenarios and dilemmas. (1 credit)

#### **AUD 7079—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. (1 credit)

#### **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. (2 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 7120—Electrophysiology: Auditory**

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. (4 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 Rehabilitation**

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 7180—Diagnostics III: Integration of Audiologic Test Results**

Students will study advanced auditory evaluation with an emphasis on integration of audiologic test results leading to management and treatment strategies. (3 credits)

**AUD 7200—Case Studies I**

Students critically analyze and present cases that require integration of information from throughout the curriculum. (1 credit)

**AUD 7201—Case Studies II**

Students critically analyze and present cases that require integration of information from throughout the curriculum. (1 credit)

**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 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 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 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 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)

## Occupational Therapy Department

### 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 Occupational Therapy Department 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.OT), 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.OT 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 in at least two different OT environments
- 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 who have a combined verbal and quantitative score of at least 800 (pre-2011 exam score) or the equivalent on the revised general test and an analytical writing score of at least 3.5.

## Prerequisite Courses

Course Title Semester Hours

### 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

### 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)  
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 July.

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 March 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 Web site at [www.otcas.org](http://www.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 M.O.T.  
application form for further consideration along with a  
\$50, nonrefundable application fee.

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 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 in at  
least two different OT practice settings. Some of these  
environments include hospitals, clinics, and private practices  
with a variety of populations. Documentation of volunteer  
hours must be submitted within the OTCAS system.

Upon receipt of all materials from OTCAS, the  
supplemental application, test scores, and applicable  
fees, the Committee on Admissions will select applicants  
for interview. Those selected will be notified in writing  
of the time and place of the interview. An invitation to  
appear for an interview 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  
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 Health Professions Division has established a dual admission program with the Nova Southeastern University Farquhar College of Arts and Sciences 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 the undergraduate school and will be awarded a bachelor's degree from the Farquhar College. Students will then transition to the first year of education at Nova Southeastern University's College of Health Care Sciences. Students will receive the master of occupational therapy degree after completion of the Master of Occupational Therapy Program.

For information and requirements, contact the Office of Admissions, Farquhar College of Arts and Sciences, Nova Southeastern University, 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 [www.nsu.edu/bhs](http://www.nsu.edu/bhs) or [bhsinfo@nsu.nova.edu](mailto:bhsinfo@nsu.nova.edu).

### **Tuition and Fees**

Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$28,420.

A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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.

## 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 (101 credits) with a minimum grade of 75 percent in each OCT course and 70 percent in anatomy, physiology, and neuroanatomy
- have satisfactorily met all financial and library obligations
- successfully complete Level II fieldwork within 24 months of completion of didactic courses
- attend in person the commencement program in the year that the diploma will be conferred

## Master of Occupational Therapy Program Curriculum Outline

First Year—Summer Semester			Credits
OCT	5014	Introduction to Occupational Therapy	2
OCT	5963	Fieldwork Issues I	1
ANA	5420	Anatomy	5
PHO	5400	Physiology	3
<b>Total Credits</b>			<b>11</b>

First Year—Fall Semester			Credits
OCT	5011	Occupational Performance and Participation Throughout the Life Span	2
OCT	5800	Applied Kinesiology for Occupational Therapy	3
OCT	5101	Theoretical Foundations of Occupational Therapy Practice	2
OCT	5013	Occupational Analysis	2
OCT	5121	Impact of Human Conditions on Occupational Performance I	4
<b>Total Credits</b>			<b>13</b>

First Year—Winter Semester			Credits
ANA	5533	Neuroanatomy	3
OCT	5123	Impact of Human Conditions on Occupational Performance II	4
OCT	5130	Human Interactions	2
OCT	5015	Impact of Environment on Occupational Performance	3
OCT	5174	Research Methods	4
<b>Total Credits</b>			<b>16</b>

<b>Second Year—Summer Semester</b>			Credits
OCT	6106	OT Practice for Mental Health and Wellness	5
OCT	6101	OT Practice for Mental Health and Wellness Practicum	1
<b>Total Credits</b>			<b>6</b>

<b>Second Year—Fall Semester</b>			Credits
OCT	6107	OT Practice with Children and Adolescents or Adults and Older Adults	8
OCT	6102	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	6103	OT Practice Practicum	1
OCT	6176	Research Practicum	2
OCT	6980	Fieldwork Issues II	1
OCT	6350	Professionalism and Leadership	2
<b>Total Credits</b>			<b>14</b>

<b>Third Year—Summer/Fall Semester</b>			Credits
OCT	6981	Fieldwork Experience II (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 Entry-Level Doctor of Occupational Therapy (O.T.D.) program has been granted Developing Program Status by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), which is located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449, or on the Web at *www.acoteonline.org*. ACOTE’s telephone number 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, program and policy development, administration, advocacy, and/or education. 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)
- submit entry-level Graduate Record Examination (GRE) scores, a written essay, and letters of recommendation
- 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 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—A) score of 54, 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

## Humanities

English Composition ..... 6

Other humanities (e.g., art, communications, literature, foreign language, history, philosophy, logic, or humanities) ..... 9

## Math

Statistics ..... 3

## Other

Medical terminology (college) ..... 1 (minimum)

NOTE: None of the science courses can be applied science courses. 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

## 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 January 15, 2014. 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 Web site at [www.otcas.org](http://www.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. 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 settings. 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 select those applicants for interview. Those selected will be notified in writing of the time and place of the interview. An invitation to appear for an interview 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  
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.

## Tuition and Fees

Tuition for 2014–2015 (subject to change by the board of trustees without notice) for Florida residents and out-of-state students is \$30,450.

A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 Capstone Experiences	1
OTD	8102	Foundations of Occupational Therapy	3
<b>Total Credits</b>			<b>9</b>

<b>First Year—Fall Semester (16 weeks)</b>			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	3
<b>Total Credits</b>			<b>12</b>

<b>Second Year—Summer Semester (12 weeks)</b>			Credits
OTD	8271	Occupational Therapy Interventions I—Psychosocial and Community	6
OTD	8281	Business of Practice and Management	3
OTD	8244	Innovations and Technology in Occupational Therapy	3
<b>Total Credits</b>			<b>12</b>

<b>Second Year—Fall Semester (16 weeks)</b>			Credits
OTD	8272	Occupational Therapy Interventions II—Children and Youth	10
OTD	8262	Research Design	2
<b>Total Credits</b>			<b>12</b>

<b>Second Year—Winter Semester (16 weeks)</b>			Credits
OTD	8273	Occupational Therapy Interventions III—Physical Disabilities	10
OTD	8262L	Research Design Lab	1
OCT	8282	Professional Leadership	3
<b>Total Credits</b>			<b>14</b>

<b>Third Year—Summer Semester (12 weeks)</b>			Credits
OTD	8391	Fieldwork Experience II	12
<b>Total Credits</b>			<b>12</b>

Third Year—Fall Semester (16 weeks)			Credits
OTD	8392	Doctoral Certification and Introduction to Residency Program	0
OTD OR OTD	8300	Specialized Course—Occupational Science	3
	8340	Specialized Course—Wellness in Occupational Therapy	3
OTD	8363	Capstone Project I	2
<b>Total Credits</b>			<b>5</b>

Third Year—Winter Semester (16 weeks)			Credits
OTD	8363L	Capstone Project I Lab	1
OTD OR OTD	8360	Specialized Course—Applying Measurement Theory to Evaluation	3
	8370	Specialized Course—Sensory Processing Basis of Occupational Performance	3
<b>Total Credits</b>			<b>4</b>

Fourth Year—Summer Semester (12 weeks)			Credits
OTD	8493	Fieldwork Experience II	12
<b>Total Credits</b>			<b>12</b>

Fourth Year—Fall Semester (16 weeks)			Credits
OTD	8494	Doctoral Residency	16
OTD	8464	Capstone Project II—Reflections and Exit Colloquium	2
<b>Total Credits</b>			<b>18</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: 122**

Level I FWE: 360 Hours

Level II FWE: 960 Hours

Residency: 720 Hours

**Total Clinical Education Hours: 1,960 Hours**



## Doctoral Programs in Occupational Therapy

The Occupational Therapy Department at NSU offers two postprofessional doctoral degrees: the postprofessional clinical doctorate—the Doctor of Occupational Therapy (Dr.OT), 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.OT 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 90 percent are assured consideration for admission to the Dr.OT program.

### Doctor of Occupational Therapy (Dr.OT)

The postprofessional Doctor of Occupational Therapy (Dr.OT) degree prepares occupational therapists to become leaders in the advanced practices 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. ([www.wes.org](http://www.wes.org)), Josef Silny & Associates ([www.jsilny.com](http://www.jsilny.com)), or Educational Credential Evaluators ([www.ece.org](http://www.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—A) 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:

- OCT 7002—Program Evaluation and Outcome Measurement (3 credits)
- 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 7910—Capstone I
- OCT 7920—Capstone II
- OCT 7930—Capstone III

#### Doctoral Tuition and Fees (Dr.OT)

1. Tuition for academic year 2014–2015 (subject to change by the board of trustees without notice) is \$610 per credit hour.
2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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.OT)

In order to be eligible for the Dr.OT degree, students shall

- complete 39 credits of coursework including all program core course requirements within six years
- former NSU M.O.T. students who graduated after November 2009 and began the Dr.OT program within two years of graduation are required to complete 36 credits
- 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:

- HPH 7300—Fundamentals of Biostatistics (3 credits)
- HPH 7310—Principles of Statistical Inference (3 credits)
- HPH 7400—Research Design (3 credits)
- HPH 7410—Qualitative Research
- HPH 7500—Philosophy of Science (3 credits)
- HPH 7600—Grant Writing and Publication
- OCT 7010—Theory Development for Models of Practice (3 credits)
- OCT 7101—The Health Professional as Academic Educator (3 credits)
- OCT 7103—Occupation-Centered Practice
- OCT 7302—Contextual Aspects of Occupational Performance
- 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 8950—Research Residency (3 credits)
- OCT 8970—Doctoral Dissertation (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 or by face-to-face technology, 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
- provide four copies of dissertation, bound in accordance with program requirements
- 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. Minimum Requirements

- GPA of 3.5 on a 4.0 scale
- graduate-level research methods course
- introductory statistics course
- master's degree

3. 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—A) score of 54.

4. 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.

### Application Procedures

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. TOEFL, IELTS, or PTE—A scores (international students, if appropriate)
5. official college transcripts from all undergraduate and graduate institutions attended, sent directly to

Nova Southeastern University  
Enrollment Processing Services  
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. ([www.wes.org](http://www.wes.org)), Josef Silny & Associates ([www.jsilny.com](http://www.jsilny.com)), or Educational Credential Evaluators ([www.ece.org](http://www.ece.org)).

6. 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.

### Doctoral Tuition and Fees (Ph.D.)

1. Tuition for academic year 2014–2015 (subject to change by the board of trustees without notice) is \$610 per credit hour.

2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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.

### 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.

### 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 Ph.D. program director.

## 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 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)

### 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. (2 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 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 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—Impact of Human Conditions 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—Impact of Human Conditions 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 5963—Fieldwork Issues I**

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 6101—OT Practice for Mental Health and Wellness Practicum**

This course consists of Level I fieldwork related to occupational therapy practice in settings focused on mental health and mental illness for populations across the life span. It provides students with opportunities to apply knowledge and skills from the classroom to contemporary settings. (1 credit)

**OCT 6102—OT Practice 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. (1 credit)

**OCT 6103—OT Practice Practicum**

This course consists of Level I fieldwork related to occupational therapy 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. (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 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 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 Issues II**

This second course in the Fieldwork Issues sequence builds on Fieldwork Issues I by continuing 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 7002 —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 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 become an evidence-based practitioner. 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, implement the findings into practice, and disseminate the findings. 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**

The 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. (3 credits) **Elective**

#### **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**

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. Advanced-level course: It is anticipated that students will have some prior knowledge and experience in this area of practice. (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. **Prerequisite:** OCT 7010 (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) Elective

### **OCT 7791—Grant Practicum**

In this course, students develop 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 a hands-on approach, students learn to locate online, and conventional sources of funding at federal, foundation, and corporate levels in order to produce a finished, usable grant proposal. (3 credits) Elective

### **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 7890—Independent Study**

Individualized study under the supervision of assigned instructor. Requires permission of a doctoral program director. (1–3 credits) Elective

### **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 7930—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 cumulating assignment in this course and the Dr.OT 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 8946—Continuing Qualifying**

Students will only enroll in this course following completion of 1 credit of OCT 8945 Studies for the Qualifying Examination, if more time is required to complete all qualifying requirements. (0 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. (3 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 four-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. (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**

This course is the second of four in a series of evidence-based practice and research methods. Students develop a viable research proposal. At the end of the semester, students will complete a research proposal and have it ready to submit for IRB review. (2 credits)

**OTD 8262L—Research Design Lab**

Please see description of OTD 8262—Research Design. (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 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. (10 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. (10 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 8363—Capstone Project I**

This is the third in the series of four 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—Capstone Project I**

Please see description of OTD 8363—Capstone Project I. (1 credit)

### **OTD 8391—Fieldwork Experience II**

This course is a 12-week, supervised internship in an approved practice setting. **Prerequisite:** completion of formal predoctoral certification courses (12 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 (0 credit)

### **OTD 8464—Capstone Project II: Reflections and Exit Colloquium**

This is the final course of the four-course series of research methods. It culminates with the opportunity for the student to prepare the presentation of a capstone project to the community and to reflect on the entire experience leading to an O.T.D. degree. **Prerequisite:** completion of doctoral residency and capstone project (2 credits)

### **OTD 8493—Fieldwork Experience II**

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 (16 credits)

### **Specialized Course**

These courses provide the student with the opportunity to select two courses of 3 credits each from the four specialized courses listed below. (3 credits)

### **OTD 8300—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 8340—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 8360—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 8370—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.

**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)

## Physical Therapy Department

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. More than 900,000 people a day are helped by physical therapists to restore health, alleviate pain, and prevent the onset of disease.

The mission of the Nova Southeastern University Department of Physical Therapy is to prepare entry-level and postprofessional physical therapists with the requisite skills needed to practice, educate, lead, and conduct research in interdisciplinary environments. The programs are committed to strategies that enhance the contemporary practice of physical therapy. The department promotes accessibility to physical therapy education through innovative instructional delivery models. Faculty and students are committed to active participation in the profession in all areas of scholarship, in mentoring, and in serving community populations, including the medically underserved and uninsured, through service learning and clinical education experiences.

### Entry-Level Doctor of Physical Therapy (D.P.T.)

#### Course of Study

The entry-level 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 main campus in greater Fort Lauderdale and a Hybrid D.P.T. program at our Tampa location. 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 structured online instruction followed by four days (Thursday–Sunday) of hands-on instruction and clinical interactions on our Tampa campus. Students do not have to live in Tampa to attend the Hybrid D.P.T. Program.

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 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: <http://www.capteonline.org>. The entry-level Physical Therapy Program was granted its initial full accreditation by the Commission on Accreditation of Physical Therapy Education (CAPTE), of the American Physical Therapy Association in October 1996. In May of 2011, the Fort Lauderdale and the Tampa programs received a 10-year accreditation.

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 entry-level 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 2.9 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:

- English composition or writing (one semester)
- introduction to statistics (one semester)
- psychology/sociology—two semesters (one general psychology and an additional psychology or sociology)

The following sciences must be taken in their respective departments. No applied or modified science courses will be accepted.

- biology, anatomy, and physiology (three semesters with at least two in anatomy and physiology—may be separate or combined)
- physics with laboratory (two semesters)
- chemistry with laboratory (two semesters)

4. All applicants are required to submit official scores from the Graduate Record Exam (GRE). Writing scores must be included. These test scores must be less than five years old.

5. 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.

### Computer Requirements

#### D.P.T. Program—Fort Lauderdale Campus

##### System Requirements

- laptop computer with native camera
- <https://www.nova.edu/publications/it-standards>

##### Recommended Web Browsers

- <http://kb.blackboard.com/pages/viewpage.action?pageId=101285989>

##### 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.
- [www.nova.edu/cwis/oit/stuservices.html](http://www.nova.edu/cwis/oit/stuservices.html)

#### 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 Web site, please contact the NSU Help Desk at (954) 262-HELP (4357).

#### Blackboard Help

- [www.nova.edu/help/blackboard/index.html](http://www.nova.edu/help/blackboard/index.html)

#### 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.)

#### 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)

##### Recommended Web Browsers

- <http://kb.blackboard.com/pages/viewpage.action?pageId=101285989>

##### 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 <http://windows.microsoft.com/en-US/windows-live/photo-gallery-get-started>
  - 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 ([http://www.youtube.com/create\\_detail/YouTubeVideoEditor](http://www.youtube.com/create_detail/YouTubeVideoEditor))
    - Windows Live Movie Maker for PC (<http://windows.microsoft.com/en-US/windows-live/movie-maker-get-started>)
  - iMovie for Mac (included with operating system)
    - Mpeg Streamclip for Mac converts iMovie files to mp4 (<http://www.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

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#### Hardware Discounts/Free Software

- Personal computer discount pricing is available for NSU students through NSU.
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- If you have problems with any of the programs available through the Web site, please contact the NSU Help Desk at (954) 262-HELP (4357).

#### Blackboard Help

- [www.nova.edu/help/blackboard/index.html](http://www.nova.edu/help/blackboard/index.html)

#### Essential Functions of the D.P.T. Student

The entry-level 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 Essential Functions of

the D.P.T. Student document on admission and while matriculating through the programs. To view the form, visit [www.nova.edu/chcs/pt/forms/nsu-dpt-essential-function.pdf](http://www.nova.edu/chcs/pt/forms/nsu-dpt-essential-function.pdf).

#### Application Procedures

The entry-level Doctor of Physical Therapy Programs at Nova Southeastern University uses the Physical Therapist Centralized Application Service (PTCAS). The PTCAS may take up to six weeks to verify supporting documents, therefore, early application is highly recommended. Note: The NSU Fort Lauderdale and Tampa programs have two separate portals in PTCAS.

1. Candidates for admission must complete the online PTCAS application between July 15 and December 16. All applicants to the entry-level D.P.T. program should apply online ([www.ptcas.org](http://www.ptcas.org)). Separate applications are required for the Fort Lauderdale and Tampa programs.
2. Send the following supporting documents directly to PTCAS at the address following.

- a. an official transcript from the registrars of all colleges and universities attended, mailed directly to PTCAS by the college or university
- b. three completed evaluations on the required forms from individuals, other than relatives, such as academic instructors and professors, health professionals, work supervisors, or volunteer supervisors, at least one from a physical therapist

PTCAS  
PO Box 9112  
Watertown, MA 02471

Email: [ptcasinfo@ptcas.org](mailto:ptcasinfo@ptcas.org)  
Phone: (617) 612-2040

3. Once the PTCAS application has been received by Nova Southeastern University, a supplemental application will be made available online. Please follow the instructions to complete and submit the supplemental application and fee by the deadline of January 31. The supplemental application should be sent directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physical Therapy Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

4. Official Graduate Record Exam (GRE) scores (less than five years old) must be submitted to PTCAS. The NSU PT program code is 7741.
5. Once NSU receives the GRE scores, the supplemental application, and the \$50 fee, the applicant's file will be reviewed by the admissions counselor. The applicant will not be considered for a possible interview until all of the requirements have been met.

## **Undergraduate/Entry-Level Doctor of Physical Therapy Dual Admission Program**

Nova Southeastern University Health Professions Division has established a dual admission program with Nova Southeastern University's Farquhar College of Arts and Sciences 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 College of Arts and Sciences upon completion of degree requirements. Students will receive an entry-level 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, Farquhar College of Arts and Sciences, 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.

- For Fort Lauderdale students, tuition for 2014–2015 is \$27,000 per year.
- For Tampa students, tuition for 2014–2015 is \$20,300 per year.
- 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.
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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**

In order to be eligible for the D.P.T. degree, students must

- be of good moral character and uphold professional ethics and behavior
- complete all academic requirements, semester hours, and coursework including self assessment
- satisfactorily complete the program of study required, in sequence in prescribed time, with a minimum grade of 75 percent in all courses
- have satisfactorily met all financial and library obligations
- successfully complete the clinical internships
- complete a program portfolio
- successfully pass a comprehensive examination at the end of the didactic component of the program
- fulfill all professional activity requirements including professional association membership
- fulfill all community service requirements
- have satisfactorily complied with all university, Health Professions Division, College of Health Care Sciences, and Department of Physical Therapy policies and procedures including dress code and all student handbook policies and procedures
- attend in person the commencement program at which time the degree is conferred
- demonstrate professional behavior and required attendance throughout the program
- compliance with other requirements as advised

## **Physical Therapy Student Organizations**

### **Student Council**

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

## Full-Time Entry-Level 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	1
<b>Total</b>			<b>12</b>

First Year—Fall Semester			Credits
PHT	6710	Clinical Skills I	4
PHT	6714	Pharmacology	3
PHT	6715	Essentials of Biomechanics and Kinesiology	3
PHY	6716	Medical Pathology for Physical Therapists	3
PHT	6705	Essentials of Exercise Physiology	3
<b>Total</b>			<b>16</b>

First Year—Winter Semester			Credits
PHT	6720	Clinical Skills II	3
PHT	6725	Cardiovascular and Pulmonary PT	3
PHT	6722	Integumentary System PT	2
ANA	5423	Neuroanatomy	3
PHT	6706	Tier IA Clinical Education—Topics in Gerontology	2
PHT	6700	Evidence-Based Practice I—Introduction to Research Methods and Data Analysis	3
PHT	6811	Tier IB Clinical Education	2
PHT	6721	The Health Care Educator	1
<b>Total</b>			<b>19</b>

Second Year—Summer Semester			Credits
PHT	6810	Musculoskeletal I	2
PHT	6810L	Musculoskeletal I Lab	2
PHT	6815	Physical Agents	3
PHT	6817	Pediatrics I	1
<b>Total</b>			<b>8</b>



<b>Second Year—Fall Semester</b>			Credits
PHT	6820	Musculoskeletal II	3
PHT	6820L	Musculoskeletal II Lab	2
PHT	6841	Tier ID Clinical Education	1
PHT	6816	Neuroscience	3
PHT	6802	Evidence-Based Practice II—Using Research to Inform Clinical Decision Making	3
PHT	6819	Pediatrics II	3
<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	Medical Screening and Differential Diagnoses for Physical Therapists	3
PHT	6813	Gender-Specific Issues in PT	2
PHT	6831	Tier IC Clinical Education	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	Applied Clinical Decision Making	4
PHT	6912	Tier II Orientation	0
<b>Total</b>			<b>14</b>

<b>Third Year—Fall Semester</b>			Credits
PHT	6911	Tier IIA Clinical Education Internship	5
PHT	6921	Tier IIB Clinical Education Internship	6
<b>Total</b>			<b>11</b>

Third Year—Winter Semester			Credits
PHT	6931	Tier IIC Clinical Education Internship	5
PHT	6930	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

### Hybrid Entry-Level Doctor of Physical Therapy Curriculum Outline—Tampa

First Year—Summer Semester (12 weeks)			Credits
PHY	5400	Physiology	3
ANA	5420	Anatomy	5
<b>Total</b>			<b>8</b>

First Year—Fall Semester (16 weeks)			Credits
PHTT	6705	Essentials of Exercise Physiology*	3
PHTT	6714	Pharmacology	3
PHTT	5610	Clinical Application of Anatomy for Physical Therapists	1
PHTT	5611	Professional Issues in Physical Therapy	3
<b>Total</b>			<b>10</b>

First Year—Winter Semester (16 weeks)			Credits
PHTT	6700	Introduction to Evidence-Based Practice	3
PHTT	6701	Communication and Cultural Competence	2
PHTT	6715	Essentials of Biomechanics and Kinesiology	3
PHTT	6716	Medical Pathology for PTs	3
<b>Total</b>			<b>11</b>

Second Year—Summer Semester (12 weeks)			Credits
PHTT	6710	Clinical Skills I*	3
PHTT	6720	Clinical Skills II*	3
PHTT	6811	Introduction to Clinical Education	1
<b>Total</b>			<b>7</b>

\*Includes integrated clinical experiences

<b>Second Year—Fall Semester (16 weeks)</b>			Credits
PHTT	6722	Integumentary PT	2
PHTT	6915	Patient/Client Management Post Amputation	2
PHTT	6802	Application of Evidence-Based Practice	3
PHTT	6815	Physical Agents*	3
PHTT	6823	The Business of Physical Therapy	3
<b>Total</b>			<b>13</b>

*\*Includes integrated clinical experiences*

<b>Second Year—Winter Semester (16 weeks)</b>			Credits
PHTT	5423	Neuroanatomy and Neurophysiology	3
PHTT	6813	Gender-Specific Health Issues in Physical Therapy	2
PHTT	6725	Cardiovascular and Pulmonary PT*	3
PHTT	6822	Health Promotion, Disease Prevention, and Wellness	2
<b>Total</b>			<b>10</b>

*\*Includes integrated clinical experiences*

<b>Third Year—Summer Semester (12 weeks)</b>			Credits
PHTT	6816	Motor Control Across the Life Span	3
PHTT	6810	Musculoskeletal I	2
PHTT	6810L	Musculoskeletal I Lab*	2
<b>Total</b>			<b>7</b>

*\*Includes integrated clinical experiences*

<b>Third Year—Fall Semester (10 academic and 6 clinical education weeks)</b>			Credits
PHTT	6820	Musculoskeletal II	3
PHTT	6820L	Musculoskeletal II Lab*	2
PHTT	6835	Differential Diagnosis for Physical Therapists	3
PHTT	6817	Pediatrics*	3
<b>Total</b>			<b>11</b>

*\*Includes integrated clinical experiences*

<b>Third Year—Winter Semester (16 weeks)</b>			Credits
PHTT	6821	Musculoskeletal III	2
PHTT	6821L	Musculoskeletal III Lab*	2
PHTT	6830	Neuromuscular I	3
PHTT	6830L	Neuromuscular I Lab*	2
PHTT	6812	Topics in Clinical Education	2
<b>Total</b>			<b>11</b>

*\*Includes integrated clinical experiences*

<b>Fourth Year—Summer Semester (12 weeks)</b>			Credits
PHTT	6914	Neuromuscular II	2
PHTT	6914L	Neuromuscular II Lab*	2
PHTT	6920	Applied Clinical Decision Making*	4
<b>Total</b>			<b>8</b>

*\*Includes integrated clinical experiences*

<b>Fourth Year—Fall Semester (16 weeks) and Winter Semester (18 weeks)</b>			Credits
PHTT	6911	Tier IIA Clinical Education Internship (12 weeks)	6
PHTT	6921	Tier IIB Clinical Education Internship (12 weeks)	6
PHTT	6931	Tier IIC Clinical Education Internship (12 weeks)	6
<b>Winter (first and second week of May) Prior to Graduation</b>			
PHTT	6930	Wrap Up and Review	1
PHTT	6904	Evidence in Practice Capstone Project	2
<b>Total</b>			<b>21</b>
<b>Total Credits for Program</b>			<b>116</b>

## Entry-Level Doctor of Physical Therapy Course Descriptions

### PHY 5400—Physiology

The course is 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 human life. It provides an examination of the physiological processes essential for students in the College of Health Care Sciences and reference to clinical applications is made 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)

### ANA 5420—Anatomy

The study of structural and functional features of the human body addressed in both lecture and cadaver lab format. The student will have an anatomical basis for understanding and applying information presented in basic science and clinical courses and for understanding clinical problems. (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 (1 credit)

### 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

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 6710—Clinical Skills I

Introduces students to basic PT examination and interventions in accordance with the patient management model found in the *Guide to Physical Therapist Practice*. Students will safely interact and communicate with patients including history taking and producing documentation of patient status. Safe performance of psychomotor skills such as patient postural assessments, positioning and draping, palpation addressing surface anatomy of the head, trunk and extremities, bed mobility, transfers, the use of assistive gait devices, vital signs monitoring, and patient guarding and handling techniques will be emphasized. An overview of the terms related to CPT-coding and reimbursement will be provided. The course will provide students with an understanding of how cultural beliefs are an integral part of clinical practice, giving students an opportunity to develop self-awareness, knowledge, and skills related to providing and promoting culturally competent patient care. (4 credits)

### PHT 6714—Pharmacology

This course is clinically oriented to address the physical therapist's knowledge of clinical pharmacology to the Doctor of Physical Therapy level. Prescription, over-the-counter, and common herbal supplements will be included. Drug classification, pharmacokinetics, pharmacodynamics, mechanism of action, and indications for use will be addressed. Drug action, therapeutic dosage schedules, drug interactions, and common side effects will be brought into the clinical perspective of patient management. Recognition of expected drug effects, side

effects, idiosyncratic reactions, and signs of abuse or noncompliance will be explored. Emphasis will be placed on the therapist's incorporation of pharmacotherapeutic knowledge into physical therapy patient-client management. (3 credits)

#### **PHT 6715—Essentials of Biomechanics and Kinesiology**

This is a foundational 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 kinesiologic analysis: gait, posture, and functional movements. (3 credits)

#### **PHT 6716—Medical Pathology for Physical Therapists**

This course provides an introductory overview of medical pathology commonly seen by physical therapists across the life span. Students will be introduced to immunity, tissue response to injury, and healing processes. Students will gain knowledge of signs and symptoms, pathogenesis, and differential diagnosis of selected pathological disorders. Medical management of selected disorders will be introduced as well as prognosis associated with each disorder. Application of the Disablement Model will be used to determine the effect of pathological disorders on functional ability. Students will also gain a brief understanding of the role of the physical therapist in prevention and treatment of selected pathological and biopsychosocial disorders. Discussion will take place regarding cultural and other factors affecting diagnosis, treatment, and prevention of pathological disorders and biopsychosocial disorders currently affecting society. (3 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)

#### **PHT 6700—Evidence-Based Practice I: 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 6706—Tier IA Clinical Education—Topics in Gerontology**

This is a self-contained, collaborative, clinical education model where students are directly supervised in the clinic by academic faculty. Students practice evaluation and treatment skills learned in the curriculum concurrently and cumulatively in a skilled nursing facility and acute care hospital joint replacement unit. Students see patients and clients three full days over the course of the semester to apply learned examination, evaluation, and treatment skills in underserved geriatric populations and other adult populations. Emphasis is on developing skills in professional behavior, clinical safety, communication, therapeutic presence, assessment, examination, screening, basic treatment planning, and performance of basic skill intervention based primarily on Clinical Skills I with introduction of some of the skills in Clinical Skills II. Theories, research, and unique characteristics and behaviors related to aging, geriatric medicine, and physical therapy will be explored in light of current health care trends, clinical practice, and predictions. (2 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*. Students will learn to safely apply assessment and intervention techniques that address range of motion and strength deficits. Safe performance of psychomotor skills such as goniometric measurements, MMT, therapeutic exercises, PNF, and tilt and standing table and parallel bars will be emphasized. (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 System**

The structure and function of the integument is presented. Skin functions in homeostasis including protection, regulation of body temperature, sensory reception, water balance, synthesis of vitamins and hormones, and absorption of materials. Students will safely perform physical therapy assessment and explore interventions for wounds and edema based on the current literature such as dressings, therapeutic massage, compression, and hydro and electrotherapeutic modalities. Assistive, adaptive supportive devices and equipment to prevent or relieve skin trauma will be addressed.

At the end of this course, the students will be able to evaluate, treat, and document disorders of the skin that are frequently treated by PTs. The students will also be able to determine whether a skin disorder needs referral to another appropriate health care provider. (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 cardiopulmonary examination and intervention for given pathologies. Students will demonstrate PT cardiovascular and pulmonary examination, procedures, 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. Case studies are used in conjunction with lecture, and interactive teaching and learning to assist students in integrating didactic knowledge into simulated and real-life scenarios including laboratory skills **Prerequisites:** PHT 6705 and PHT 6714 (3 credits)

#### **PHT 6811—Tier IB Clinical Education**

A variety of patient types will be observed during a four-week, full-time immersion in a clinical setting. Students will see patients/clients at assigned clinical sites to apply examination, evaluation, and treatment skills. Students will integrate the didactic information from the first year and be exposed to professional roles and issues in an authentic context. Licensed physical therapists or academic faculty members will provide direct supervision of students. (2 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 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. (3 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**

This course provides the foundation knowledge necessary for patient/client management of patients with neuromuscular conditions through two modules:

neurophysiology and motor control/motor learning. Students review the structure and function of the nervous system, emphasizing neurophysiological processes that relate to physical therapy and movement dysfunction. Principles of motor control and motor learning are discussed as they relate to normal human movement and movement dysfunction that result from neurologic disorders. Concepts of neuroplasticity and the recovery of function are also addressed. Classroom activities include case studies, group discussions, literature reviews, simulations, and lectures. **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 focuses on the physical therapy management of the pediatric patient/client and the role of family-centered care. Students apply foundational knowledge and skills gained in Pediatrics I in the evaluation and treatment of 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. The course is designed to promote critical thinking and decision-making in physical therapy management of the pediatric client. 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 (e.g., 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, 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)

#### **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, ICD9 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-9 codes, examination, evaluation, diagnosis, prognosis, and interventions related to these patterns. **Corequisites:** PHT 6820 (2 credits)

#### **PHT 6831—Tier IC Clinical Education**

This is a full-time clinical internship. Under the direct supervision of clinical faculty members, students apply evaluation and treatment skills in orthopedic settings. Students improve professional behavior, clinical safety, communication, therapeutic presence, assessment, examination, screening, and treatment-planning skills while providing targeted interventions to a population with orthopedic disorders. (2 credits)

#### **PHT 6841—Tier ID Clinical Education**

This course utilizes a self-contained clinical education model where students are directly supervised in the clinic by academic faculty members. Students concurrently practice the evaluation and treatment skills learned in the curriculum. (1 credit)

#### **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. Basic examination and intervention techniques will be practiced in a simulated environment. (2 credits)

### **PHT 6821—Musculoskeletal III**

This course 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**

This course will emphasize the psychomotor and affective skills required when providing the associated musculoskeletal examination and interventions addressed in PHT 6821. 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 6830—Neuromuscular Systems 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 Systems 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 6835—Medical Screening and Differential Diagnoses 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 scope. The focus is differential diagnosis through history and physical exam and not physical therapy intervention. The differential diagnosis is between musculoskeletal conditions and medical/psychological conditions commonly seen in outpatient settings. The course emphasizes conditions that should not be treated by physical therapists or conditions that require physical therapy intervention in direct consultation with other health care professionals (mainly physicians, dentists, and psychotherapists). The course will cover common laboratory tests applied to physical therapy (blood tests, urine analysis, synovial fluid analysis, cerebral spinal fluid). The course will also discuss the findings of imaging tests in diseases affecting the musculoskeletal system. Students are encouraged to apply the information learned in this course in their clinical internships and discuss each topic among themselves and

with the instructors. **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 6912—Tier II Orientation**

This course will include all final preparation necessary for the students to begin their Tier II Clinical Internships. (0 credits)

#### **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**

Students will acquire the skills needed to manage movement-related problems in patients with amputations because of diabetes, burns, trauma, oncological problems,

and genetic conditions. They will study upper and lower extremity prosthetics and orthotics and spinal orthotics. Orthotic needs associated with obesity, arthritis, pain, etc., will be addressed, as well. (3 credits)

#### **PHT 6920—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 6911—Tier IIA Clinical Education Internship**

This is the first of three senior, full-time, clinical affiliation courses. This course will provide senior physical therapy students with the opportunities to practice clinical decision making based on evidence and develop entry-level physical therapy skills for patient/client management in a variety of clinical settings on a full-time basis. Students will apply their knowledge, skills, attitudes, and behaviors in community-based physical therapy settings. Tier II clinical education encompasses on-campus orientation and 32 weeks of full-time, senior-level clinical internships during fall and winter semesters. Students will typically rotate through four, eight-week clinical placements 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 or subacute setting, a neurorehabilitation setting, and an outpatient setting. The

remaining internship may be completed in the venue or setting of the student's choice, including outpatient clinics; rehabilitation hospitals or units; specialty practices such as pediatrics, sports, or workers' compensation/ergonomics; or women's and men's health, as available. During the full-time internship, students will focus on patient/client management models by performing patient examinations and evaluations and by determining diagnoses, prognoses, and interventions (POC) within the context of the clinical setting utilizing the *Guide to Physical Therapist Practice*. It is expected that through the Tier II clinical education experiences, students will demonstrate appropriate management skills of patients/clients across the adult life span or across the continuum of care commonly seen in physical therapy practice. Students are expected to demonstrate effective communication and documentation skills and to develop their professionalism consistent with the APTA core values, cultural competence, and ethical and legal practice. (5 credits)

**PHT 6921—Tier IIB Clinical Education Internship**

This is the second of three senior, full-time, clinical affiliation courses. Students will complete an extended internship in multifaceted health care organizations with the goal of bringing their skills to entry level for both inpatient and outpatient care. Students will also have the opportunity to choose a specialty area in physical therapy practice and complete a portion of the internship in that specialty area. See PHT 6911. (6 credits)

**PHT 6930—Wrap-up**

The course provides a conclusion to TIER II as well as the didactic portion of the curriculum. A comprehensive examination covering all topics addressed in the curriculum will be administered. Additionally, the management of the

graduation process and commencement exercises will occur. (2 credits)

**PHT 6931—Tier IIC Clinical Education Internship**

This is the final of three senior, full-time, clinical affiliation courses. Students will complete an extended internship in multifaceted health care organizations with the goal of bringing their skills to entry level for both inpatient and outpatient care. Students will also have the opportunity to choose a specialty area in physical therapy practice and complete a portion of the internship in that specialty area. See PHT 6911. (5 credits)

**PHT 6904—Independent Study Research Project**

The student will complete a comprehensive literature review, case report, or research study on a topic approved by the student's faculty adviser. The quality of the written assignment must be such that it is publication ready for a peer-reviewed journal or scholarly presentation. This course requires the permission of the program director. (1–3 credits)

**PHT 6910—Independent Study**

Individualized study completed under the supervision of an instructor. Requires permission of the program director (1–6 credits)

## Hybrid Entry-Level Doctor of Physical Therapy Course Descriptions

### PHY 5400—Physiology

The course is 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 human life. It provides an examination of the physiological processes essential for students in the College of Health Care Sciences and reference to clinical applications is made 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)

### 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. It addresses gross structures of the human body and integrates topographic and radiographic anatomy, stressing the importance to clinical practice. (5 credits)

### 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 6714—Pharmacology

This course is clinically oriented to address the physical therapist's knowledge of clinical pharmacology to the Doctor of Physical Therapy level. Prescription, over-the-counter, and common herbal supplements will be included. Drug classification, pharmacokinetics, pharmacodynamics, mechanism of action, and indications for use will be addressed. Drug action, therapeutic dosage schedules, drug interactions, and common side effects will be brought into the clinical perspective of patient management. Recognition of expected drug effects, side effects, idiosyncratic reactions, and signs of abuse or noncompliance will be explored. Emphasis will be placed

on the therapist's incorporation of pharmacotherapeutic knowledge into physical therapy patient-client management. (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 neural 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. (3 credits)

### 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. Emphasis will be on research evidence from primarily quantitative research about diagnosis, prognosis, interventions, and outcomes. (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. Basic biomechanics

serves as the foundation for understanding kinesiology. The study of kinesiology will be separated 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 facilitate the students to learn and comprehend complex kinesiological analysis: gait, posture, and functional movements. (3 credits)

#### **PHTT 6716—Medical Pathology for Physical Therapists**

This course provides an introductory overview of medical pathology across the life span commonly seen by physical therapists. Students will be introduced to immunity, tissue response to injury, and healing processes. Students will gain knowledge of signs and symptoms, pathogenesis, and differential diagnosis of selected pathological disorders. Medical management of selected disorders will be introduced as well as prognosis associated with each disorder. Application of the Disablement Model will be used to determine the effect of pathological disorders on functional ability. Students will also gain a brief understanding of the role of the physical therapist in prevention and treatment of selected pathological and biopsychosocial disorders. Discussion will take place regarding cultural and other factors affecting diagnosis, treatment, and prevention of pathological disorders and biopsychosocial disorders currently affecting society. (3 credits)

#### **PHTT 6701—Communication and Cultural Competence**

This course explores concepts of cultural competence related to health care delivery. Interprofessional and interpersonal communication and group processes needed to function effectively as part of a team in the health care environment will also be addressed. 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. Discussions will include epidemiology and health care access issues as they relate to cultural barriers. (2 credits)

#### **PHTT 6811—Introduction to Clinical Education**

This course addresses the preparatory requirements needed to participate in on-campus Integrated Clinical Education (ICE) experiences occurring in the second and third academic years. The purpose of ICE is to provide students with patient interactions early within the Hybrid D.P.T. curriculum. These clinical experiences have been integrated into the classroom lab time of specific courses in order to allow for immediate application of learned skills and concepts to actual patients. During the progression of these experiences, students will develop skills in all domains of learning (cognitive, psychomotor, and affective) in preparation for full-time clinical internships. Course topics cover compliance requirements for clinical education and patient interaction, including physical

therapy documentation, sample behaviors of the Clinical Performance Instrument, medical errors training, blood-borne pathogens and HIV/AIDS training, and HIPAA training. (1 credit)

#### **PHTT 6710—Clinical Skills I**

This course introduces students to physical therapy examination and evaluation, including a) obtaining a history from patients and other sources; b) performing systems reviews; c) administering culturally appropriate and age-related tests and measures including reflexes, posture, gait, balance, range of motion/muscle length, and muscle strength; and d) producing documentation of examination. Students will also learn to evaluate data from the history review, system's review, and tests/measures in order to make clinical judgments and determine the diagnosis, prognosis, and goals. Both psychomotor skills and clinical reasoning skills are addressed based on the descriptions in the *Guide to Physical Therapist Practice*. (3 credits)

#### **PHTT 6720—Clinical Skills II**

This course introduces students to basic clinical skills that are used in physical therapy interventions related to therapeutic exercise and functional training as described in the *Guide to Physical Therapist Practice*. Students will develop psychomotor skills in therapeutic exercise (including flexibility/stretching exercises, balance/coordination training, and strength/power/endurance training of muscles) and functional training (including balance training, posture re-education, gait training, and assistive/adaptive device training). Students will learn how to develop and document a plan of care that includes frequency/duration, coordination/communication, patient-related instruction, and direct interventions. (3 credits)

#### **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 6915—Patient/Client Management Post Amputation**

This course focuses on the patient/client management of people with amputations, including examination, evaluation, diagnoses, prognoses, plan of care, interventions, and outcomes. Topics include the etiology, 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 function and outcomes. Students will 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. (3 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 6802—Application of Evidence-Based Practice**

Evidence-based practice (EBP) integrates evidence from three sources to answer clinically relevant questions. These are 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)

### **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 feasibility study or business plan for a new physical therapy practice or program. (3 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)

### **PHTT 6813—Gender-Specific Health 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. Basic examination and intervention techniques will be practiced in a simulated environment. (2 credits)

### **PHTT 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 cardiopulmonary examination and intervention for given pathologies. Students will demonstrate PT cardiovascular and pulmonary examination, procedures, 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. Case studies are used in conjunction with lecture, and interactive teaching and learning to assist students in integrating didactic knowledge into simulated and real-life scenarios including laboratory skills **Prerequisites:** PHTT 6705 and PHTT 6714 (3 credits)

### **PHTT 6822—Health Promotion, Disease Prevention, and Wellness**

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, evaluating program/teaching effectiveness, facilitating behavior change, creating professional presentations, and engaging in clinical education. Students will explore learning styles and factors that impact learning across the life span. The physical therapist's professional role as an advocate of health, wellness, and prevention will be analyzed. The course will examine the 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/wellness, and wellness considerations for special populations. Students will have the opportunity to design their own wellness program, applying the principles and strategies covered in this course. Learning will occur through reading, research, critical analysis of the literature, class discussion, lecture, collaborative learning, case studies, presentation, peer review, and writing. (2 credits)

### **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 also provides the foundations for neurologic and pediatric physical therapy through a review of normal human development, 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. **Prerequisite:** PHTT 5423 (3 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 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 PHTT 6820, PHTT 6820L, PHTT 6821, and PHTT 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)

### **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. **Corequisite:** PHTT 6810 (2 credits)

### **PHTT 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, ICD9 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)

### **PHTT 6820L—Musculoskeletal II Lab**

Emphasizes the psychomotor and affective skills required when providing the musculoskeletal interventions and tests addressed in PHTT 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, ICD9 codes, examination, evaluation, diagnosis, prognosis, and interventions related to these patterns. **Corequisite:** PHTT 6820 (2 credits)

### **PHTT 6835—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 scope. The focus is differential diagnosis through history and physical exam and not physical therapy intervention. The differential diagnosis is between musculoskeletal conditions and medical/psychological conditions commonly seen in outpatient settings. The course emphasizes conditions that should not be treated by physical therapists or conditions that require physical therapy intervention in direct consultation with other health care professionals (mainly physicians, dentists, and psychotherapists). The course will cover common laboratory tests applied to physical therapy (blood tests, urine analysis, synovial fluid analysis, cerebral spinal fluid). The course will also

discuss the findings of imaging tests in diseases affecting the musculoskeletal system. Students are encouraged to apply the information learned in this course in their clinical internships and discuss each topic among themselves and with the instructors. **Prerequisites:** PHTT 6810 and PHTT 6716 (3 credits)

#### **PHTT 6817—Pediatrics**

This course focuses on the physical therapy management of the pediatric patient/client and role of family-centered care. Students gain an understanding of typical infant and child development as it relates to movement. Using this foundation, students will analyze movement dysfunction exhibited in high-risk infants and children who have common childhood pathologies. Typical development is presented in the context of applying current motor control theories to predictable developmental sequences, motor progressions, and achievement of motor milestones. 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. Students become familiarized with commonly used pediatric screens, tests, and measurements. *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, as well as 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, 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)

#### **PHTT 6821—Musculoskeletal III**

This course 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)

#### **PHTT 6821L—Musculoskeletal III Lab**

This course will emphasize the psychomotor and affective skills required when providing the associated musculoskeletal examination and interventions addressed in PHTT 6821. 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:** PHTT 6821 (2 credits)

#### **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, arousal, attention, cognition, 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. (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) 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. 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; manual therapy techniques, 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 6812—Topics in Clinical Education**

This course prepares students for the full-time clinical education experience through the exploration of laws and regulations related to physical therapist practice; expected professional behaviors; communication; and roles/responsibilities of the student, clinical instructor, and director of clinical education. Topics will also include student/clinical instructor expectations, supervision, conflict management, goal writing, and program clinical education policies. (2 credits)

#### **PHTT 6914—Neuromuscular II**

Neuromuscular II integrates concepts from Neuroanatomy and Neurophysiology and 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 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 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 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**

This course integrates diagnostic (hypothesis driven) and narrative (patient-experience driven) clinical-reasoning skills using complex clinical cases through all elements of patient/client management, such as examination, evaluation, diagnosis, prognosis, plan of care, and interventions. Content experts facilitate student psychomotor skills and clinical decision making through small-group work, discussion, and analysis. Paper and video cases help students develop metacognitive and reflective skills, while considering ethical and legal issues, business management, delegation, documentation, patient-related instruction, and reimbursement. Students use the best available evidence to guide their decision making in order to defend their clinical decisions. (4 credits)

#### **PHTT 6911—Tier IIA Clinical Education Internship**

This is the first of three full-time, clinical affiliation courses occurring in the fourth year. This course will provide senior physical therapy students with the opportunity to intern in a physical therapy practice setting. Students will apply their knowledge and skills to develop skills in patient/client management, clinical decision making, and evidence-based practice. All fourth-year clinical internships are 12 weeks in length and occur during the fall and winter semesters. The culmination of these three internships is achievement of entry-level practice in all criteria of the APTA Clinical Performance Instrument. Over the three internships, students are required to participate in settings that, in total, represent the depth and breadth of physical therapy practice—including continuum of care, acuity, life span, and medical complexity. During the full-time clinical internships, students will execute the patient/client management model utilizing the *Guide to Physical Therapist Practice* by performing patient examinations and evaluations, establishing diagnoses and prognoses, developing the plan of care, and performing interventions. (6 credits)

#### **PHTT 6921—Tier IIB Clinical Education Internship**

This is the second of three senior, full-time, clinical affiliation courses. Students will complete an extended internship in multifaceted health care organizations with the goal of bringing their skills to entry level for both inpatient and outpatient care. Students will also have the opportunity to choose a specialty area in physical therapy practice and complete a portion of the internship in that specialty area. See PHTT 6911. (6 credits)

**PHTT 6931—Tier IIC Clinical Education Internship**

This is the final of three senior, full-time, clinical affiliation courses. Students will complete an extended internship in multifaceted health care organizations with the goal of bringing their skills to entry level for both inpatient and outpatient care. Students will also have the opportunity to choose a specialty area in physical therapy practice and complete a portion of the internship in that specialty area. See PHTT 6911. (6 credits)

**PHTT 6930—Wrap-up and Review**

The course provides a conclusion to TIER II as well as the didactic portion of the curriculum. Students present their values portfolio and participate in licensure examination preparation classes and seminars. (1 credit)

**PHTT 6904—Evidence in Practice Capstone Project**

Students present their Evidence in Practice Capstone to faculty members, classmates, and the local physical therapy community. This presentation is the culmination of work completed during Tier II clinical internships and demonstrates the ability to apply research evidence in clinical practice. (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., P.T.). 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. Applicants with a baccalaureate or master's degree may be accepted for either of these doctoral programs. 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 one–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 increasingly 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 doctoral 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 who will

- make clinical decisions based on experience and evidence in the research literature by posing clear clinical questions, selecting appropriate databases to find peer-reviewed literature, and interpreting the evidence
- engage in clinical reasoning, including the use of deductive reasoning or disablement models, as part of the patient/client management process evidenced in patient documentation
- select valid/reliable tests, outcome measures, and interventions that are supported by the literature and appropriate for the patient, setting, and diagnostic classification
- plan and implement prevention, wellness, and health promotion programs using principles of behavior change theory and sound teaching strategies

- screen all patients for medical disease, distinguishing musculoskeletal from medical conditions to identify when referral to other practitioners is needed
- use professional standards and principles of teaching, learning, and communicating to develop and implement education programs for patients, communities, and professionals
- identify key pharmacologic classifications and their relevance to physical therapy
- interpret radiology/imaging tests as they relate to clinical anatomy and signs/symptoms of pathology
- use contemporary principles of motor control and motor learning when teaching a patient a novel skill or retraining a motor task
- develop an appropriate exercise program for any patient/client based on safe and accurate exercise testing and a patient's specific or potential problems
- engage in analytical processes using objective measures and sound principles of organizational management and administration to effect change while acting in the role of consultant, administrator, or manager
- demonstrate skills that support lifelong learning, including applying current research literature to clinical decision making, utilizing computer technology to access resources or to communicate with peers, and self assessing to identify learning needs and generate professional goals

### Admissions Requirements

The following are requirements for admission:

1. Applicants must have graduated from an entry-level physical therapy (PT) program that is 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—A) scores.
2. Students who are within two months (60 days) of graduation from an entry-level PT program are also eligible for admission. These individuals must provide proof of graduation by the 61st day of their first T-D.P.T. semester or they will have to withdraw from classes until the subsequent semester, when and if proof of graduation is presented.
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  
 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 Web site—on letterhead.)

- official GRE scores and TOEFL, IELTS, or PTE—A scores, when appropriate

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 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York, 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)
- Foreign Credentialing Commission on Physical Therapy\* (FCCPT)  
511 Wythe Street  
Alexandria, VA 22314, USA  
(703) 684-8406  
[www.fccpt.org](http://www.fccpt.org)
- International Consultants of Delaware, Inc.  
3600 Market Street  
Suite 450  
Philadelphia, PA 19104  
(215) 222-8454, ext. 603  
[www.icdeval.com](http://www.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, 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 2014–2015 is \$510 per credit hour. An NSU student services fee of \$1,050 is required annually. Tuition is subject to change by the board of trustees without notice.

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 on or before registration day. 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). Applicants with a baccalaureate degree as their highest degree take seven core courses and six electives.

#### 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 credits)
- PHT 7815—Patient/Client Management (4 credits).

*(choice of seven practice areas: neuromuscular, manual therapy, geriatrics, pediatrics, women's health, sports, or practice management)*

#### Elective Courses (six courses chosen from the following list)

- PHT 7015 (MHS 5003)—Current Trends and Cultural Issues in Health Care (3 credits)\*
- PHT 7025—The Health Care Educator (3 credits)
- PHT 7065/7075—Independent Study: Case Report (1–3 credits)
- PHT 7925 (DHS 8100)—Alternative and Complementary Medicine (4 credits)\*
- MHS 5521—Ethical Issues in Health Care (3 credits)\*

\*These courses are offered through other programs within the 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 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 medical diagnostic tests and 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 the 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 the 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 in order 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 the 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)**

**Patient/Client Management—Manual Therapy Track**

**PHT 7435—Vertebral Column I (VC I)**

This course will address orthopedic evaluation and intervention of the lumbar, thoracic, and cervical spine and address in detail the evaluation, diagnosis, prognosis, intervention, and outcome assessment of orthopedic disorders. The anatomy, physiology, biomechanics, and pathophysiology of all joints of the spine will be covered, emphasizing an evidenced-based approach to physical therapy and medical intervention of the joints of the spine. Patient examination and intervention will include manual therapy techniques, special tests, and exercises. Intervention methods will include classic manipulative therapy procedures for the spine (including traction),

stability exercises, stretching/strengthening exercises, and directional preference exercises for common disorders of the vertebral column. The course will also address indications and contra-indications for manipulative therapy for neuromuscular and rheumatologic conditions. The campus session will focus on psychomotor skills, with the online portion focusing on theory. **(5 credits)**

#### **PHT 7436—Vertebral Column II (VC II)**

This course will address advanced manipulative therapy of the lumbar spine and sacroiliac joint. It will review the anatomy and biomechanics of the lumbar spine and address the anatomy and biomechanics of the sacroiliac (S-I) joint. Advanced examination (with a variety of special tests) and intervention techniques for the lumbar spine and sacroiliac joint will be covered. The manipulative therapy procedures provided for the lumbar spine will be more advanced in this course than those provided in VC I. The interventions for the lumbar spine will cover examination and intervention procedures requiring higher psychomotor skills than those covered in VC I. In addition, the course will cover examination and treatment of common lumbar/SI musculoskeletal disorders resistant to physical therapy intervention as well as uncommon lumbar/SI musculoskeletal syndromes that respond well to manipulative therapy. The campus session will focus on psychomotor skills, with the online portion focusing on theory. **Recommended Prerequisite:** PHT 7435 **(4 credits)**

#### **PHT 7440—Vertebral Column III (VC III)**

This course will address advanced manipulative therapy and review the anatomy and biomechanics of the cervical and thoracic spine and the rib cage. It will address advanced examination (with more variety of special tests than VC I) and intervention techniques for the cervical and thoracic spine and the rib cage. The manipulative therapy interventions will cover specific techniques for the upper cervical spine, as well as examination and intervention procedures for the cervical and thoracic spine, requiring higher psychomotor skills than those covered in VC I. In addition, the course will include examination and treatment of common cervical/thoracic musculoskeletal disorders resistant to physical therapy intervention as well as uncommon cervical/thoracic musculoskeletal syndromes that respond well to manipulative therapy. The campus session will focus on psychomotor skills, with the online portion focusing on theory. **Recommended Prerequisite:** PHT 7435 **(4 credits)**

#### **PHT 7437—Peripheral Joints I (PJ I)**

This course will address orthopedic evaluation and intervention of all peripheral joints of the body (shoulder, elbow, wrist/hand, hip, knee, and ankle/foot). This will include evaluation, diagnosis, prognosis, intervention, and outcome assessment of orthopedic disorders. The anatomy, physiology, biomechanics, and pathophysiology of all joints of the extremities will be discussed in detail.

Physical therapy and medical intervention of the joints of the extremities will be addressed with focus on evidence-based practice. The course will cover a plan of care for patients with common neuromusculoskeletal disorders of upper and lower extremities. Intervention methods will cover classic manipulative therapy procedures for the peripheral joints (including distraction), stability exercises, stretching exercises, and strengthening exercises. The course will also address indications and contra-indications for manipulative therapy of neuromusculoskeletal and rheumatologic conditions. The campus session will focus on psychomotor skills, with the online portion focusing on theory. **(4 credits)**

#### **PHT 7438—Peripheral Joints II (PJ II)**

This course will address advanced manipulative therapy of the peripheral joints, reviewing the anatomy and biomechanics of these joints. It will include advanced examination (with more variety of special tests than PJ I) and intervention techniques for peripheral joints (including thrust techniques) that require higher psychomotor skills than those covered in PJ I. In addition, the course will cover examination and treatment of common peripheral musculoskeletal disorders resistant to physical therapy intervention as well as uncommon peripheral musculoskeletal syndromes that respond well to manipulative therapy. The campus session will focus on psychomotor skills, with the online portion focusing on theory. **(3 credits)**

#### **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 VC I, VC II, VC III, PJ I, and PJ II. 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 7435, PHT 7436, PHT 7440, PHT 7437, PHT 7438 (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)

#### **PHT 7015—The Therapist and Cultural Diversity**

This course explores how multicultural issues impact the physical therapy profession. Students will develop awareness of cultural issues and beliefs, form an understanding regarding cultural diversity, develop a tolerance toward other belief systems, and appreciate the differences that each ethnic and cultural belief system embraces. (available through the Health Science Program as MHS 5003) (3 credits)

#### **PHT 7925—Survey of Alternative and Complementary Therapies**

Synthesize information from various alternative and/or complementary therapies in order to help clients make informed choices. The course includes a survey of alternative health care practices in different cultures and a comparison between eastern and western practices (available through the health science program). (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 Physical Therapy Department 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). It requires 75 semester hours beyond the undergraduate professional physical therapy degree.

Requirements include satisfactory completion of all courses, seminars, independent study, and research.

Coursework is divided into required core, specialty, and elective courses.

### 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 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—A 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  
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/or the applicant's capability for doctoral studies (At least one reference should come from a faculty member of a physical therapy school.)
4. official GRE scores and TOEFL, IELTS, or PTE—A, 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 below.

- World Education Services  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)
- Foreign Credentialing Commission on Physical Therapy\* (FCCPT)  
511 Wythe Street  
Alexandria, VA 22314, USA  
(703) 684-8406  
[www.fccpt.org](http://www.fccpt.org)
- International Consultants of Delaware, Inc.  
3600 Market Street  
Suite 450  
Philadelphia, PA 19104  
(215) 222-8454, ext. 603  
[www.icdeval.com](http://www.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, 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 2014–2015 (subject to change by the board of trustees without notice) is \$610 per credit hour. An NSU student services fee of \$1,050 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:

Requirements	Semester Hours
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

\*\*PHT 7500 or PHT 7510 is a required course.

†May be required for students who enter the program with an undergraduate degree in physical therapy

### 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)\*

### 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 II

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 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 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, discriminate 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 7130—Dissertation 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 7500—Designing Educational Materials for CDs/DVDs**

Students are initially exposed to concepts and principles underlying the design and development of courseware. Then students apply teaching and learning theories to the creation of courseware, on the topic of their choice, saved to a zip disk or CD. The goal of the course is for students become proficient in the analysis, design, development, implementation, and evaluation of effective courseware. (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 Web sites based on those principles, apply the newly acquired design principles to the development of individual home pages, and create a Web-based course using WebCT. (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 credits)

**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)\*

## Physician Assistant Department— 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 86,000 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. The United States Bureau of Labor Statistics (BLS) projects that employment of PAs is expected to grow 30 percent from 2010 to 2020.

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 Physician Assistant Department 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.

During the clinical year of study, the student participates in challenging clinical rotations at a variety of health care facilities associated with the program. The five required core rotations are in family medicine, emergency medicine, pediatrics, surgery, and internal medicine. The students also complete one selective rotation in orthopedics, dermatology, or prenatal care/gynecology and three elective rotations in any area of medicine they wish to pursue. The required subject, selective, and two of the elective rotations are six weeks in length. The remaining elective rotation is four weeks in length.

### Accreditation

The NSU Physician Assistant Program is accredited by the Accreditation Review Commission for Physician Assistants, Inc., (ARC-PA). The NSU Physician Assistant Program has enjoyed continuing accreditation since its

inception and was last evaluated in 2008. The continuing accreditation status indicates that a PA program, at the time of the last site visit by the ARC-PA, demonstrated its ability to comply with the ARC-PA standards of accreditation. The NSU Physician Assistant Program—Fort Lauderdale will be re-evaluated in 2015 for an extension of its continuing accreditation status.

### Mission Statement

To provide a primary care training program designed for, and dedicated to, producing competent physician assistants who will provide quality health care in rural, urban, underserved, and culturally diverse communities; to increase the accessibility of quality health care in the primary care setting; 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 including lab\* (4 semester hours)
- human physiology including lab\*(4 semester hours)
- biochemistry or organic chemistry (3 semester hours)
- genetics (3 semester hours)

\*If anatomy and physiology are taken as a combined course, both Anatomy and Physiology I and II must be taken.

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, and within 10 years of the application date.)

The following courses are recommended:

- biochemistry or organic chemistry laboratory (1 semester hour)
  - medical terminology (1 semester hour)
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.

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test to the Office of Admissions. Our school code is 5522. 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 [www.gre.org](http://www.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 applications are submitted online at [www.caspaonline.org](http://www.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.

Three letters of recommendation/evaluation must be sent to CASPA. One letter of recommendation/evaluation must be provided by an academic adviser, professor, coworker, supervisor, or similar individual. Two letters of recommendation/evaluation must be from health care professionals, one of which must be from a physician or PA with whom you have worked or volunteered. None of the letters should be from family, friends, or personal practitioners.

## 3. Send GRE scores to NSU PA Office of Admissions

Official Graduate Record Exam (GRE) scores must be submitted directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physician Assistant Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

The NSU code number is 5522. As stated previously, your GRE must have been taken in the last five years and must be taken early enough for official scores to be received by the supplemental application deadline of January 31.

## 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 31 in order to be considered for admission for the June 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

- competitive cumulative and science GPA
- competitive GRE score
- three letters of recommendation (including one from a physician or physician assistant)
- health care experience
- completion of all science prerequisites

## 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 March. An invitation to interview is not a guarantee of admission.

## 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, coursework is in progress or anticipated, please identify these courses on the supplemental application. Applicants who have completed their science prerequisites will be favored for early interview invitations.

## 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 for 2014–2015 (subject to change by the board of trustees without notice) is \$29,975. Tuition for 2015–2016 will be subsequently posted on our Web site ([www.nova.edu/pa](http://www.nova.edu/pa)).
- 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 \$1,050 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 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 14 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 13 months of clinical training with required clinical rotations in family medicine, emergency medicine, pediatrics, surgery, and internal medicine. The students also complete one selective rotation in orthopedics, dermatology, or prenatal care/gynecology and three elective rotations in any area of medicine they wish to pursue. The required subject, selective, and 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: 14 months

Clinical: 13 months

First Semester—Summer I (June–August)			Lecture	Laboratory	Credit Hours
ANA	5420	Anatomy	54	28	5
PHS	5400	Physiology	54	0	3
PAC	5400	Clinical Pathophysiology	48	0	3
PAC	5000	Physical Diagnosis I	34	35	3
PAC	5002	Medical Terminology	14	0	1
PCO	5300	Biomedical Principles	18	0	1
PAC	5001	Introduction to the PA Profession	20	0	1
<b>Total Hours:</b>			<b>242</b>	<b>63</b>	<b>17</b>

Second Semester—Fall (September–December)			Lecture	Laboratory	Credit Hours
MIC	5400	Microbiology	52	0	3
PAC	5404	Legal and Ethical Issues in Health Care	34	0	2
PAC	5100	Physical Diagnosis II	30	36	3
PCO	5400	Pharmacology I	38	0	2
PAC	5110	Clinical Medicine and Surgery I	120	0	8
PAC	5130	Clinical Laboratory Medicine I	20	0	1
PAC	5229	Electrocardiography	30	6	2
<b>Total Hours:</b>			<b>324</b>	<b>42</b>	<b>21</b>

Third Semester—Winter (January–May)			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	7
PAC	5412	Interpretation and Evaluation of Medical Literature	30	0	2
PAC	5131	Clinical Laboratory Medicine II	36	0	2

PCO	5410	Pharmacology II	72	0	4
PAC	5311	Clinical Behavioral Medicine	45	0	3
PAC	5410	Complementary Medicine and Nutrition	30	0	2
<b>Total Hours:</b>			<b>477</b>	<b>38</b>	<b>31</b>

<b>Fourth Semester—Summer II Advanced Didactic (June–July)</b>			Lecture	Laboratory	Credit Hours
PAC	5460	Life Support Procedures and Skills	24	40	3
PAC	5510	Clinical Procedures and Surgical Skills	58	28	5
PAC	5129	Health Promotion and Disease Prevention	22	0	2
PAC	5010	Core Competencies	20	3	2
PAC	5407	Clinical Pharmacology	50	10	4
PAC	5408	Clinical Genetics	36	0	2
<b>Total Contact Hours:</b>			<b>210</b>	<b>81</b>	<b>18</b>

<b>Clinical Curriculum—Second Year (August 2009–August 2010)</b>			Weeks	Contact Hours	Credit Hours
PAC	6304	Selective • Orthopedics • Dermatology • Prenatal Care and Gynecology	6	270	6
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. (54-28-5)

### MIC 5400—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. (52-0-3)

### 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 (34-35-3)**

### PAC 5001—Introduction to the Physician Assistant Profession

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. (20-0-1)

### PAC 5002—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. (14-0-1)

### PAC 5010—Core Competencies\*

This course has three components. First, the 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. Second, the course will introduce concepts and computer techniques in electronic medical records in an effort to facilitate use of this equipment during clinical rotations. Finally, the course will serve as a review of medical imaging with emphasis on normal. (20-3-2)

### 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. 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 (30-36-3)**

### 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. (120-0-8)

### PAC 5129—Health Promotion and Disease Prevention

The course will focus on wellness through preventive interventions and services. This course emphasizes the

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 course will also discuss the structures and administrative principles in health care organizations, the role of the practicing PA in unique environments including rural and underserved medicine, cultural issues in health care, reimbursement for services rendered, quality assurance, federal health care programs, and other issues involving patient care. (22-0-2)

#### **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. (20-0-1)

#### **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. (36-0-2)

#### **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 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 (30-6-2)

#### **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. (112-0-7)

#### **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. (30-0-2)

#### **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. (34-0-2)

#### **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. 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. 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. (50-10-4)

#### **PAC 5408—Clinical Genetics**

This course covers basic principles of genetics and the application of these principles in the primary care physician assistant clinical practice. The discussions include the basic structures and behavior of genes, the human genome, the role of genetics in medicine, genetic basics of human disease, application of genetics, and ethical considerations. (36-0-2)

#### **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 “Web-guided” in that students will have the opportunity to access Blackboard at any time to view reading assignments, the course calendar, the syllabus, and additional resources, as well as to contact the instructor. (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). (24-40-3)

#### **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. (58-28-5)

#### **PAC 6304—Selective Core**

In this selective, full-time, clinical rotation, students select one of three areas of medicine. The rotation provides an opportunity to investigate an orthopedic, dermatologic, or prenatal care/gynecologic clinical experience. **Prerequisites:** completion of PAC 6311 or PAC 6318 to select Dermatology or Prenatal Care/Gynecology; completion of PAC 6313 to select Orthopedics (270-0-6)

#### **PAC 6308—Clinical Elective III**

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)

#### **PAC 6311—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)

#### **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. (300-0-6)

#### **PAC 6315—Emergency Medicine**

Required six-week rotation in hospital emergency department or urgent care clinic teaches students to recognize, assess, and treat acute and life threatening clinical problems. Emphasizes common primary care emergencies. (270-0-6)

#### **PAC 6317—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. (270-0-6)

**PAC 6318—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)

**PAC 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. Each six-week elective may be taken sequentially or separately, but not with the same preceptor. (270-0-6)

**PAC 6402—Clinical Elective II**

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. Each six-week elective may be taken sequentially or separately, but not with the same preceptor. (270-0-6)

**PAC 6500—Graduate Project**

With the guidance of the faculty adviser, students will use the skills acquired throughout the year to prepare a team grand rounds presentation and paper on current issues in medicine. The project allows the students to demonstrate their ability to work as a team while engaging in a comprehensive literature review, preparing a presentation for medical peers, and effectively communicating a medical case and discussion to future fellow practitioners and faculty members in a clear, concise, and medically oriented manner. The presentation will be compiled into a clear, concisely written, team-developed paper to finalize the project. (0-0-3)

**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. (18-0-1)

**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. (38-0-2)

**PCO 5410—Pharmacology II**

This course will provide the students a thorough understanding of the classes of drugs commonly used in medical 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)

**PHS 5400—Physiology**

The course provides an overview of physiological processes of critical importance to students in the 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. (54-0-3)



## Physician Assistant Department— Southwest Florida

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 approximately 92,000 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. *Forbes.com* ranked physician assistant studies as the number one best master's degree for jobs in 2012. The United States Bureau of Labor Statistics (BLS) projects that employment of PAs is expected to grow 30 percent from 2010 to 2020.

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 Department—Southwest Florida 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 Regional Campus. These rotations include family medicine, internal medicine, pediatrics, gynecology and prenatal care, emergency medicine, and surgery, all complemented by three elective rotations. 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—Southwest Florida is accredited by the Accreditation Review Commission on Education for Physician Assistants, Inc., (ARC-PA). The NSU PA Department—Southwest Florida was initially awarded provisional accreditation in 2005. The ARC-PA has granted Continued Accreditation to the Physician Assistant Program—Southwest Florida, 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 2018. The department is a member of the Physician Assistant Education Association (PAEA).

### Mission Statement

In keeping with the ideology of both the university and the College of Health Care Sciences mission statements, the NSU Physician Assistant Program—Southwest Florida endeavors to

- provide an exemplary educational experience that emphasizes primary medical care, and enables graduates to demonstrate competency and skill in a variety of clinical environments
- inspire the pursuit of lifelong learning
- foster leadership traits that will enable graduates to focus on improving access to quality, affordable health care
- heighten public awareness 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 baccalaureate degree from a regionally accredited college or university.

The program requires the students to earn a grade of C (2.0) or better in each of the 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 grade point averages in the range of 3.0 to 3.3 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 algebra or higher (3 semester hours)
- English (6 semester hours)
- 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\* (3 semester hours)
- human physiology\* (3 semester hours)
- biochemistry or organic chemistry (3 semester hours)
- medical terminology (1 semester hour)
- electives (43 semester hours) Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical and social sciences, or the humanities.

\*Note: These science courses must have been completed within seven years prior to application to the program.

The following courses are recommended:

- genetics (3 semester hours)
- biochemistry or organic chemistry laboratory (1 semester hour)

- anatomy laboratory (1 semester hour)
- physiology laboratory (1 semester hour)

Upon review of a student's record, the committee on admissions may require additional coursework and testing as a condition of acceptance.

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.

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test to the Office of Admissions. Our school code is 5522. 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 [www.gre.org](http://www.gre.org) or by telephone at (609) 921-9000.

## Computer Requirements

All students are required to have a laptop computer or tablet device with wireless Internet capability, a printer, and a Webcam. Students must have access to Microsoft Office or its equivalent. Please see the Hardware Guidelines for Computing at NSU, available at <https://www.nova.edu/publications/it-standards/#/1/>, for more detail regarding minimum specifications.

The clinical year will require the student to track clinical experiences via a Web-based program. Students may elect to keep handwritten copies of clinical experiences to input into their laptop or tablet device at a later date or may elect to use their laptop, tablet device, a Windows-compatible PDA, or a mobile phone with Internet connectivity to help aid in the clinical year tracking.

## 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 [www.caspaonline.org](http://www.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 January 15 to be considered for admission in May/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.

Three letters of recommendation/evaluation must be sent to CASPA. The first letter **must be from a physician or physician assistant**. The second letter must be from a health care professional involved with direct patient care. The third may be from an individual such as an academic adviser, professor, coworker, or supervisor. None of the three letters may be from relatives or friends. Applications submitted without these letters will not be given consideration.

### 3. Send GRE scores to NSU PA Office of Admissions

Official Graduate Record Exam (GRE) scores must be submitted directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physician Assistant Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

The NSU code number is 5522. Your GRE test scores must be less than five years old and must be taken early enough for official scores to be received by the supplemental application deadline of February 15. 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.

### 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 February 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.**

### 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.

## **Undergraduate/Physician Assistant Dual Admission Program with Hodges University**

Nova Southeastern University's College of Health Care Sciences has established an articulation agreement with Hodges University for a select number of highly motivated, qualified students interested in pursuing professional studies in the Physician Assistant Program. Candidates must complete all Hodges University core requirements and all prerequisite courses for entry into the NSU PA Program—Southwest Florida and will earn a baccalaureate degree from Hodges University prior to entry into the PA Program. In addition, candidates must maintain a specified grade point average during the undergraduate years and must achieve scores on the Graduate Record Examination (GRE) that are no less than the mean scores for each element of the GRE of those students admitted to the NSU PA Program—Southwest Florida the prior year. Candidates who meet the specified requirements receive a formal nomination to the NSU PA Program—Southwest Florida from the chair of the Health Studies Program of Hodges University and are guaranteed an interview. There is no guarantee of automatic admission to the PA program.

For information and requirements, contact

Office of Admissions  
Hodges University  
2655 Northbrooke Drive  
Naples, Florida 34119  
(239) 513-1122.

### **Tuition and Fees**

- Tuition for 2014–2015 (subject to change by the board of trustees without notice) is \$29,975.
- 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 \$250. This is due February 15, under the same terms as the acceptance fee.
- Preregistration fee is \$250. This is due April 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 \$1,050 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 department requires matriculants to complete the entire curriculum at NSU Southwest Florida 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, 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 Regional 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—Southwest Florida

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	55	38	5
PAN	5100	Physiology	54	0	3
PAN	5300	Physical Diagnosis I	42	20	3
PAN	5400	History Taking and Communication Skills	18	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>233</b>	<b>58</b>	<b>16</b>

Second Semester—Fall (August–December)			Lecture	Laboratory	Credit Hours
PAN	5200	Microbiology	45	0	3
PAN	5403	Legal and Ethical Issues in Health Care	45	0	3
PAN	5310	Physical Diagnosis II	36	36	3
PAN	5410	Pharmacology I	38	0	2
PAN	5500	Clinical Medicine and Surgery I	112	0	7
PAN	5600	Clinical Laboratory Medicine I	36	4	2
PAN	5101	Clinical Pathophysiology	45	0	3
<b>Total Hours:</b>			<b>357</b>	<b>40</b>	<b>23</b>

Third Semester—Winter (January–May)			Lecture	Laboratory	Credit Hours
PAN	5320	Physical Diagnosis III	50	30	4
PAN	5510	Clinical Medicine and Surgery II	120	0	8
PAN	5520	Clinical Medicine and Surgery III	112	0	7
PAN	5006	Electrocardiography	30	6	2
PAN	5610	Clinical Laboratory Medicine II	32	0	2
PAN	5420	Pharmacology II	72	0	4
PAN	5540	Clinical Behavioral Medicine	45	0	3
<b>Total Hours:</b>			<b>461</b>	<b>36</b>	<b>30</b>

<b>Fourth Semester—Summer II Advanced Didactic (May–July/August)</b>			Lecture	Laboratory	Credit Hours
PAN	5461	Life Support Procedures and Skills	24	40	3
PAN	5560	Clinical Procedures and Surgical Skills	44	24	3
PAN	5008	Health Promotion and Disease Prevention	22	0	1
PAN	5009	PA and Health Care Dynamics	18	0	1
PAN	5411	Complementary Medicine and Nutrition	18	0	1
PAN	5419	Clinical Pharmacology	46	0	3
PAN	5423	Interpretation and Evaluation of Medical Literature	50	30	4
PAN	5005	Genetics	28	4	2
<b>Total Hours:</b>			<b>250</b>	<b>94</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 4*) • Behavioral Health • Otorhinolaryngology • Orthopedics • Internal Medicine Subspecialty	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 4 selectives required—may use other selectives as electives

## Physician Assistant—Southwest Florida Course Descriptions

Note: Listed at the end of each entry are lecture clock hours, laboratory clock hours, and semester hours.

\*Core competency course

### 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. (55-38-5)

### 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. (28-4-2)

### 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. (30-6-2)

### 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. (22-0-1)

### 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. (18-0-1)

### 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. (54-0-3)

### PAN 5102—Clinical Pathophysiology I

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. (45-0-3)

### 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. (45-0-3)

### 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** (45-0-3)

### 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** (36-36-3)

### 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. (50-30-4)

#### **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. (18-0-1)

#### **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. (45-0-3)

#### **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. (38-0-2)

#### **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. (72-0-4)

#### **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. (50-30-4)

#### **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). (24-40-3)

#### **PAN 5500—Clinical Medicine and Surgery I**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of selected disease entities. (112-0-7)

#### **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. (120-0-8)

#### **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. (112-0-7)

**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. (45-0-3)

**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. (44-24-3)

**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. (36-4-2)

**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. (32-0-2)

**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, 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. Each six-week elective may be taken sequentially at the same site or separately. (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 Publication Skills and Medical Research (MMS 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. (4-90-3)

## Physician Assistant Department—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 86,000 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. The United States Bureau of Labor Statistics (BLS) projects that employment of PAs is expected to grow 39 percent from 2008 to 2018.

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 Physician Assistant Department—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, 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

At its **March 2014** meeting, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) placed the **Nova Southeastern University—Orlando Physician Assistant** program, sponsored by **Nova Southeastern University—Orlando** on **Accreditation Probation** until its next validation review in **March 2016**. Probation is a temporary status of accreditation limited to two years and conferred when a program does not meet the Standards and when the capability of a program to provide an acceptable educational experience for its students is threatened. Once placed on probation, programs that still fail to comply with accreditation requirements in a timely manner, as specified by the ARC-PA, may be scheduled for a focused site visit and/or risk having their accreditation withdrawn.

## Mission Statement and Program Goals

- 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

## 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. Degrees conferred greater than 10 years prior to the application date will not be accepted without 18 semester hours (or equivalent quarter hours) of prerequisites or

upper division science classes for science majors (typically defined as a course number beginning with a 3 or a 4) within the previous five years. The program requires the students to earn a grade of C (2.0) or better in each of the 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 at the time of application and continuing through matriculation.

2. The college requires the students to earn a grade of C (2.0) or better in each of the following required courses:

- college algebra or higher (3 semester hours, not including statistics)
- English composition (3 semester hours)
- English literature (3 semester hours)
- humanities/arts (3 semester hours)
- social sciences (9 semester hours)
- general biology (or zoology), including laboratory (4 semester hours)
- general microbiology, including laboratory (4 semester hours)
- general chemistry I and II, including laboratory (8 semester hours)
- human anatomy and human physiology (3 semester hours of each subject or 6 semester hours of combined subject courses)
- biochemistry or organic chemistry (3 semester hours)
- introductory statistics (3 semester hours)
- medical terminology (1 semester hour)

The required science courses must be specifically for science majors and must be completed within 10 years of application date. 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. CLEP placement exams are not accepted for science prerequisites. 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)

Upon review of a student's record, the Committee on Admissions may require additional coursework and testing as a condition of acceptance.

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 NSU PA 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 [www.gre.org](http://www.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

All students are required to have a laptop computer (PC preferred) and a printer. The computer must have the following minimum specifications:

- Intel core i5 or i7
- sound capability and speakers
- Internet connection with private Internet service provider (ISP) for universal access to the Internet
- wireless capability
- combo DVD and RW drive
- printer
- internal or external Web cam

The following are recommended features:

- Windows 7 or higher OR Mac OS X version 10.7 or higher
- Microsoft Office 2007 with PowerPoint, Word, and Excel minimum
- surge suppressor
- 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 applications are available online at [www.caspaonline.org](http://www.caspaonline.org).

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 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 January 15 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.

Three letters of recommendation/evaluation must be sent to CASPA or the application will not be considered. One letter of recommendation/evaluation must be sent from an individual (other than a relative or friend) such as an academic adviser, professor, coworker, or supervisor. 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 or assistant.

### 3. Send GRE scores to NSU PA Office of Admissions

Official Graduate Record Exam (GRE) scores must be submitted directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physician Assistant Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The NSU code number is 5522. Your GRE test scores must be less than five years old and must be taken early enough for official scores to be received by the supplemental application deadline of February 15.

### 4. Complete Supplemental Application

Once the CASPA application has been received by Nova Southeastern University, a supplemental application will be mailed to the applicant.

### 5. Send Supplemental Application

Send the completed supplemental application to EPS at the address below.

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physician Assistant Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Phone: (954) 262-1101 or 877-640-0218  
Fax: (954) 262-2282

Your complete supplemental application must be received no later than February 15 in order to be considered for admission for the June entering class. Once we receive your GRE scores; copies of all professional certifications, registrations, licenses, or relevant credentialing materials; your supplemental application; and the nonrefundable, \$50 application 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 \$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 meets program criteria 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.**

Inquiries should be directed to

Nova Southeastern University  
Physician Assistant Department—Orlando  
Coordinator of Student Services and Recruitment  
4850 Millenia Boulevard  
Orlando, Florida 32839-6012

Phone: (954) 262-1101 or 877-640-0218  
Fax: (954) 262-2282

### **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 2014–2015 (subject to change by the board of trustees without notice) \$29,975. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 \$250. 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.
- Preregistration fee is \$250. This is due March 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 with an E.

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 are generally in class from Monday through Friday, 8:00 a.m. to 4:20 p.m., although there may be 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 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, 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 three courses)
  - Geriatrics (six weeks)
  - Orthopedics (six weeks)
  - Dermatology (six weeks)
  - Otorhinolaryngology (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 elective 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 on required specialty rotations will occur on scheduled end-of-rotation days (EORs). OSCE, Pack Rat, 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	30	0	2
PAO	5605	Clinical Laboratory Medicine	40	0	3
<b>Total Hours:</b>			<b>240</b>	<b>96</b>	<b>19</b>

Second Semester—Fall (September–December)			Lecture	Lab	Credit Hours
PAO	5003	Fundamentals of Medical Imaging	28	0	2
PAO	5006	Electrocardiography	16	0	1
PAO	5104	Clinical Pathophysiology	46	0	3
PAO	5200	Microbiology	42	0	3
PAO	5310	Physical Diagnosis II	20	36	3
PAO	5404	Legal and Ethical Issues in Health Care	42	0	3
PAO	5410	Pharmacology I	32	0	2
PAO	5421	Epidemiology and Biostatistics in Health Care	44	0	3
PAO	5500	Clinical Medicine and Surgery I	114	0	7
<b>Total Hours:</b>			<b>384</b>	<b>36</b>	<b>27</b>

Third Semester—Winter (January–May)			Lecture	Lab	Credit Hours
PAO	5422	Research Methodology	24	0	2
PAO	5320	Physical Diagnosis III	34	42	4
PAO	5420	Pharmacology II	64	0	4
PAO	5510	Clinical Medicine and Surgery II	172	0	11
PAO	5520	Clinical Medicine and Surgery III	148	0	10
PAO	5540	Clinical Behavioral Medicine	44	0	3
<b>Total Hours:</b>			<b>486</b>	<b>42</b>	<b>34</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	28	0	2
PAO	5009	PA and Health Care Dynamics	30	0	2
PAO	5407	Clinical Pharmacology	18	0	1
PAO	5408	Complementary Medicine and Nutrition	28	0	2
PAO	5412	Publication Skills and Medical Research	26	30	3
PAO	5460	Life Support Procedures and Skills	20	24	2
PAO	5560	Clinical Procedures and Surgical Skills	32	32	3
<b>Total Hours:</b>			<b>202</b>	<b>116</b>	<b>17</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 four*) <ul style="list-style-type: none"> <li>• Geriatrics</li> <li>• Orthopedics</li> <li>• Dermatology</li> <li>• Otorhinolaryngology</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 four 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. (16-0-1)

### PAO 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. 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. (28-0-2)

### 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. (30-0-2)

### 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. (20-36-3)

### **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. (42-0-3)

### **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. (30-0-2)

### **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. (18-0-1)

### **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**

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. (26-30-3)

### **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. (44-0-3)

### **PAO 5422—Research Methodology**

Emphasis and overview of the importance of data collection, research methods, and application of scientific thought to research findings. 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. (24-0-2)

### **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). (20-24-2)

**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. (114-0-7)

**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. (172-0-11)

**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. This course is a prerequisite for clinical rotations. (32-32-3)

**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. (40-0-3)

**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. Each four-week elective may be taken sequentially at the same site or separately. (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. (240-6-6)

### **PAO 6406—Selective**

Choose one of the four 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.

### **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 Department— 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 86,000 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. The United States Bureau of Labor Statistics (BLS) projects that employment of PAs is expected to grow 30 percent from 2010 to 2020.

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 Department 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, and surgery, all complemented by three elective rotations. NSU graduates are prepared to work in many clinical areas, both in primary care and specialty medicine.

## Accreditation

The NSU Physician Assistant Program is accredited by the Accreditation Review Commission for Physician Assistants, Inc., (ARC-PA). The NSU Physician Assistant Program—Jacksonville received Continued Accreditation in March 2012. The program is a member of the Physician Assistant Education Association (PAEA).

## Mission Statement

To provide a primary care training program designed for, and dedicated to, producing competent physician assistants who will provide quality health care in rural, urban, underserved, and culturally diverse communities; to increase the accessibility of quality health care in the primary care setting; to prepare students for lifelong learning and leadership roles; and to promote 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, 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 or organic chemistry (3 semester hours)
- genetics (3 semester hours)

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 or organic chemistry laboratory (1 semester hour)
- anatomy laboratory (1 semester hour)
- physiology laboratory (1 semester hour)
- introduction to statistics (1 semester hour)
- genetics laboratory (1 semester hour)

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 [www.gre.org](http://www.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 [www.caspaonline.org](http://www.caspaonline.org) or by writing to

CASPA  
P.O. Box 9108  
Watertown, MA 02471

The CASPA application deadline is January 15 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.

Three letters of recommendation/evaluation must be sent to CASPA. One letter of recommendation/evaluation must be sent from an individual (other than a relative or friend) such as an academic adviser, professor, or supervisor. Two letters of recommendation/evaluation must be from health care professionals, one of which must be from a physician or PA with whom you have worked, shadowed, or volunteered.

**3. Send GRE scores to NSU PA Office of Admissions**  
Official Graduate Record Exam (GRE) scores must be submitted directly to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Physician Assistant Department Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The NSU code number is 5522. Your GRE test scores must be less than five years old and must be taken early enough for official scores to be received by the supplemental application deadline of February 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 February 15 in order to be considered for admission for the June 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.

#### **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 for the Jacksonville PA program are conducted at the NSU campus in Jacksonville, Florida, and are by invitation only. Interviews will be held from mid-September through mid-May. 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 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, 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 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 2014–2015 (subject to change by the board of trustees without notice) is \$29,975. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 \$250. This is due February 15, under the same terms as the Acceptance Fee.
- Preregistration fee is \$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.



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 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 clinical training with required clinical rotations in family medicine, emergency medicine, pediatrics, prenatal care/gynecology, surgery, and internal medicine. Students must also complete three elective rotations, for a total of nine clinical rotations. The required rotations and 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 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: 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
PAJ	5506	Cultural Issues in Health Care	15	0	1
PAJ	5000	Anatomy	59	38	5
PAJ	5001	Pharmacodynamics	16	0	1
PAJ	5002	Introduction to the PA Profession	16	0	1
PAJ	5003	Fundamentals of Medical Imaging	18	0	1
PAJ	5100	Physiology	54	0	3
PAJ	5300	Physical Diagnosis I	42	20	3
PAJ	5400	History Taking and Communication Skills	18	0	1
PAJ	5004	Medical Terminology	0	25	1
<b>Total Hours</b>			<b>238</b>	<b>83</b>	<b>17</b>

Second Semester—Fall (September–December)			Lecture	Lab	Credit Hours
PAJ	5504	Legal and Ethical Issues in Health Care	45	0	3
PAJ	5006	Electrocardiography	18	4	1
PAJ	5101	Clinical Pathophysiology I	18	0	1
PAJ	5200	Microbiology	45	0	3
PAJ	5310	Physical Diagnosis II	20	36	2
PAJ	5410	Pharmacology I	38	0	2
PAJ	5500	Clinical Medicine and Surgery I	112	0	7
PAJ	5600	Clinical Laboratory Medicine I	20	0	1
<b>Total Hours</b>			<b>316</b>	<b>40</b>	<b>20</b>

<b>Third Semester—Winter (January–May)</b>			Lecture	Lab	Credit Hours
PAJ	5102	Clinical Pathophysiology II	34	0	2
PAJ	5320	Physical Diagnosis III	30	40	4
PAJ	5420	Pharmacology II	72	0	5
PAJ	5510	Clinical Medicine and Surgery II	120	0	8
PAJ	5520	Clinical Medicine and Surgery III	112	0	7
PAJ	5540	Clinical Behavioral Medicine	45	0	3
PAJ	5610	Clinical Laboratory Medicine II	34	0	2
<b>Total Hours</b>			<b>447</b>	<b>40</b>	<b>31</b>

<b>Fourth Semester—Summer II Advanced Didactic (June–July)</b>			Lecture	Lab	Credit Hours
PAJ	5005	Clinical Genetics	18	0	1
PAJ	5507	Clinical Pharmacology	16	0	1
PAJ	5508	Complementary Medicine and Nutrition	30	0	2
PAJ	5512	Epidemiology/Interpretation of the Medical Literature	45	0	3
PAJ	5560	Life Support Procedures and Skills	24	40	3
PAJ	5008	Health Promotion and Disease Prevention	22	0	1
PAJ	5009	PA and Health Care Dynamics	30	0	2
PAJ	5570	Clinical Procedures and Surgical Skills	44	24	3
<b>Total Hours</b>			<b>229</b>	<b>64</b>	<b>16</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	300	6
PAJ	6370	Clinical Elective I	6	240	6
PAJ	6380	Clinical Elective II	6	240	6
PAJ	6390	Clinical Elective III	4	160	4
PAJ	6600	Graduate Project	0	0	3
<b>Total Hours</b>			<b>52</b>	<b>2,140</b>	<b>55</b>

Curriculum is subject to change as directed by the department.

## 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. (59-38-5)

### 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 (16-0-1)**

### 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. (16-0-1)

### 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. (18-0-1)

### PAJ 5004—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. (0-25-1)

### 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. (18-0-1)

### 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. (18-4-1)

### 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. (22-0-1)

### 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. (30-0-2)

### 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 (54-0-3)**

### 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. (34-0-2)

### 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. **Prerequisite for PAJ 5310 and 5320 (42-20-3)**

### **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. **(20-36-2)**

### **PAJ 5320—Physical Diagnosis III**

This course is a continuation of PAJ 5310. 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. **(30-40-4)**

### **PAJ 5400—History Taking and Communication Skills**

This course prepares the student to perform a complete medical history, identifying appropriate communication skills needed for interactions with patients, families, and colleagues. **(18-0-1)**

### **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 (38-0-2)**

### **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 (72-0-5)**

### **PAJ 5500—Clinical Medicine and Surgery I**

This course will encompass the etiology, clinical manifestations, appropriate diagnostic evaluation, and management of selected disease entities. **(112-0-7)**

### **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. **(45-0-3)**

### **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. **(15-0-1)**

### **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. (16-0-1)

#### **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. (30-0-2)

#### **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. (120-0-8)

#### **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. (45-0-3)

#### **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. (112-0-7)

#### **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. (45-0-3)

#### **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). (24-40-3)

#### **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. (44-24-3)

#### **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. (20-0-1)

#### **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. (34-0-2)

#### **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. (240-0-6)

#### **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. (240-0-6)

### **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. (240-0-6)

### **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. (240-0-6)

### **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. (300-0-6)

### **PAJ 6370—Clinical Elective I**

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. (240-0-6)

### **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. (240-0-6)

### **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. (160-0-4)

### **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. (0-0-3)

## **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  
[www.aapa.org](http://www.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  
[www.paeaonline.org](http://www.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  
[www.nccpa.net](http://www.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  
[www.bls.gov](http://www.bls.gov)

## Department of Health Science

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 several preeminent, on-campus, entry-level programs. The Bachelor of Health Science—General and Vascular Sonography and Master of Health Science—General and Vascular Sonography are supported by a state-of-the-art vascular teaching laboratory. The entry-level programs for the Bachelor of Health Science—Cardiovascular Sonography and the Master of Health Science—Cardiovascular Sonography are located at our Tampa, Florida, location. We also offer two fully accredited Master of Health Science—Anesthesiologist Assistant specializations, one at our main campus in Fort Lauderdale, Florida, and one in Tampa, Florida.

- **Bachelor of Health Science (B.H.Sc.)**—online
- **Bachelor of Science—Cardiovascular Sonography (B.S.—CVS)**—entry-level, on-campus, Tampa
- **Bachelor of Science—Medical Sonography (B.S.—MS)**—entry-level, on-campus, Fort Lauderdale
- **Master of Health Science (M.H.Sc.)**—online
- **Master of Science in Anesthesia (M.S.A.)**—entry-level, on-campus, Fort Lauderdale
- **Master of Science in Anesthesia (M.S.A.)**—entry-level, on-campus, Tampa
- **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

## Computer Requirements

All students in the department are required to have access to a desktop or laptop computer meeting the minimum requirements listed below:

- Windows (7 or 8) or Mac OS S version 10.7 or above
- Microsoft Office software to include Word, Powerpoint, and Excel
- headphones, microphone, camera, and video conferencing capabilities
- broadband access
- suggested options: 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 found at [www.nova.edu/publications/it-standards](http://www.nova.edu/publications/it-standards).

## Bachelor of Health Science Online Degree Completion Program

The Bachelor of Health Science (B.H.Sc.) program offers an online postprofessional degree advancement program for graduates from associate's degree, diploma, or certificate programs in the health care field, including military-trained health care technicians, radiology technicians, ultrasound technicians, respiratory therapists, dental hygienists, etc. The online B.H.Sc. course of study is interdisciplinary and is designed to provide career and academic advancement for health care practitioners and deliver a well-rounded generalist curriculum. This program is designed to be completed entirely online, requiring no on-campus time, thus allowing the opportunity for members of numerous health care occupations to complete their undergraduate degree while continuing to work.

There have been dramatic changes in the health care market and delivery systems in the United States over the past decade. As health care becomes increasingly competitive, it becomes more important to distinguish one self professionally and academically. The online Bachelor of Health Science Program is offered via the College of Health Care Sciences' Web-based distance learning technology that allows health care professionals to remain in their current location and employment.

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 online Master of Health Science (M.H.Sc.) and later the Doctor of Health Science (D.H.Sc.) 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.



## Description of Curriculum

The program requires that a minimum of 30 semester hours of coursework (including 21 semester hours of required core coursework) be completed through the NSU B.H.Sc. program. A minimum total of 120 semester hours, of which 30 semester hours must fulfill general education requirements, are required to graduate with the B.H.Sc. degree.

The B.H.Sc. program is designed for completion in a distance-learning format and requires no on-campus time. The coursework is professor-paced using Web-based delivery. The curriculum and coursework follow a 12-week semester calendar.

The curriculum is designed to build upon the existing knowledge base of the health care professional while focusing on the overall health care picture. Leadership, diversity, and conflict resolution are but a few of the areas covered in the curriculum.

### Required Core Courses

- BHS 3110—Health Care Ethics (3 semester hours)
- BHS 3120—Introduction to Epidemiology (3 semester hours)
- BHS 3150—Principles of Leadership (3 semester hours)
- BHS 3155—Conflict Resolution in Health Care (3 semester hours)
- BHS 3160—Health Policy (3 semester hours)
- BHS 4000—Cultural Competency in Health Care (3 semester hours)
- BHS 4100—Academic and Professional Writing (3 semester hours—must be taken during the first semester of enrollment in the program)

Total: 21 semester hours

Effective for new matriculants on or after January 2006, students will be required to obtain a grade of C or better (greater than or equal to 73 percent) in every required core course. Students receiving a C-, D+, D, or D- in a required core course will be required to retake the course at its next scheduled offering.

## General Education

### Mission

The NSU undergraduate general education program prepares students to be responsible citizens in a dynamic global environment with a commitment to independent and continuous learning.

### Philosophy

Chief among the values that govern Nova Southeastern University's undergraduate general education curriculum is flexibility, which entails, among other things, the student's

own ability to adapt, to reform, and to begin anew. The NSU faculty values the mental suppleness necessary for its graduates to succeed in a complex, ever-changing environment. Thus, its curriculum inculcates the skills that are conducive to independent learning and a lifelong commitment to scholarship, growth, and change.

### Responsible Citizens

As a result of their membership in a university community, students have both obligations and privileges that help prepare them for their role as citizens of the state and world. They are encouraged to become fully engaged members of this community on a variety of levels and in a plethora of ways, including membership in classes (participating in discussion and performing tasks to benefit group projects); participation in extracurricular, cocurricular, recreational, and value-added programs (convocation, guest speakers, health and wellness programs, honors program, etc.); and involvement in leadership programs and student organizations. To that end, the university sponsors an ever-growing body of cocurricular and extracurricular activities that challenge, support, and enhance student inquiry, social awareness, physical and mental well-being, and academic achievement.

### Dynamic Global Environment

Through exposure to an array of issues in history, behavioral sciences, anthropology, literature, philosophy, film studies, language, and performance arts, our students become immersed in the traditions and forces that have shaped our contemporary multicultural society. Students also benefit by belonging to a diverse, multilingual student body. Members of the university at the main campus and at regional campuses value engagement with their respective communities. University clinics, facilities, and outreach programs are among the many ways students make a difference in a broader community. By fostering experience and engagement within and beyond the classroom, both at home and abroad, the general education program enables students to make a connection between the world of ideas and those practical matters that demand their application.

### Independent and Continuous Learning

The inculcation of independent learning relies on a curriculum that educates students in mathematical and ethical reasoning, independent problem solving, and courageous exploration of issues and solutions. The general education curriculum brings students closer to a confident, lifelong commitment to the value of inquiry and the competencies necessary to conduct it, including the ability to identify and evaluate reliable sources. The annual undergraduate student symposium intends to recognize and support, as well as encourage, student research.

One's undergraduate major is the final and necessary component of the bachelor's degree, coming at a time in mental development (not necessarily in age) when one

begins to draw the focus of one's mental energies onto an academic subject that becomes, in the process, carefully integrated and interwoven into one's personality. Late in life, many college graduates point to their choice of major as a formative experience for character, as well as a lens through which they have maintained and developed a certain perspective on their own experience and on the world in general.

Prior to this, however, careful groundwork—not only in a variety of courses so that an informed choice of major might be made, but also in terms of preparing one's mind for the particular intellectual demands and expectations of work in a major subject—must take place. As a medieval craftsman might have prepared a parchment before lettering, the array of courses in the general education curriculum clears away obstacles and prepares the mind for greater receptivity. This series of offerings is aimed not so much at content—a misunderstanding that all too often prompts false objections regarding the utility or practicality of a particular course—as much as it is aimed at those habits of inquiry, discipline, studiousness, and openness that make the subsequent major so worthwhile.

Mathematics, therefore, teaches precision, discipline, and elegance; the social sciences illuminate both outer and inner forces that limit personal freedom. Art, literature, and the humanities investigate the human experience, enabling us to experience directly the minds of others from past centuries and throughout the world, leaving us less attached to narrow frames of reference and, in the process, discovering what is universally human. Philosophy clarifies and sharpens our thinking, while history exposes us to the ideas.

In order to be eligible to graduate with the B.H.Sc. degree, a student must have completed 30 semester hours of general education coursework in addition to the B.H.Sc. curriculum with a resulting minimum total of 120 semester hours. If all general education requirements are not met at the time of admission, they can be obtained concurrently while enrolled in the B.H.Sc. program. A student can obtain and transfer these courses through NSU's Farquhar College of Arts and Sciences or another regionally accredited college or university. Official high school transcripts (showing courses, grades, and graduation date) or a GED equivalent are required for applicants with fewer than 24 college credits.

Effective January 1, 2006, prior to matriculation, all applicants must have completed a minimum of 3 semester hours (or the equivalent) of college-level written composition from a regionally accredited college or university, receiving a minimum grade of a C (GPA of 2.0 on a 4.0 scale).

## Required General Education Coursework

### Arts and Humanities

Learning Outcome 1: Students will learn to demonstrate a breadth of knowledge from a variety of arts and humanities disciplines and an understanding and appreciation for the various methods utilized in those fields to make sense of the world. Students will delineate the means by which different scholarly fields reflect, interact with, and influence human thought, culture, and values and apply various “ways of knowing” in the evaluation of contemporary issues or problems.

The student will

- understand basic critical terminology
- recognize different techniques, methods, or approaches to knowing the world employed by various arts and humanities disciplines

6 credits in any course with a prefix of ARTS, DANC, FILM, HIST, HUMN, LITR, MUSC, PHIL, SPAN, THEA, or WRIT, or any foreign language

### Mathematics

Learning Outcome 2: Students will learn to demonstrate knowledge of fundamental mathematical principles and concepts. Students will achieve basic quantitative literacy, allowing them to interpret quantitative data into meaningful terms and understand relationships between sets of quantitative data.

The student will

- understand and apply fractions and percentages
- explain the use of basic statistical data
- effectively utilize integers, ratios, percentages, exponents, and logarithms
- use mathematical methods to solve applied and word problems
- interpret and evaluate quantitative or symbolic models such as graphs, tables, units of measurement, scales, equations, functions, and distributions

6 credits at or above MATH 1040

### Science

Learning Outcome 3: Students will learn to apply methods of scientific inquiry. Students will achieve basic scientific literacy, allowing them to make informed decisions on contemporary consumer or social issues.

The student will

- differentiate among facts, laws, theories, and hypotheses
- employ the basic terminology of at least one area of science and define its major concepts, principles, and fundamental theories

- formulate a hypothesis that relates to a simple problem or question and design a valid experiment to test it

6 credits in any course with a prefix of BIOL, MBIO, CHEM, ENVS, SCIE, or PHYS

### **Social and Behavioral Sciences**

Learning Outcome 4: Students will learn to understand and appreciate the role of the individual in a group. Students will understand the major concepts and methods used by social or behavioral scientists to investigate, analyze, or predict human or group behavior.

The student will

- understand and apply the major principles, models, and issues under investigation by the social and behavioral sciences
- recognize and be able to describe how individuals or groups of individuals are influenced by social, cultural, or political institutions, both in their own culture and in other cultures
- apply disciplinary knowledge from the social or behavioral sciences to contemporary social problems

6 credits in any course with a prefix of ANTH, COMM, GEOG, GEST, GLBS, POLS, PSYC, ECN, INST, or SOCL

### **Written Composition**

Learning Outcome 5: Students will learn to express ideas clearly and coherently. Students will use the English language effectively, allowing them to construct logical and persuasive arguments.

The student will

- adapt expressions to specific purposes, contexts, and audiences
- develop a controlling idea or thesis
- arrange supporting details coherently
- use appropriate technology

6 credits at or above COMP 1500

### **Academic Requirements—Writing Across the Curriculum**

Each undergraduate course includes written assignments, in the language of instruction, that make up at least 25 percent of the final course grade. Each course contains at least eight pages (approximately 2,000 words or their equivalent) of writing, with faculty members providing feedback on these assignments. Written assignments can include, but are not limited to, essays, summaries, memos, lesson plans, journal entries, lab reports, project proposals, progress reports, case studies, and project reviews.

### **B.H.Sc. Program Goals**

The Bachelor of Health Science degree program will enable students to

1. pursue a well-rounded and diverse educational degree completion program for health professionals in an online environment that allows them to continue gainful employment in their chosen field while attending and completing coursework
2. enhance and develop leadership and health care knowledge through academic inquiry while using current, practical health care models
3. enhance their understanding of diverse populations in health care and prepare them to take leadership roles in the rapidly changing health care environment
4. enhance their understanding of the political, social, legal, and ethical issues that may be encountered, allowing them to have an impact on areas of health care practice
5. develop knowledge that helps bridge the gap between clinical care, health care diversity, and critical inquiry

### **Expected B.H.Sc. Program Learning Outcomes**

Graduates of the Bachelor of Health Science degree completion program will demonstrate command of the following learning outcomes, as evidenced by their participation in class, completion of class assignments, presentations, and projects. They will be able to

1. communicate effectively in writing on a variety of topics related to health care
2. demonstrate an awareness and appreciation of the delivery of culturally competent health care
3. effectively communicate and acknowledge the impact of the legal, ethical, and political environment on health care policy and delivery
4. demonstrate the knowledge and ability to search and retrieve information and materials related to individual clinical practice issues or overall health policy concerns
5. describe and demonstrate management/leadership skills and theories that can be applied in preparation for effectively leading or managing in a health care environment
6. demonstrate knowledge of, and effectively apply, health care models, theories, and tools to issues impacting health care delivery

## Admissions Requirements

Prospective B.H.Sc. students are selected by the Department of Health Science committee on admissions through consideration of the overall qualities of the applicant. The program will admit midlevel clinicians, and allied health professionals with diverse education, work, and life experiences who have demonstrated capacity to pursue the course of study and increasingly responsible positions in health care. 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 may be required (phone interview may be substituted). All interview expenses are the responsibility of the applicant.

Admission to the B.H.Sc. program requires the following:

1. completion prior to matriculation of three semester hours (or equivalent) of college-level written composition from a regionally accredited college or university with a minimum grade of C (GPA of 2.0 on a 4.0 scale)

2. an associate's degree in a field of health from a regionally accredited college or university with a minimum cumulative GPA of 2.7 on a 4.0 grading scale

or

a post-high school diploma or certificate of completion in a professional field of health care with a minimum cumulative GPA of 2.7 on a 4.0 grading scale

In order for this coursework and education to be considered for credit, an applicant must submit a student-prepared learning portfolio requesting assessment of prior experiences for academic credit. This will describe all traditional, online, military, and other health care education, as well as work-related experience and health care-related conferences attended. A resume or CV, transcripts and/or official documentation of attendance must accompany all prior learning portfolios. Learning portfolios will be reviewed to determine the amount of credit given, if any, for prior learning only after an applicant has been accepted into the program.

3. documented evidence demonstrating education or experience in the health care field within the past five years.

All applicants must show evidence of computer skills through course work 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.

It should be noted that many criteria, in addition to academic credentials, play a role in the admission process for the B.H.Sc. program. While the program allows the student to demonstrate academic capability, it does not assure admission to any professional school. Admission to

the B.H.Sc. program will not guarantee admission to any other program of Nova Southeastern University.

Upon receipt of the completed application, fees, credentials and transcripts, the admissions officers and the College of Health Care Sciences will review all material for evidence of the proper education, training, and background to enter the B.H.Sc. program.

## Pre-Master of Occupational Therapy Track for Certified Occupational Therapy Assistants

This educational opportunity is available to Certified Occupational Therapy Assistants (COTAs) to earn a Bachelor of Health Science (B.H.Sc.) degree and, upon completion of the Pre-Master of Occupational Therapy (Pre-M.O.T.) track, be guaranteed admission to the Master of Occupational Therapy program at NSU's main campus in Fort Lauderdale, Florida.

## Pre-M.O.T. Track Curriculum Requirements

### Required General Education Coursework

- written composition (6 credits at or above COMP 1500)
- mathematics (6 MATH credits at or above MATH 1040)
- humanities (6 credits in any course with a prefix of ARTS, FILM, HIST, HUMN, LITR, PHIL, SPAN, or WRIT, or any foreign language)
- social and behavioral sciences (6 credits in any course with a prefix of COMM, GEOG, GEST, GLBS, POLS, PSYC, ECN, INST, or SOCL)
- natural and physical sciences (6 credits in any courses with a prefix of BIOL, MBIO, CHEM, ENVS, or PHY)

Total: 30 semester hours

### Required Pre-M.O.T. Track Courses\*

- BIOL 1500—biology with lab (4 semester hours)
- BIOL 3312 OR BIOL 3320—anatomy and physiology (3 semester hours)
- PHYS 2350—physics with lab OR EXSC 3700—kinesiology (3 semester hours)

Total: 10 semester hours

### Required B.H.Sc. Courses

- BHS 3110—Health Care Ethics (3 semester hours)
- BHS 3120—Introduction to Epidemiology (3 semester hours)
- BHS 3150—Principles of Leadership (3 semester hours)
- BHS 3155—Conflict Resolution in Health Care (3 semester hours)
- BHS 3160—Health Policy (3 semester hours)

- BHS 4000—Cultural Competency in Health Care (3 semester hours)
- BHS 4100—Academic and Professional Writing (3 semester hours—must be taken during the first semester of enrollment in the program)
- BHS 4031—Statistics for Health Sciences (3 semester hours)
- B.H.Sc. Electives (A minimum of 6 semester hours of courses with BHS prefixes—other than the courses listed above—are required.)

Total: 30 semester hours

### Open/Transfer Electives

These can include any combination of additional BHS prefixed elective courses, and/or transfer courses of any prefix with a course level of 1000 or above, resulting in a total of 60 semester hours.

A minimum of 30 B.H.Sc. semester hours is required for the degree.

Minimum Total Degree Semester Hours Required: 120

\*These courses can also be used to fulfill general education natural and physical sciences requirements.

Course requirements are subject to change.

## Admissions Requirements

### B.H.Sc. Requirements

Prior to matriculation, all applicants must have

- 3 semester hours (or the equivalent) of college-level written composition from a regionally accredited college or university with a minimum grade of C (GPA of 2.0 on a 4.0 grading scale)
- an associate's degree in occupational therapy from an Accreditation Council for Occupational Therapy Education (ACOTE®)-accredited program at a regionally accredited college or university with a minimum cumulative GPA of 2.7 on a 4.0 grading scale and initial certification by the National Board for Certification in Occupational Therapy, Inc. (NBCOT®) as a Certified OT Assistant (COTA)
- documented evidence demonstrating education or experience in the health care field within the past five years

### M.O.T. Requirements for COTA Applicants

Prior to matriculation, all applicants must have

- earned an average of 3.0 or better on a 4.0 scale in B.H.Sc. courses
- earned a grade of 2.0 or better in all prerequisite courses
- submitted three letters of recommendation

- received approval of associate's degree transcript
- completed a personal interview
- submitted Graduate Record Exam (GRE) scores that are less than five years old for all three areas of the general test (quantitative, verbal, and analytical writing)

Preference will be given to applicants with a minimum combined GRE general score of 800 on the verbal and quantitative tests and a 3.5 on the analytical test, or the equivalent scores on the new GRE.

Upon successful completion of the B.H.Sc. degree and the above requirements, students will be offered a seat in the NSU M.O.T. program.

For more information about admissions requirements for the M.O.T. program, visit [www.nova.edu/ot](http://www.nova.edu/ot), email [hpdadmissionsinfo@nova.edu](mailto:hpdadmissionsinfo@nova.edu), or call 800-356-0026, ext. 21101.

## Application Procedures

To apply online

- go to <http://nova.askadmissions.net/emtinterestpage.aspx?ip=undergrad>
- follow directions to complete interest page
- in Program of Study field, select Health Science (Completion Program)
- create username and password to access VIP/ Application page
- submit information
- **log into VIP page to continue application process**
- complete and submit application by January 15

## Transfer Credit Policy

Students who have earned college credits at other regionally accredited colleges or universities can transfer these credits into the B.H.Sc. program. Students should contact a B.H.Sc. admissions counselor to discuss how prior college credits can be used to obtain the B.H.Sc. degree.

A final and official evaluation will not be initiated until NSU receives all of your official transcripts. You may want to speak to your academic adviser for more information or visit the Transfer Evaluation Services Web site at [www.nova.edu/cwis/registrar/tes/](http://www.nova.edu/cwis/registrar/tes/).

The B.H.Sc. program will transfer a maximum of 90 eligible semester credits including credit for CLEP, proficiency exams, and prior experiential learning toward a degree. Official high school transcripts (showing courses, grades, and graduation date) or a GED equivalent are required for applicants with fewer than 24 college credits.

Students must complete a minimum of 25 percent (30 semester hours) of their coursework within the B.H.Sc. program major.

Students with credits, health care or academic experiences, certificates, diplomas or degrees from nationally accredited colleges, military training or other educational training/experiences should refer to the section below titled: Assessment of Prior Experiences for Academic Credit in order to apply to convert these prior experiences into academic credit.

### **Assessment of Prior Experiences for Academic Credit**

Nova Southeastern University has established four different mechanisms for students to convert their prior experiences into academic credit. Students must initiate all requests for experiential learning credit before they complete 24 credits at NSU. Credits will be transcribed after 12 credits are successfully earned at NSU. For additional information, contact the B.H.Sc. Program or the Office of Prior Learning Assessment at (954) 262-8414 or 800-356-0026, ext. 28414, or via email at [miletsky@nsu.nova.edu](mailto:miletsky@nsu.nova.edu).

#### **1. CLEP/DANTES/ACT-PEP/Computer Test-Out**

Students can demonstrate their knowledge in a variety of areas by taking objective tests. The coordinator of experiential learning can provide further information about these tests as can the testing office in Academic Services.

#### **2. Nationally Accredited School Portfolios**

Students who have attended nationally accredited institutions have the opportunity to write school portfolios. The coordinator of experiential learning works with each student in reviewing the student's nationally accredited institutional transcript to identify courses that may be applied toward his or her academic goal.

#### **3. Full Portfolio—Course Challenge**

The full portfolio is the process for challenging a college-level course for credit. Through this mechanism, a student presents his or her knowledge on a topic and has it evaluated by a faculty member. A maximum of 25 percent of a student's credits may be earned through the full portfolio process.

#### **4. Standard Grant**

Certain training courses, military experiences, or licenses may be converted into college credit. This can be done by supplying some very basic documentation. For military training programs the recommendations contained in the *Guide to the Evaluation of Educational Experiences in the Armed Forces* from the American Council on Education, will be used to evaluate such training for credit transfer. Examples include Combat Casualty and Flight Medicine Courses of training.

### **Distance Education Support**

Distance education students in the B.H.Sc. Program are provided with NSU computer accounts including email. The student, however, must obtain their own Internet service providers (ISP) and use their own computer systems (IBM-compatible PC or Apple Macintosh and a modem). New students receive an orientation and extensive online technical support online access, online tools and methods, and library resources.

Online interactive learning methods involve Web pages to access course materials, announcements, the electronic library, and other information, plus a range of online activities that facilitate frequent student-professor interaction. Faculty members and students interact via online forums using threaded bulletin boards, chat rooms, and email. Students are able to submit assignments as email attachments, through the use of online forms sent directly to program instructors, fax to fax, fax to email, and through WebCT. Some online courses may include electronic classroom sessions.

Online students have access to books, journal articles, microfiche, dissertations, index searches, catalog searches, and reference librarians. The online medical database collection at NSU is extensive and includes access to quality subscription services free of charge to the student.

### **Technical Help**

The Online Computing Help Desk of NSU's Office of Information Technology provides telephone and email support to NSU students and faculty and staff members. Support services include assistance with connecting to NSU's online computing systems; navigating through the WebCT system; resolving Personal Identification Number (PIN) issues; supporting wireless computing on campus; and configuring various software programs such as Microsoft Outlook, Netscape Navigator, and Internet Explorer. Contact the Help Desk by calling (954) 262-4357 or 800-541-6682, ext. 24357, or by emailing [help@nsu.nova.edu](mailto:help@nsu.nova.edu).

### **Testing Services**

Testing Services administers placement challenge exams in writing, mathematics, and chemistry for all NSU undergraduate students, as well as offering faculty make-up exams. Testing Services also administers other course equivalent examinations, such as College-level Examination Program (CLEP) tests, DANTES subject standardized tests, New York University Proficiency Testing in Foreign Languages, and the TECH 1110 exam. Test takers must present photo identification (e.g., NSU official ID, driver's license, or passport) prior to testing. All examinations are by appointment only. For more information about Testing Services or to schedule an appointment, call (954) 262-8374 or 800-338-4723, ext. 28374.

## Application Procedures

Candidates for admission are responsible for the submission of

- a completed application form along with a \$50, nonrefundable application fee
- two letters of evaluation from individuals other than relatives such as academic advisers, professors, clinical or non-clinical supervisors, or community associates
- official college-, certificate-, and/or diploma-based transcripts from all undergraduate and graduate institutions attended, sent directly from the institution (Official high school transcripts—showing courses, grades, and graduation date—or a GED equivalent are required for applicants with fewer than 24 college credits.)
- graduates from programs other than those from regionally accredited colleges or universities must submit a student prepared learning portfolio requesting Assessment of Prior Experiences for Academic Credit.
- copies of national and or state professional certification, licensure or registration, if applicable.

The B.H.Sc. program offers four start dates per year: January, April, July, and October. In order to be considered for January, applications must be received by December 1. In order to be considered for April, applications must be received by March 1. In order to be considered for July, applications must be received by June 1. In order to be considered for October, applications must be received by September 1. To ensure that your application receives prompt consideration, you should apply early. All admissions materials should be sent to

Nova Southeastern University  
Enrollment Processing Services  
Attn: College of Health Care Sciences  
B.H.Sc. Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The Department of Health Science committee on admissions will not consider an application until all required fees, credentials, transcripts and test scores have been received by the Office of Admissions.

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the 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, department chair, and B.H.Sc. program director reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

## 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 (EPS), College of Health Care Sciences, Department of Health Science, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

## Tuition and Fees

- \$50, nonrefundable application fee
- Tuition is \$330 per semester hour.
- An NSU student services fee of \$1,050 is required annually.
- Students are responsible for purchasing any required textbooks and/or classroom materials.
- \$75 diploma only fee
- A graduation and diploma fee of \$225 will be incurred by those students who elect to participate in the formal, on-campus graduation ceremony (not required).

Tuition waivers and discounts for NSU students, staff, and faculty members will be in accordance with published policy and administered through the dean of the College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice.

## Requirements for Graduation

To be eligible to receive the B.H.Sc. degree, students shall

- satisfactorily complete the program of 30 semester hours (minimum) of study in the B.H.Sc. major required for the degree (not including CLEP, proficiency examinations, or experiential learning credits)
- complete general education, major, and elective requirements as specified by the program at time of admission, resulting in a minimum total of 120 semester hours
- attain a 2.0 cumulative grade point average
- attain a 2.25 grade point average in the major area
- submit a degree application form before completing registration for the last semester and contact the B.H.Sc. program director to discuss graduation
- fulfill all obligations to the library, the student's program, and the bursar's office
- receive recommendation by B.H.Sc. program director to the dean of the College of Health Care Sciences

Students who complete the pre-M.O.T. track should refer to the M.O.T. admissions requirements for COTAs previously outlined in this catalog.

Students who wish to continue their studies beyond minimum graduation requirements to complete additional coursework, major or minor, must submit their requests in writing to the B.H.Sc. program and have documented plans to complete the educational program. A form requesting a second major or minor can be requested from the program office. Information regarding the degree application process can be found on the B.H.Sc. Student Center on Blackboard. If you are receiving financial aid, you need to contact the financial aid office at (954) 262-3380 or toll free at 800-806-3680 to obtain their advice on how your decision to continue beyond your degree requirements may or may not affect your financial aid eligibility.

## Graduation with Honors

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed more than 39 credits at NSU is eligible to receive the degree with distinction.

Application for graduation can be completed online by following the directions at [www.nova.edu/cwis/registrar/instructions.html](http://www.nova.edu/cwis/registrar/instructions.html).

## Request for Second Major

Pursuing a second major is a serious commitment and requires significant student responsibility. Students may graduate with a second subject or double major depending on the availability of courses and academic division schedules. Students who wish to declare a second major must inform their academic adviser.

A request for a second major may be made following completion of 30 credits toward a bachelor's degree and before 90 credits are earned toward a bachelor's degree. A student must have a cumulative grade point average of 2.5 or higher in order to declare a second major.

In order to declare a second major, students must complete a Request for Second Major Form, which requires signatures from department leadership in both areas of study. The Request for Second Major Form is a statement of student intent. The student is responsible for tracking requirements and prerequisites for both major programs, with guidance and assistance from departmental advisers. Both majors will be posted to the transcript at the time of conferral of the bachelor's degree. A second major will not be added to a transcript following conferral of a degree.

Requirements for the second major, as for the first major, are based on the curriculum published in the *NSU Undergraduate Student Catalog* for the semester of the student's entry into the university. For majors subsequently added to the college, curriculum requirements are based on the catalog in effect during the semester the second major is declared.

## Commencement

Attendance of graduation ceremonies 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 May).

Information regarding undergraduate graduation ceremonies for the College of Health Care Sciences is posted at [www.fcas.nova.edu/student/commencement/undergraduate/index.cfm](http://www.fcas.nova.edu/student/commencement/undergraduate/index.cfm). This page explains general information and contains online forms that must be filled out.



## Nondegree-Seeking Students

A nondegree-seeking student is one who wishes to take one or more courses in the Bachelor of Health Science Program, but does not intend to pursue the B.H.Sc. degree at the time of application.

The nondegree-seeking student must meet the following admission requirements in order to take classes in the B.H.Sc. program:

- completion prior to matriculation of three semester hours (or equivalent) of college-level written composition from a regionally accredited college or university with a minimum grade of C (GPA of 2.0 on a 4.0 scale)
- an associate's degree in a field of health from a regionally accredited college or university with a minimum cumulative GPA of 2.7 on a 4.0 grading scale

or

a post-high school diploma or certificate of completion in a professional field of health care with a minimum cumulative GPA of 2.7 on a 4.0 scale

### Nondegree-Seeking Student Application Procedures

Nondegree-seeking students must submit

- a completed application form along with a \$50, nonrefundable application fee.
- official college-, certificate-, and/or diploma-based transcripts from all undergraduate and graduate institutions attended, sent directly from the institution (Official high school transcripts—showing courses, grades, and graduation date—or a GED equivalent are required for applicants with fewer than 24 college credits.)
- one letter of evaluation from individuals other than relatives such as academic advisers, professors, clinical or non-clinical supervisors, or community associates

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 are limited to taking a maximum of nine semester hours of B.H.Sc. coursework. Enrollment in these courses does not guarantee acceptance into the B.H.Sc. degree program or any other Nova Southeastern University program.

If, after taking classes in the B.H.Sc. program, a nondegree-seeking student decides to pursue the B.H.Sc. degree, the student must resubmit an application to the program to be a degree-seeking student and must meet all the admission requirements for the B.H.Sc. degree program.

A nondegree-seeking student who, after taking classes in the B.H.Sc. program, decides to apply to be a degree-seeking student may request a transfer of credits taken as a nondegree-seeking student in accordance with the transfer policy of the B.H.Sc. program.

### Computer Skills

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.

### Address and Name Changes

NSU maintains student contact information through WebSTAR ([www.webstar.nova.edu](http://www.webstar.nova.edu)). This includes current mailing addresses and telephone numbers. Students should update their records in WebSTAR and notify their academic division if there is a change in their name and/or contact information.

## **Bachelor of Science— Cardiovascular Sonography (B.S.—CVS) (On-Campus, Entry-Level, Tampa)**

Diagnostic medical sonography includes four primary areas of specialization: general, cardiac, vascular, and musculoskeletal. General sonography includes subspecialties for obstetrics and gynecology exams, as well as abdominal exams. Cardiac sonography examines the anatomical structure and function of the heart. Vascular sonography studies the anatomical and physiological characteristics of all arteries and veins in the body. Musculoskeletal examines structures such as joints and tendons. All diagnostic medical sonography uses ultrasound to obtain images and is, therefore, considered noninvasive, having no known risks or side effects in comparison to other widely used medical imaging methods.

The NSU Cardiovascular Sonography Program in Tampa offers didactic and clinical training in two of these specialties, cardiac sonography (adult) and vascular sonography, as an integrated curriculum. Additional course content introduces the student to pediatric cardiac sonography and basic concepts in electrophysiological cardiology. Because of strong interrelationships between cardiac and vascular diseases, the need was seen for a comprehensive program covering both specialties. Also, some cardiology departments and other imaging providers may prefer that sonographers obtain training and professional registry in both cardiac sonography and vascular sonography for purposes of diagnostic expediency and professional flexibility.

### **Program Objectives**

- to graduate competent, entry-level cardiovascular technologists who are qualified to perform a variety of standard and specialized diagnostic vascular and cardiac examinations
- to ensure that graduates are qualified to take and successfully pass at least one sonographic specialty national credentialing exam, in either cardiac or vascular ultrasound, from either the American Registry of Diagnostic Medical Sonography (ARDMS) or Cardiovascular Credentialing International (CCI)
- to prepare graduates for future leadership roles in cardiac, vascular, or combined cardiovascular laboratories and ultrasound departments
- to enhance students' academic skills for pursuing research studies or education in cardiac and vascular sonography

Upon successful completion of the bachelor's degree in cardiovascular sonography, graduates are eligible to apply for both adult echocardiography and noninvasive vascular professional registry exams offered by the American Registry for Diagnostic Medical Sonography (ARDMS).

Students who already hold a bachelor's degree from an accredited institution with a minimum GPA of 3.0 are eligible to apply for the concurrent Master of Health Science (M.H.Sc.) option. Students who enroll in this concurrent M.H.Sc. program will graduate with a Bachelor of Science—Cardiovascular Sonography degree and a Master of Health Science degree. Both programs will be completed in 27 months. Students interested in the concurrent Master of Health Science option should contact an admissions counselor or the program office for further details.

### **Curriculum Overview**

Admission to the program requires the completion of a minimum of 30 semester hours of general education coursework. The core of the cardiovascular sonography course of study includes 92 semester hours. The entire program requires a total of 122 semester hours for a student to graduate with a Bachelor of Science—Cardiovascular Sonography.

The cardiovascular sonography program includes on-campus lectures; extensive, hands-on training in our ultrasound laboratory; online courses; and a 12-month, focused or combined externship in a clinical laboratory setting. The graduating student will earn a bachelor's degree in cardiovascular sonography. Students will take a combination of general courses in the health science field and focused core courses in the cardiovascular technology field. Examples of general courses include Writing for Medical Publication, Epidemiology, Biostatistics, and Principles and Practice of Management in Health Care. Examples of cardiovascular sonography courses include Ultrasound Physics, Cardiac Ultrasound, and Carotid Artery Duplex. While on campus, the student will spend more than 500 hours in the training laboratory learning imaging skills and techniques and physiologic testing methods prior to the clinical externship experience.

In the second year, the student will complete a clinical training program of more than 1,600 hours, while continuing to take online courses. The student may have the option to perform his or her clinical externship in a vascular, adult echo, or combined cardiovascular clinical experience, based upon his or her interests and demonstrated competencies.

Upon graduation, the student will be eligible to sit for professional registry exams based upon completion of the program and clinical requirements.

### **Prerequisites**

In order to be eligible for admission to the Bachelor of Science—Cardiovascular Sonography (B.S.—CVS), a student must have completed 30 semester hours of prerequisite education coursework with a minimum cumulative GPA of 2.75 on a 4.0 grading scale.

### Required General Education Coursework

- written composition (6 semester hours—at or above COMP 1500)
- social and behavioral sciences (6 semester hours)
- arts and humanities (6 semester hours)
- science\* (6 semester hours)
- mathematics (6 semester hours—at or above MATH 1040)

Total General Education Courses: 30 semester hours

\*Program specific science requirements are 3 credits of Anatomy and Physiology I (with or without lab) and 3 credits of General Physics (with or without lab).

Note: Required general education courses cannot be survey courses. Anatomy and Physiology II is a preferred, but not required, course.

### Admissions Requirements

Prospective cardiovascular sonography students are selected by the Committee on Admissions (COA), which considers the overall qualities of the candidate. Areas of consideration include interpersonal skills, personal motivation, understanding of the cardiovascular profession, academic performance and level of achievement, life experiences, and recommendations. Knowledge of the profession is essential. It is highly recommended that the B.S.—CVS applicant have or obtain meaningful and significant scientific, health care, or care of the elderly work or volunteer experience.

The applicant who has graduated from a college or university from a country for which English is not the primary language, regardless of United States residency status, must obtain a minimum score of 550 on the written or 213 on the computerized Test of English as a Foreign Language (TOEFL). An official set of scores must be sent directly from the Educational Testing Services in Princeton, New Jersey, to NSU's EPS. Equivalent scores from the International English Language Testing System (IELTS) or the Pearson Test of English—Academic (PTE—A) are acceptable.

Upon receipt of the completed application; fees; credentials; TOEFL, IELTS, or PTE—A scores (if applicable); and transcripts, the admissions officers and the College of Health Care Sciences will review all material for evidence of the proper education, training, and background to enter the Bachelor of Science—Cardiovascular Sonography program.

Admission to the Cardiovascular Sonography program does not guarantee admission to any other program of Nova Southeastern University.

The university reserves the right to modify any admissions requirements on an individual basis as deemed necessary by the dean of the 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, department chair, and cardiovascular sonography director reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

### Application Procedures

Candidates for admission are responsible for the submission of:

- completed application forms with \$50, nonrefundable application fees by March 1
- current curriculum vitae
- two letters of evaluation from individuals (other than relatives) such as academic advisers, professors, clinical or non-clinical supervisors, or community associates
- official college-, certificate-, and/or diploma-based transcripts from all undergraduate and graduate institutions attended, sent directly from the institution
- a student-prepared learning portfolio requesting assessment of prior experiences for academic credit, if applicable (applies only to graduates from programs other than those from regionally accredited colleges or universities)
- copies of national and or state professional certification, licensure, or registration, if applicable
- TOEFL, IELTS, or PTE—A scores (if applicable)
- evaluation of coursework taken at a foreign institution for U.S. institutional equivalence, if applicable

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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

The Office of Admissions for the B.S.—Cardiovascular Sonography program works on a rolling admissions basis. Applications are accepted year round. All admissions material should be sent to:

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Department of Health Science  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Personal Interviews

Personal interviews are offered to the most-qualified applicants to assess interpersonal and communication skills, altruistic attitude, maturity, and commitment to the cardiovascular profession. Phone interviews will not be provided. Interviews are conducted on the Nova Southeastern University main campus and at the Tampa campus and are by invitation only. An invitation to interview is not a guarantee of admission to the program.

### Distance Education Support

All students are required to have access to a computer (PC or Apple equivalent) with the following minimum specifications:

- AMD or Intel dual-core processor
- Windows 7 or better
- 4 GB RAM
- 250 GB hard-drive
- CD-ROM drive (read-write)
- USB port
- high-speed Internet connection (cable, DSL, etc., 100 Mb/second or better)
- graphics printing capability
- video Webcam with microphone capability

Students on clinical externships in cardiovascular sonography must maintain NSU computer accounts including email. New students receive an orientation and access to extensive online technical support for online access, online tools and methods, and library resources.

Online interactive learning methods involve Web pages to access course materials, announcements, the electronic library, and other information, plus a range of

online activities that facilitate frequent student-professor interaction. Faculty members and students interact via online forums using threaded bulletin boards, streaming video, and email. Students are able to submit assignments through online course tools, sent directly to program instructors. Some online courses may include electronic classroom sessions.

Online students have online access to books, journal articles, microfiche, dissertations, index searches, catalog searches, and reference librarians. The online medical database collection at NSU is extensive and includes access to high-quality subscription search services free of charge to the student.

### Tuition and Fees

- \$50, nonrefundable application fee
- Tuition for academic year 2014–2015 is \$20,500.
- \$145 annual HPD general access fee
- \$1,050 annual student fee
- \$500 acceptance fee—This fee is required to reserve the accepted applicant's place in the entering first-year class, but is nonrefundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- \$250 deposit—This fee is due May 1, under the same terms as the acceptance fee.
- \$250 preregistration fee—This fee is due July 15, under the same terms as the acceptance fee.
- \$200 Sonography Principles and Instrumentation (SPI) Examination fee
- Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials.
- A graduation and diploma fee of \$275 will be incurred.
- A \$125 cardiovascular access fee is required yearly. This fee is required to pay for background checks, drug testing (if required), affiliation agreements, and immunizations
- Applicants should have a specific plan for financing 27 months of professional education. This includes 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 hospital insurance plan through the university.

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 College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice.

### Requirements for Graduation

To be eligible to receive the Bachelor of Health Science—Cardiovascular Sonography degree, students are required to

- complete general education, major, and elective requirements as specified by the program at time of admission, resulting in a minimum total of 122 semester hours
- attain a cumulative grade point average of 2.0 or higher
- submit a degree application form before completing registration for the last semester
- fulfill all obligations to the library, the student's program, and the bursar's office
- take the ARDMS Sonography Principles and Instrumentation (SPI) Examination by the end of the program

### Graduation with Honors

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed at least 90 credits at NSU is eligible to receive the degree with distinction.

### Computer Skills

All students 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.

### Accreditation, National Examinations, and Registry

The Cardiovascular Sonography program at NSU Tampa is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT), in both Adult Echocardiography and noninvasive Vascular Sonography. Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, Phone: 727-210-2350 / Fax: 727-210-2354, [www.caahep.org](http://www.caahep.org).

Graduates will be eligible to take the national registry examinations as administered by the American Registry of Diagnostic Medical Sonographers (ARDMS).

## Curriculum Outline Bachelor of Science—Cardiovascular Sonography

Required General Education Courses	Semester Hours
Written composition (at or above COMP 1500)	6
Social and behavioral sciences	6
Arts and Humanities	6
Science*	6
Mathematics (at or above MATH 1040)	6
<b>General Education Subtotal: 30</b>	

\*Program specific science requirements are 3 credits of Anatomy and Physiology I (with or without lab) and 3 credits of General Physics (with or without lab).

<b>Required Core B.S.—Cardiovascular Sonography Courses</b>			<b>Semester Hours</b>
BHS	3110	Health Care Ethics	3
BHS	3120	Introduction to Epidemiology	3
BHS	3130	Research and Design for Health Care	3
BHS	3150	Principles in Leadership	3
BHS	3155	Conflict Resolution in Health Care	3
BHS	3160	Health Policy	3
BHS	4000	Cultural Competency in Health Care	3
BHS	4100	Academic and Professional Writing	3
BHS	4110	Health Care and Aging	3
CVS	3000	Introduction to Cardiovascular Instruments	3
CVS	3001	Correlative Anatomy	4
CVS	3010	Echocardiography I/Lab	3
CVS	3020	Echocardiography II/Lab	3
CVS	3030	Echocardiography III/Lab	4
CVS	3040	Ultrasound Physics I	4
CVS	3050	Ultrasound Physics Review	2
CVS	3060	Cerebrovascular Testing/Lab	3
CVS	3070	Peripheral Arterial Testing/Lab	3
CVS	3080	Venous Testing/Lab	3
CVS	3090	Abdominal Vascular Testing/Lab	3
CVS	4000	Clinical Prep and Review/Basic Life Support	3
CVS	4500	Clinical Externship I (16 weeks)	9
CVS	4600	Clinical Externship II (16 weeks)	9
CVS	4700	Clinical Externship III (16 weeks)	9

**Required B.H.Sc. Courses Subtotal: 102**

**Minimum Total Semester Hours Required: 122**

Curriculum is subject to change without notice.

In order to be eligible to graduate with the Bachelor of Science—Cardiovascular Sonography degree, a student must have completed 30 semester hours of general education coursework in addition to the B.S. curriculum, with a resulting minimum total of 122 semester hours. Only courses with a minimum GPA of 2.0 on a 4.0 grading scale will be accepted for satisfaction of prerequisites.

## **Bachelor of Health Science— General and Vascular Sonography (On-Campus, Entry-Level)**

### **Diagnostic Medical Sonography**

Diagnostic medical sonography includes four primary areas of specialization: general (RDMS), cardiac (RDCS), vascular (RVT), and musculoskeletal (MSK). General sonography includes subspecialties in obstetrics and gynecology, organs of the body, and small parts (soft tissues and superficial glands), as well as neurosonology. Cardiac sonography examines the anatomical structure and function of the heart and is subdivided into three different subspecialties: adult echocardiography, fetal echocardiography, and pediatric echocardiography. Vascular sonography studies the anatomical and physiological characteristics of blood vessels (veins and arteries) in the human body. The most recently created specialty in sonography is musculoskeletal sonography. This specialty studies the different joints and tendons in the body. Diagnostic medical sonography uses mechanical, nonionizing sound waves to obtain images and is considered a noninvasive modality.

### **General Sonography**

Professionals in this field are called sonographers or medical sonographers. Sonographers use diagnostic medical ultrasound to obtain images of internal organs such as the liver, gallbladder, bile ducts, pancreas, spleen, appendix, kidneys, and adrenal glands. They also can obtain images from superficial glands and soft tissues. Sonographers specializing in obstetrics and gynecology obtain images of the female pelvic organs and the fetus, while those specializing in neurosonology obtain images of the brain and its blood vessels. Sonographers working in all these specialties determine normal from abnormal situations and contribute to the making of a diagnosis of pathologies affecting those organs.

### **Vascular Sonography**

Professionals working in this specialty are called vascular sonographers. They use ultrasound and other specialized equipment to assess the anatomic, physiologic, and pathologic conditions of veins and arteries. Among the most common studies are those of the carotid arteries, arteries of the upper and lower extremities, abdominal blood vessels, and intracranial circulation. Exploration of these vessels helps to determine the presence of plaques and thrombus, the direction of blood flow, and the process of revascularization, as well as patency of grafts. Vascular sonographers play a very important role in assessing the blood vessels in special situations such as stroke, peripheral arterial disease, abdominal aortic aneurysm, portal hypertension, and deep vein thrombosis. They even can help to select native vessels for grafts to be used in cardiac surgeries.

### **General and Vascular Sonography Program**

The NSU General and Vascular Sonography Program in Fort Lauderdale offers didactic and clinical training in the general and vascular sonography subspecialties as one integrated curriculum. At the end of the program, the student will be able to perform general (abdomen, small parts, and neurosonology), obstetrical and gynecological, and vascular studies. The growing use of ultrasound and the need for sonographers with multiple credentials to accommodate new regulations in the health care field have set the ground for a comprehensive program that combines the two main specialties of RDMS (abdomen, ob-gyn, breast, and neuro) and RVT.

### **Bachelor of Health Science—General and Vascular Sonography (B.H.Sc.—GVS)**

The Bachelor of Health Science with a concentration in General and Vascular Sonography program was designed to prepare entry-level professionals in the fields of general and vascular sonography. During the first year, students take online courses at the undergraduate level, as well as on-campus classes that include many hours each week in the training ultrasound lab. This is followed by a 12-month externship in a clinical site and online courses. Graduates from this program will be able to apply for national examinations with the American Registry of Diagnostic Medical Sonography (ARDMS) and obtain RDMS and RVT credentials. Upon graduation from the B.H.Sc.—GVS program, students will be eligible to apply for admission to the online Master of Health Science (M.H.Sc.) program.

**This specific program is no longer accepting new students. Applicants who want a career in sonography should apply to either NSU's Bachelor of Science—Medical Sonography, Bachelor of Science—Cardiovascular Sonography, or Certificate in Cardiac Sonography program.**

### **Program Objectives**

- to graduate competent, entry-level diagnostic medical sonographers in the general and vascular specialties who are qualified to perform a variety of standard and specialized diagnostic general and vascular ultrasound examinations
- to ensure that graduates are qualified to take and successfully pass a national credentialing exam from either the American Registry of Diagnostic Medical Sonography (ARDMS) or Cardiovascular Credentialing International (CCI)
- to prepare graduates for future leadership roles in general, vascular, or combined general and vascular laboratories and ultrasound departments
- to enhance the student's academic skills for pursuing research studies or education in diagnostic medical sonography

Upon successful completion of the bachelor's degree-level general and vascular sonography specialization, students are eligible to apply for admission to the Master of Health Science (M.H.Sc.), and later the Doctor of Health Science (D.H.Sc.) programs. 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.

## Curriculum Overview

### Length of the Program: 27 months

The general and vascular sonography program, both at the bachelor's and master's degree levels, includes on-campus lectures; extensive, hands-on training in the ultrasound laboratory; online courses; and a 12-month externship in an accredited clinical facility. The curriculum for this program follows the standards recommended by the American Registry of Diagnostic Sonography (ARDMS) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Graduating students will earn either a Bachelor of Health Science—General and Vascular Sonography degree or a Master of Health Science—General and Vascular Sonography degree, depending on the program completed. Upon graduation, students will be able to sit for the professional registry exam with the ARDMS and earn RDMS and RVT credentials.

The curriculum follows a lock-step model, and the courses must be taken and passed in a predetermined sequence. Examples of the courses in health sciences include: Health Care Ethics, Academic and Professional Writing, Research Methods, and Principles of Management. Some of the core courses for the concentration in general and vascular sonography include: Ultrasound Physics, Abdominal Sonography, Obstetrics and Gynecology, Cerebrovascular Testing, and Peripheral Arterial Testing. In the second year, students have a 12-month externship, allowing them to gain experience through observation and hands-on practice, while being supervised by clinical mentors.

Students enrolled in the master's degree program will also participate in a research project mentored by a faculty member to satisfy the internship and practicum course requirements. In the same manner, master's degree students will develop an extensive research project suitable for presentation or publication.

### Distance Education Support

Students on clinical externships in general and vascular sonography must maintain NSU computer accounts including email. New students receive an orientation and extensive online technical support online access, online tools and methods, and library resources.

Online interactive learning methods involve Web pages to access course materials, announcements, the electronic library, and other information, plus a range of

online activities that facilitate frequent student-professor interaction. Faculty members and students interact via online forums using threaded bulletin boards, chat rooms, and email. Students are able to submit assignments as email attachments, through the use of online forms sent directly to program instructors, fax to fax, fax to email, and through Blackboard. Some online courses may include electronic classroom sessions.

Online students have online access to books, journal articles, microfiche, dissertations, index searches, catalog searches, and reference librarians. The online medical database collection at NSU is extensive and includes access to quality subscription services free of charge to the student.

### Tuition and Fees

- \$20,500 tuition per academic year
- \$200 Sonography Principles and Instrumentation (SPI) Examination fee
- Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials.
- A graduation and diploma fee of \$275 will be incurred.
- An NSU student services fee of \$1,050 is required annually.
- A \$145 health professions general access fee is required yearly. This fee is required to pay for background checks, drug testing (if required), affiliation agreements, and immunizations.
- Applicants should have a specific plan for financing 27 months of professional education. This includes 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 hospital insurance plan through the university.

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 College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice.

### Requirements for Graduation

To be eligible to receive the Bachelor of Health Science—General and Vascular Sonography degree, students are required to

- complete general education, major, and elective requirements as specified by the program at time of admission, resulting in a minimum total of 120 semester hours
- attain a 2.0 cumulative grade point average



- submit a degree application form before completing registration for the last semester
- fulfill all obligations to the library, the student's program, and the bursar's office
- attend graduation ceremonies
- take the ARDMS Sonography Principles and Instrumentation (SPI) Examination by the end of their first year

### **Graduation with Honors**

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed at least 90 credits at NSU is eligible to receive the degree with distinction.

### **Computer Skills**

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.

### **Accreditation, National Examinations, and Registry**

The Vascular Sonography course of study is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Commission on Education in Diagnostic Medical Sonography (JRC-DMS). JRC-DMS, Address: 2025 Woodlane Drive, St. Paul, MN 55125-2998, Telephone: 651-731-1582, Web-site: [www.jrcdms.org](http://www.jrcdms.org). Amanda Glassing, Accreditation Manager, Email: [aglassing@jcahpo.org](mailto:aglassing@jcahpo.org), Telephone: 651-731-1582.

Graduates will be eligible to take the national registry examination administered by the American Registry of Diagnostic Medical Sonographers (ARDMS)

American Registry of Diagnostic Medical  
Sonographers (ARDMS)  
51 Monroe Street, Plaza East One  
Rockville, Maryland 20850-2400  
  
Tel: (301) 738-8401 or 800-541-9754  
Fax: (301) 738-0312

## Curriculum Outline Bachelor of Health Science—General and Vascular Sonography

Required General Education Courses	Semester Hours
Composition*	3
Social and behavioral sciences	9
Humanities	6
Natural and physical sciences**	9
Mathematics***	3

**General Education Subtotal: 30**

\* 3 COMP credits above COMP 1000

\*\* physics—required, anatomy and physiology—recommended

\*\*\* 3 MATH credits above MATH 1000 (college algebra recommended)

Required B.H.Sc. Courses	Credit Hours
BHS 3110 Health Care Ethics	3
BHS 3120 Introduction to Epidemiology	3
BHS 3130 Research and Design for Health Care	3
BHS 3150 Principles in Leadership	3
BHS 3155 Conflict Resolution in Health Care	3
BHS 3160 Health Care Policy	3
BHS 4000 Cultural Competency in Health Care	3
BHS 4100 Academic and Professional Writing	3
BHS 4110 Health Care and Aging	3
BHS 3102 Ultrasound Physics I/Lab	3
BHS 3111 Advanced Anatomy and Physiology for the Health Professions	4
BHS 3200 Ultrasound Physics II/SPI Exam	1
BHS 3220 Introduction to Diagnostic Medical Sonography	3
BHS 3300 Cerebrovascular Testing/Lab	4
BHS 3400 Venous Testing/Lab	4
BHS 3500 Peripheral Arterial Testing/Lab	4
BHS 3700 Clinical Preparation and Review	4
BHS 3800 Abdominal Sonography/Lab	4

BHS	3830	Small Parts Sonography	4
BHS	3900	Obstetrics and Gynecology Ultrasound I	4
BHS	3910	Obstetrics and Gynecology Ultrasound II	4
BHS	4500	Clinical Externship I	6
BHS	4600	Clinical Externship II	7
BHS	4700	Clinical Externship III	8

**Required B.H.Sc. Credit Hours Subtotal: 91**  
**Transfer Subtotal: 30**  
**Total B.H.Sc. Degree Credit Hours Required: 120**

In order to be eligible to graduate with the Bachelor of Health Science—General and Vascular Sonography degree, a student must have completed 30 semester hours of general education coursework, in addition to the B.H.Sc. curriculum, with a resulting minimum total of 121 credit hours. Only courses with a minimum GPA of 2.0 on a 4.0 grading scale will be accepted.

## **Bachelor of Science—Medical Sonography (On-Campus, Entry-Level)**

### **Diagnostic Medical Sonography**

Diagnostic medical sonography includes four primary areas of specialization: general (RDMS), cardiac (RDCS), vascular (RVT), and musculoskeletal (MSK). General sonography includes subspecialties in obstetrics and gynecology, organs of the body, and small parts (soft tissues and superficial glands), as well as neurosonology. Cardiac sonography examines the anatomical structure and function of the heart and is subdivided into three different subspecialties: adult echocardiography, fetal echocardiography, and pediatric echocardiography. Vascular sonography studies the anatomical and physiological characteristics of blood vessels (veins and arteries) in the human body. The most recently created specialty in sonography is musculoskeletal sonography. This specialty studies the different joints and tendons in the body. Diagnostic medical sonography uses mechanical, nonionizing sound waves to obtain images and is considered a noninvasive modality.

### **General Sonography**

Professionals in this field are called sonographers or medical sonographers. Sonographers use diagnostic medical ultrasound to obtain images of internal organs such as the liver, gallbladder, bile ducts, pancreas, spleen, appendix, kidneys, and adrenal glands. They also can obtain images from superficial glands and soft tissues. Sonographers specializing in obstetrics and gynecology obtain images of the female pelvic organs and the fetus, while those specializing in neurosonology obtain images of the brain and its blood vessels. Sonographers working in all these specialties determine normal from abnormal situations and contribute to the making of a diagnosis of pathologies affecting those organs.

### **Vascular Sonography**

Professionals working in this specialty are called vascular sonographers. They use ultrasound and other specialized equipment to assess the anatomic, physiologic, and pathologic conditions of veins and arteries. Among the most common studies are those of the carotid arteries, arteries of the upper and lower extremities, abdominal blood vessels, and intracranial circulation. Exploration of these vessels helps to determine the presence of plaques and thrombus, the direction of blood flow, and the process of revascularization, as well as patency of grafts. Vascular sonographers play a very important role in assessing the blood vessels in special situations such as stroke, peripheral arterial disease, abdominal aortic aneurysm, portal hypertension, and deep vein thrombosis. They even can help to select native vessels for grafts to be used in cardiac surgeries.

### **Medical Sonography Program**

The NSU Medical Sonography Program in Fort Lauderdale offers didactic and clinical training in the general and vascular sonography subspecialties as one integrated curriculum. At the end of the program, the student will be able to perform general (abdomen, small parts, and neurosonology), obstetrical and gynecological, and vascular studies. The growing use of ultrasound and the need for sonographers with multiple credentials to accommodate new regulations in the health care field have set the ground for a comprehensive program that combines the two main specialties of RDMS (abdomen, ob-gyn, breast, and neuro) and RVT.

## **Bachelor of Science—Medical Sonography (B.S.—MS)**

The Bachelor of Science in Medical Sonography program was designed to prepare entry-level professionals in the fields of general and vascular sonography. During the first year, students take online courses at the undergraduate level, as well as on-campus classes that include many hours each week in the training ultrasound lab. This is followed by a 12-month externship in a clinical site and online courses. Graduates from this program will be able to apply for national examinations with the American Registry of Diagnostic Medical Sonography (ARDMS) and obtain RDMS and RVT credentials. Upon graduation from the B.S.—MS program, students will be eligible to apply for admission to the online Master of Health Science (M.H.Sc.) program.

### **Program Objectives**

- to graduate competent, entry-level diagnostic medical sonographers in the general and vascular specialties who are qualified to perform a variety of standard and specialized diagnostic general and vascular ultrasound examinations
- to ensure that graduates are qualified to take and successfully pass a national credentialing exam from either the American Registry of Diagnostic Medical Sonography (ARDMS) or Cardiovascular Credentialing International (CCI)
- to prepare graduates for future leadership roles in general, vascular, or combined general and vascular laboratories and ultrasound departments
- to enhance the student's academic skills for pursuing research studies or education in diagnostic medical sonography

Upon successful completion of the Bachelor of Science in Medical Sonography, students are eligible to apply for admission to the Master of Health Science (M.H.Sc.), and later the Doctor of Health Science (D.H.Sc.) programs. 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.

## Curriculum Overview

### Length of the Program: 27 months

The medical sonography program, both at the bachelor's and master's degree levels, includes on-campus lectures; extensive, hands-on training in the ultrasound laboratory; online courses; and a 12-month externship in an accredited clinical facility. The curriculum for this program follows the standards recommended by the American Registry of Diagnostic Sonography (ARDMS) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Graduating students will earn a Bachelor of Science in Medical Sonography degree. Upon graduation, students will be able to sit for the professional registry exam with the ARDMS and earn RDMS and RVT credentials.

The curriculum follows a lock-step model, and the courses must be taken and passed in a predetermined sequence. Examples of the degree courses include Health Care Ethics, Academic and Professional Writing, Research Methods, and Principles of Management. Some of the core courses for the medical sonography include Ultrasound Physics, Abdominal Sonography, Obstetrics and Gynecology, Cerebrovascular Testing, and Peripheral Arterial Testing. In the second year, students have a 12-month externship, allowing them to gain experience through observation and hands-on practice, while being supervised by clinical mentors.

### Prerequisites

In order to apply to the Bachelor of Science in Medical Sonography program, a student must have completed 30 semester hours of general education coursework as prerequisites. Only courses with a minimum GPA of 2.0 on a 4.0 grading scale will be accepted.

### Required General Education Coursework

- composition (3 semester hours—above COMP 1000)
- mathematics (3 semester hours—above MATH 1000, college algebra strongly recommended)
- humanities (6 semester hours—3 semester hours in foreign language recommended)
- social and behavioral sciences (9 semester hours)
- human, biological, and physical sciences (6 semester hours—Anatomy and Physiology I required, Anatomy and Physiology II recommended)
- physics (3 semester hours)

Total: 30 semester hours

Note: Required general education courses cannot be survey courses.

## Admissions Requirements

All applicants to the program must have a minimum of 30 semester credits from a regionally accredited college or university (as outlined previously) with a minimum cumulative GPA of 2.75 on a 4.0 grading scale. Only courses with a minimum GPA of 2.75 on a 4.0 grading scale may be considered for transfer. Upon receipt of the completed application, fees, credentials, and transcripts, the admissions officers and the College of Health Care Sciences will review all material for evidence of the proper education, training, and background to enter the Bachelor of Science in Medical Sonography program.

Prospective medical sonography students are selected by the Department of Health Science Committee on Admissions through consideration of the overall qualities of the applicant. The program will admit individuals with diverse education, work, and life experiences who have demonstrated capacity to pursue the course of study in general and vascular sonography. Areas of consideration include application content, academic record, letters of evaluation, and personal motivation. Admission to the medical sonography course of study will not guarantee admission to any other program of Nova Southeastern University.

The Department of Health Science Committee on Admissions will not consider an application until all required fees, credentials, transcripts, and test scores have been received by the Office of Admissions. The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the 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, department chair, and medical sonography director reserve the right to require the student's withdrawal at any time for the above-mentioned reasons.

## Application Procedures

Candidates for admission are responsible for the submission of the following:

- completed application forms with \$50, nonrefundable application fees
- two letters of evaluation from individuals (other than relatives) such as academic advisers, professors, clinical or non-clinical supervisors, or community associates
- official college-, certificate-, and/or diploma-based transcripts from all undergraduate and graduate institutions attended, sent directly from the institution

- a student-prepared learning portfolio requesting Assessment of Prior Experiences for Academic Credit, if applicable (graduates from programs other than those from regionally accredited colleges or universities only) copies of national and or state professional certification, licensure or registration, if applicable
- evaluation of coursework taken at a foreign institution for U.S. institutional equivalence, if applicable

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

- resume or curricula vitae

The Office of Admissions for the Bachelor of Science in Medical Sonography works on a rolling admissions basis. Applications are accepted year-round. To ensure that your application receives prompt consideration, you should apply early. All admissions material should be sent to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Department of Health Science  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Personal Interviews

Once the application is completed, the Committee on Admissions will decide whether or not the application is strong enough to warrant an invitation for a personal interview. Interviews are conducted on the Nova Southeastern University main campus and are by invitation only. An invitation to interview is not a guarantee of admission.

### Distance Education Support

Students on clinical externships in medical sonography must maintain NSU computer accounts including email. New students receive an orientation and extensive online technical support online access, online tools and methods, and library resources. Online interactive learning methods involve Web pages to access course materials, announcements, the electronic library, and other information, plus a range of online activities that facilitate frequent student-professor interaction. Faculty members and students interact via online forums using threaded bulletin boards, chatrooms, and email. Students are able to submit assignments as email attachments, through the use of online forms sent directly to program instructors, fax to fax, fax to email, and through Blackboard. Some online courses may include electronic classroom sessions.

Online students have online access to books, journal articles, microfiche, dissertations, index searches, catalog searches, and reference librarians. The online medical database collection at NSU is extensive and includes access to quality subscription services free of charge to the student.

### Tuition and Fees

- \$50, nonrefundable application fee
- \$20,500 per academic year
- \$500 acceptance fee—This fee is required to reserve the accepted applicant's place in the entering first-year class, but is nonrefundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- \$250 deposit—This fee is due February 15, under the same terms as the acceptance fee.
- \$250 preregistration fee—This fee is due April 15, under the same terms as the acceptance fee.
- \$200 Sonography Principles and Instrumentation (SPI) Examination fee
- Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials.

- A graduation and diploma fee of \$275 will be incurred.
- An NSU student services fee of \$1,050 is required annually.
- A \$145 health professions general access fee is required yearly. This fee is required to pay for background checks, drug testing (if required), affiliation agreements, and immunizations.
- Applicants should have a specific plan for financing 27 months of professional education. This includes 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 hospital insurance plan through the university.

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 College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice.

### Requirements for Graduation

To be eligible to receive the Bachelor of Science in Medical Sonography degree, students are required to

- complete general education, major, and elective requirements as specified by the program at time of admission, resulting in a minimum total of 125 semester hours
- attain a 2.0 cumulative grade point average
- submit a degree application form before completing registration for the last semester
- fulfill all obligations to the library, the student's program, and the bursar's office
- attend graduation ceremonies

- take the ARDMS Sonography Principles and Instrumentation (SPI) Examination by the end of their first year

### Graduation with Honors

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed at least 90 credits at NSU is eligible to receive the degree with distinction.

### Computer Skills

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.

### Accreditation, National Examinations, and Registry

The Vascular Sonography course of study is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Commission on Education in Diagnostic Medical Sonography (JRC-DMS).

JRC-DMS, Address: 2025 Woodlane Drive, St. Paul, MN 55125-2998, Telephone: 651-731-1582, Web site: [www.jrcdms.org](http://www.jrcdms.org). Amanda Glassing, Accreditation Manager, Email: [aglassing@jcahpo.org](mailto:aglassing@jcahpo.org), Telephone: 651-731-1582.

Graduates will be eligible to take the national registry examination administered by the American Registry of Diagnostic Medical Sonographers (ARDMS)

American Registry of Diagnostic Medical Sonographers (ARDMS)  
51 Monroe Street, Plaza East One  
Rockville, Maryland 20850-2400  
Tel: (301) 738-8401 or 800-541-9754  
Fax: (301) 738-0312

## Curriculum Outline Bachelor of Science—Medical Sonography

Required General Education Courses	Semester Hours
Composition*	3
Social and behavioral sciences	9
Humanities	6
Natural and physical sciences**	9
Mathematics***	3

**General Education Subtotal: 30**

\* 3 COMP credits above COMP 1000

\*\* physics—required, anatomy and physiology—recommended

\*\*\* 3 MATH credits above MATH 1000 (college algebra recommended)

Required B.H.Sc. Courses	Credit Hours
BHS 3110 Health Care Ethics	3
BHS 3120 Introduction to Epidemiology	3
BHS 3130 Research and Design for Health Care	3
BHS 3150 Principles in Leadership	3
BHS 3155 Conflict Resolution in Health Care	3
BHS 3160 Health Care Policy	3
BHS 4000 Cultural Competency in Health Care	3
BHS 4100 Academic and Professional Writing	3
BHS 4110 Health Care and Aging	3
BHS 3102 Ultrasound Physics I/Lab	3
BHS 3111 Ultrasound Cross-Sectional Anatomy	4
BHS 3200 Ultrasound Physics II/SPI Exam	1
BHS 3220 Introduction to Diagnostic Medical Sonography	3
BHS 3300 Cerebrovascular Testing/Lab	4
BHS 3400 Venous Testing/Lab	4
BHS 3500 Peripheral Arterial Testing/Lab	4
BHS 3700 Clinical Preparation and Review	4
BHS 3800 Abdominal Sonography/Lab I	4
BHS 3810 Abdominal Sonography/Lab II	4



BHS	3830	Small Parts Sonography	4
BHS	3900	Obstetrics and Gynecology Ultrasound I	4
BHS	3910	Obstetrics and Gynecology Ultrasound II	4
BHS	4500	Clinical Externship I	6
BHS	4600	Clinical Externship II	7
BHS	4700	Clinical Externship III	8

**Required B.H.Sc. Credit Hours Subtotal: 95**

**Transfer Subtotal: 30**

**Total B.H.Sc. Degree Credit Hours Required: 125**

In order to be eligible to graduate with the Bachelor of Science in Medical Sonography degree, a student must have completed 30 semester hours of general education coursework, in addition to the B.H.Sc. curriculum, with a resulting minimum total of 125 credit hours. Only courses with a minimum GPA of 2.0 on a 4.0 grading scale will be accepted.

## **Cardiac Sonography Hybrid Certificate Program**

### **Diagnostic Medical Sonography**

Diagnostic medical sonography includes four primary areas of specialization: general (RDMS), cardiac (RDCS), vascular (RVT), and musculoskeletal. General sonography includes subspecialties in obstetrics and gynecology, organs of the body, and small parts (soft tissues and superficial glands), as well as neurosonology. Cardiac sonography examines the anatomical structure and function of the heart and is subdivided into three different subspecialties: adult echocardiography, fetal echocardiography, and pediatric echocardiography. Vascular sonography studies the anatomical and physiological characteristics of blood vessels (veins and arteries) in the human body. The most recently created specialty in sonography is musculoskeletal sonography. This specialty studies the different joints and tendons in the body. Diagnostic medical sonography uses mechanical, nonionizing sound waves to obtain images and is considered a noninvasive modality.

### **Cardiac Sonography Certificate**

In May 2015, NSU will offer a certificate in cardiac sonography for practicing sonographers. This 12-month program is designed to prepare practicing sonographers for the cardiac registry exam. The courses will be delivered in a hybrid format, with online courses and on-campus lab sessions in the evenings or on weekends at our main campus. A clinical externship is offered during the last two terms of the program. Graduates will be eligible to take the national examinations for the cardiac registry as administered by the American Registry of Diagnostic Medical Sonographers (ARDMS) and/or Cardiovascular Credentialing International (CCI).

### **Objectives**

This certificate program will

- provide working sonographers with the knowledge, skills, and critical thinking leading to cardiac sonography credentials
- provide working sonographers with the opportunity to sit for the examination to obtain the Registered Diagnostic Cardiac Sonographer (RDCS) credential from the American Registry of Diagnostic Medical Sonography and/or the Registered Cardiac Sonographer (RCS) credential from Cardiovascular Credentialing International.

## Curriculum

Term I		Credits	Lab
CSC 3920	Cardiovascular Anatomy and Physiology—Hemodynamics	2	0
CSC 3930	Ultrasound Physics in Echocardiography	2	0
CSC 3940	Introduction to Adult Echocardiography I/Lab	3	2

**Total Term Credits: 9**

Term II		Credits	Lab
CSC 3941	Adult Echocardiography II/Lab	3	2
CSC 3943	Pharmacology and ECG	3	0
CSC 3944	Clinical Applications I	2	0
CSC 3946	Clinical Externship I	8	0

**Total Term Credits: 18**

Term III		Credits	Lab
CSC 3942	Adult Echocardiography III/Lab	3	2
CSC 3945	Clinical Applications II	2	0
CSC 3947	Clinical Externship II	8	0

**Total Term Credits: 15**

**Total Credits: 42**

### Admissions Requirements

In order to be considered for admission, applicants must be one of the following:

- currently working, registered ultrasound professionals who wish to acquire the knowledge and training skills in the adult echocardiography specialty leading to the RDCS (ARDMS) and RCS (CCI) credentials
- health professionals, who have passed the Sonography Principles and Instrumentation (SPI) examination (ARDMS ultrasound physics portion of the exam)
- NSU College of Health Care Sciences alumni who have a bachelor's or master's degree in the vascular sonography course of study and who currently have RVT or ROMS credentials (or at least have passed the SPI exam and are willing to obtain the education and training leading to RDCS or RCS credentials)

### Application Procedures

Applicants for admissions must submit, or be responsible for the submission of, a completed application form with a \$50, nonrefundable application fee by the deadline of April 1. Applicants can complete the application online at <http://nova.askadmissions.net/emtinterestpage.aspx?ip=undergrad>.

Applicants must also submit

1. official transcripts from the registrars of all colleges and universities attended, sent directly from the institution
2. official Sonography Principles and Instrumentation (SPI) scores (taken within three years of matriculation into the program) or an official copy of national and/or state professional certification, licensure, or registration
3. two letters of recommendation from individuals (other than relatives) such as professors, clinical or nonclinical supervisors, or community associates

4. a curriculum vitae or resume
5. TOEFL scores, or equivalent IELTS or PTE—A scores (if applicable)
6. evaluation of coursework taken at a foreign institution for U.S. institutional equivalence (if applicable)

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

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

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

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.

### Tuition and Fees

Tuition for 2014–2015 is \$10,000. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually. A tuition discount applies to alumni from NSU's vascular sonography program. All tuition and fees are subject to change by the board of trustees without notice.

Acceptance Fee—\$200. This fee is required to reserve the accepted applicant's place in the entering class, but it is not refundable in the event of a withdrawal.

Laboratory Fee (if implemented)—\$100.

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 their professional education. This should include provision for tuition, living expenses, books and equipment, travel, and miscellaneous expenses.

Note: An additional charge of \$2,000 may apply if NSU needs to provide clinical placement for the student. This charge does not apply to students who already have an echo lab where they can obtain their clinical hours.

### Requirements for Graduation

To be eligible to receive the Certificate in Cardiac Sonography students are required to

- complete course requirements as specified by the program at time of admission, resulting in a minimum total of 42 credits
- attain a 2.0 cumulative grade point average
- fulfill all obligations to the library, the student's program, and the bursar's office
- attend the one-week assessment period on-campus
- attend graduation ceremony

### Computer Skills

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.

## Cardiac Sonography Hybrid Program—Fort Lauderdale Course Descriptions

### CSC 3920—Cardiovascular Anatomy and Physiology—Hemodynamics

This course is designed to review the cardiovascular thoracic anatomy and physiology, as well as the main concepts of hemodynamic. This course will focus in embryology and the cardiac development, normal anatomy, physiology, and main hemodynamic concepts. (2-0)

### CSC 3930—Ultrasound Physics in Echocardiography

This course will focus on the main principles and instrumentation of Ultrasound Physics as it applies to the practice of echocardiographic studies. The students will have the opportunity to become proficient in 2D, M-Mode, Pulse Doppler, Continuous Doppler, Color Doppler, Tissue Doppler, etc., as it pertains to the evaluation of the heart and great blood vessels. The students will also review concepts about artifacts, safety, and bioeffects in echocardiography. (2-0)

### CSC 3940—Introduction to Adult Echocardiography I/Lab

This course is designed to introduce students into the scanning techniques in adult echocardiography, developing proficiency in the performance of M-Mode, Two-dimensional, and Doppler (pulsed wave, continuous wave, color flow, and power) echocardiographic studies. The students will learn, understand, and work on developing proficiency in the use of quantification principles applied to echocardiographic images. The course will be primarily taught in the ultrasound laboratory in small groups, supplemented by online lectures. (3-2)

### CSC 3941—Adult Echocardiography II/Lab

This course is designed to give the students in-depth knowledge and understanding of cardiac pathology, pathophysiology, and hemodynamics in different types of cardiac disease. The course will be primarily delivered online, hands-on in the cardiac laboratory on campus and by direct observation during the clinical externship or at clinical sites where students are completing their clinical hours. (3-2)

### CSC 3942—Adult Echocardiography III/Lab

This course is designed to be a progression of AEI and AEII and will introduce the students into the more clinical aspects of the practice of echocardiography. Students will learn and be able to understand the relationship of echocardiography to history and medical examination, differential diagnosis related to the echocardiographic examination, cardiovascular surgery, and interventional cardiology. This course will also give knowledge and promote understanding of the indications, utility, limitations, and technical procedures for related studies: stress echocardiography, intraoperative echocardiography,

transesophageal echocardiography (TEE), contrast echocardiography, three-dimensional echocardiography, and echo-guided procedures. This course will be based on lectures and educational material online while students are attending the clinical externship or at clinical sites where they are completing their clinical hours. (3-2)

### CSC 3943—Pharmacology and Electrocardiography (ECG)

This course is designed to provide the students with the knowledge and understanding of clinical pharmacology as it relates to echocardiography and provocative maneuvers. The students will obtain knowledge and practice skills on how to obtain, read, and interpret an electrocardiographic tracing (ECG) recognizing normal from abnormal. This course will be delivered online and will have training periods during the lab sessions on campus. Students will develop skills by performing multiple ECG reading exercises. (3-0)

### CSC 3944—Clinical Applications I

This course is oriented to train students to recognize critical elements in the echocardiographic study and to interpret/relate them properly to further the echocardiographic study in search of other potential findings that may contribute to confirm, rule out, or expand a cardiac condition. This course will be based on clinical cases, video clips, article review, and board discussions. (2-0)

### CSC 3945—Clinical Applications II

This course will further the development of critical thinking applied to clinical cardiology and the echocardiographic findings and the relationship with other diagnostic, therapeutic modalities. This course will be based on clinical cases, video clips, article review, and board discussions. (2-0)

### CSC 3946—Clinical Externship I (16 weeks)

Students will be assigned to a clinical site with a high volume of echocardiographic exams where they will be able to observe and begin performing a number of echocardiographic studies under the direct supervision of a qualified cardiac sonographer or physician. Students will attend their clinical externship, completing 24 hours per week, for the length of the term (16 weeks, 384 clinical hours). (8-0)

### CSC 3947—Clinical Externship II (18 weeks)

This is a continuation of Clinical Externship I and is designed to provide students with further clinical experience in their assigned clinical settings. By the end of this course, students will have completed 432 clinical hours. (8-0)

## Bachelor of Health Science Course Descriptions

### **BHS 3102—Ultrasound Physics I/Lab**

This course is designed to help the student acquire knowledge of all the fundamental principles and concepts necessary to understand the properties of sound and ultrasound as used in diagnostic imaging. These principles and concepts will span from basic properties of sound in soft tissue to advanced techniques such as Doppler, spectral analysis, M-mode, etc. as they pertain to evaluation for vascular and cardiac ultrasound imaging. The students will also learn about artifacts, safety, and the concepts of bioeffects. Some of the principles will be illustrated. (3 semester hours)

### **BHS 3101—History of the U.S. Health System**

This course will examine the origins and ongoing development of the U.S. health system. Students will gain historical understanding of the origins and forces that have influenced change within the US health care system. (3 semester hours)

### **BHS 3110—Health Care Ethics**

This course is designed to introduce ethical thinking and concepts regarding health care to prepare the student with the essential vocabulary and thought processes to understand, evaluate, and participate in ethical decision making. (3 semester hours)

### **BHS 3111—Ultrasound Cross-Sectional Anatomy**

This course is designed to expand upon student's present knowledge and understanding of normal anatomy through developing spatial relationships of organs, vessels, bones, muscles and connective tissues. (4 semester hours)

### **BHS 3120—Introduction to Epidemiology**

The purpose of this course is to introduce students to the history and development of epidemiology in relation to public health and disease. Communicable, epidemic, endemic, and social diseases will also be discussed. (3 semester hours)

### **BHS 3130—Research and Design for Health Care**

This course is designed as an introduction to critical analysis of research and medical literature as well as basic research methods. The course includes an introduction to descriptive and inferential analysis and research design. Statistical and research concepts and procedures are combined with an emphasis on practical health care applications. (3 semester hours)

### **BHS 3140—Health Care Practice**

The purpose of this course is to study the legal implications of licensing, practice, and contractual employment. The importance of understanding rules of practice and standards of care are discussed. (3 semester hours)

### **BHS 3145—Principles of Environmental Health**

This course will introduce students to the principles of environmental health and their importance to human populations. Some of the topics covered include environmental quality, occupational health, vector-borne and pandemic diseases, and hazardous materials management, as well as the regulations promulgated to manage each. (3 semester hours)

### **BHS 3150—Principles of Leadership**

This course will provide an overview of numerous leadership theories to prepare the student for a leadership role in health care. The course will critically analyze the differences between leadership and management. (3 semester hours)

### **BHS 3151—Health Services Management**

This course will provide an overview of health care and general management to prepare the student for a managerial role in health care administration. Course topics include human resource issues and policy, personnel planning, staffing, development, coaching, and training of employees. (3 semester hours)

### **BHS 3155—Conflict Resolution in Health Care**

The purpose of this course is to develop an understanding of, and effective methods and strategies for reducing the incidence of, workplace conflict including employee-employee, supervisor-subordinate, patient-patient, and patient/client-provider conflict. (3 semester hours)

### **BHS 3160—Health Care Policy**

This course provides the student with a broad understanding of policy, how health care is organized and dispensed, and how the practitioner can better work in the system. Topics of discussion include cost control, long-term care, quality control, ethical issues, and insurance. (3 semester hours)

### **BHS 3161—Concepts of Health Care Finance**

This course introduces the fundamental tools, concepts, and applications aimed at giving students an understanding of numerous financial theories and techniques used in health care financial management. The course materials are structured around emerging health care policies and the role economics and finance play in establishing policy. Case studies are drawn from a variety of sources including health maintenance organizations, home health agencies, nursing units, hospitals, and integrated health care systems.

Some topics of discussion will include concepts of capital financing for providers, budgeting, financial ethics, payment systems, provider costs, the high cost of health care, and measuring costs. (3 semester hours)

#### **BHS 3162—Economics of Health Care Services**

This course will teach the student to use economic analysis to understand critical issues in health care and health policy. Issues to be studied include the demand for health care, health insurance markets, managed care, medical technology, government health care programs, national health reform, and the pharmaceutical industry. The course will focus on the U.S. health care sector, but will also examine the health care systems of other countries. (3 semester hours)

#### **BHS 3170—Health Care Delivery Systems**

This course is designed as an introduction to health care plans that are underwritten by the federal government as well as selected private HMOs. Topics will include Medicare, Medicaid, public health, Indian Health Service, Veterans Administration, military health systems, and managed care. An understanding of the social, political and professional forces that shape the health care delivery system will be discussed. (3 semester hours)

#### **BHS 3190—Patient Education in Health Care**

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/practitioner 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. (3 semester hours)

#### **BHS 3195—Therapeutic Communications for Health Care Professionals**

This course covers a variety of general concepts and contemporary discussions in the area of therapeutic communications. Attention is paid to self-awareness, basic communication skills, and therapeutic responses from all health care professionals. (3 semester hours)

#### **BHS 3200—Ultrasound Physics II/SPI Exam**

This course is designed to review the principles and concepts learned in BHS 3111 through quizzes and exams and to prepare students for the Sonography Principles and Instrumentation (SPI) exam administered by the ARDMS. The students will take the exam after completion of the course in late April/early May. (1 semester hour)

#### **BHS 3220—Introduction to Diagnostic Medical Sonography**

This course is designed to introduce students to the equipment used in vascular ultrasound. The course will, therefore, be primarily taught in the ultrasound training laboratory in small groups. The focus of the course will be to lead students toward proficiency and competency in using all the tools available on the ultrasound equipment for the production of quality images, as well as proper ergonomics. This course is the foundation for all the following core courses. (2 semester hours)

#### **BHS 3300—Cerebrovascular Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the extracranial and intracranial cerebrovascular circulation. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. (4 semester hours)

#### **BHS 3400—Venous Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the venous circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. (4 semester hours)

#### **BHS 3500—Peripheral Arterial Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the arterial circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other technologies specific to vascular laboratories, as well as some other imaging techniques. (4 semester hours)

#### **BHS 3700—Clinical Preparation and Review**

This course will provide and reinforce the nontechnical aspects of the profession of diagnostic medical sonography. These include, but are not limited to, professionalism, patient care, and clinical rationale. This course will also prepare the students for the clinical experience that follows in the second year. (4 semester hours)

#### **BHS 3800—Abdominal Sonography I**

This course will review normal abdominal anatomy and physiology with a focus on cross sectional anatomy. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory learning to recognize normal sonographic

anatomy. Lectures will focus on the previously mentioned aspects, as well as on how to collect patient information relevant to the different ultrasound studies and other imaging techniques. This course provides a foundation that will help students understand the clinical exam and the elements contributing to their role and the scope of practice as general sonographers. (4 semester hours)

#### **BHS 3810—Abdominal Sonography II**

This course will review abnormal abdominal anatomy and physiology with a focus on clinical correlations. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory strengthening the skills learned from Abdominal Sonography I. Lab assignments will incorporate case studies, clinical correlations, and other imaging modalities (e.g., MRIs, nuclear medicine, CTs, etc.). Lectures will focus on the above-mentioned aspects, as well as on how to collect patient information relevant to the different ultrasound studies and pathologies. This course provides a foundation that will help students understand the clinical exam and the elements contributing to their role and the scope of practice as general sonographers. (4 semester hours)

#### **BHS 3830—Small Parts Sonography**

This course will focus on the use of ultrasound for the evaluation of superficial structures such as the thyroid and parathyroid glands, breasts, male reproductive system, superficial soft tissue structures, shoulders, hands, and wrists, as well as the neonatal brain, pediatric spine, pediatric hip/pelvis, and pediatric abdomen. It will have a strong hands-on component with students spending several hours in the laboratory. Lectures will focus on relevant normal and abnormal anatomical and physiological aspects as well as on clinical findings, signs, and symptoms of diseases related to these areas. (4 semester hours)

#### **BHS 3900—Obstetrics and Gynecology Ultrasound I**

This course will focus on the use of ultrasound for the evaluation of the organs in the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. The lectures will focus on the aspects previously mentioned, as well as on fetal abnormalities and abnormal conditions of the fetus. The course will explore infertility and assisted reproductive technologies. (4 semester hours)

#### **BHS 3910—Obstetrics and Gynecology Ultrasound II**

This course is a continuation of Obstetrics and Gynecology Ultrasound I. It is a further comprehensive approach to in-depth studies of the organs contained within the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. The course will focus on fetal abnormalities and abnormal conditions of the fetus. (4 semester hours)

#### **BHS 4000—Cultural Competency in Health Care**

The purpose of this course is to develop competency and better understanding when confronted with the practitioner's delivery of health care and issues related to diversity; ethnically based customs, rituals, and alternative health care choices; folk medicine; and cultural structure and viewpoints. (3 semester hours)

#### **BHS 4001—Individuals with Disabilities and Special Needs**

With the continued graying of the American population and the extending life expectancy of individuals with disabilities, there are a growing number of individuals facing chronic life challenges. These individuals are consumers of health care. It is incumbent on health care providers to understand how different challenges affect a person's abilities. Topics of discussion include laws that impact services, the history of disability care, and specific disabilities and their impact on functioning. (3 semester hours)

#### **BHS 4005—Alternative Medicine in Health Care**

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. Example topics include acupuncture, chiropractic, herbal medicine, homeopathy, massage, and naturopathic medicine. (3 semester hours)

#### **BHS 4006—Fundamentals of Chinese Medicine**

This course will discuss and analyze the impact, origins, and background of Chinese medicine. It is important to enter this class with an open mind, understanding that there are other forms of treatment for disease different from those taught in westernized medicine programs. Critical analysis of the meridians and pathways and various signs and symptoms associated with disease will be covered. (3 semester hours)

#### **BHS 4009—Sports Medicine: Principles and Practice**

This course will present a study of athletic injuries and the principle concepts and practices of sports medicine—including discussion of prevention, diagnosis, treatment, and recovery. The major musculoskeletal portions of the body will be covered, major preventive measures will be studied, and the major sports injuries will be addressed. The course will identify the medical treatments associated with the major sports injuries. (3 semester hours)

### **BHS 4010—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. (3 semester hours)

### **BHS 4011—Bioterrorism: Health Care Readiness and Response**

This course uses a systems perspective to provide health professionals with an understanding of the prevention and response to the intentional release of harmful biologic agents. Category A diseases will be reviewed including anthrax and smallpox. Risk assessment and reduction for health care facilities will be discussed. The structure of public disaster response agencies and the potential difficulties integrating with privately held critical infrastructure will be evaluated. Tactics and structural components from the class can also be used during unintentional outbreaks to reduce their impact. (3 semester hours)

### **BHS 4012—Torture, Violence, and Trauma: Health Care’s Healing Role**

This course provides an overview of the physical and psychological effects of torture, violence, and trauma. It focuses on the relationship between health care professionals and victims of human rights violations. Discussion topics include the detection, treatment, and documentation of victims of these events. The course examines the role of health care as it relates to incidents of torture, violence, and trauma. (3 semester hours)

### **BHS 4020—Topics in Maternal-Child Health**

The purpose of this course is to provide an overview of maternal and child health (MCH) issues and topic areas. One to two MCH topics will be discussed weekly. To adequately prepare for class discussion questions and course assignments, students are expected to complete the required readings for each session. This course is designated for individuals who have an interest in working in the area of maternal and child health program development and intervention. (3 semester hours)

### **BHS 4031—Statistics for Health Sciences**

This course is designed to introduce the conceptual foundation of statistical analysis and statistical reasoning of health sciences data and prepare the student to calculate, interpret, and utilize appropriate software packages for basic statistical analysis. (3 semester hours)

### **BHS 4100—Academic and Professional Writing**

The purpose of this course is to introduce students to the format, content, and thought processes for successful academic and professional writing through the use of the *NSU B.H.Sc. Form and Style Manual*, as well as

introduction to APA and AMA manuals. An overview of proper sentence and paragraph structure, grammar, punctuation usage, formatting, and bibliographic referencing will be discussed. (3 semester hours)

### **BHS 4110—Health Care and Aging**

This course examines the psychosocial and cultural variations associated with maturing and aging. Topics covered will be an overview of life choices, living wills, and treatment, as well as cultural implications of senior care. (3 semester hours)

### **BHS 4130—Internship**

The student will complete 40 hours of internship in an area of interest within a health care organization. The final project of this internship will be to produce a SWOT analysis of the unit or health care organization. **Note:** Student must receive departmental and adviser approval in order to be allowed to register for this course. (3 semester hours)

### **BHS 4140—Independent Study**

Students select an area of study in cooperation with the course adviser and/or program director. The project may include such items as work-related studies, conference attendance, grant proposals and/or planning documents. A comprehensive paper will be developed and delivered according to the NSU B.H.Sc form and style manual. **Note:** Student must receive departmental and adviser approval in order to be allowed to register for this course. (3 semester hours)

### **BHS 4150—The Science of Sound**

This course is designed to introduce students to acoustics. Students will study production of sound waves in general, and more specifically, the production of sound waves during speech. Students will also study the characteristics of sound waves, how sound waves are propagated through a medium, and the perception of sound. (3 semester hours)

### **BHS 4151—Linguistics and Psycholinguistic Variables of Normal Language Development**

This course will provide an overview of speech and language development as it relates to the typically developing child from birth through adolescence. This course will include topic areas related to the dimensions of communication, neurological and anatomical bases of communication, models of speech and language development, and speech-language differences and diversity. (3 semester hours)

### **BHS 4152—Neuroanatomy and Neurophysiology of Audition**

This course will provide an introduction to the gross structure of the brain and spinal cord. Functional relationship of their parts, with emphasis on the auditory and vestibular peripheral and central nervous systems, will be discussed. (3 semester hours)



**BHS 4153—Speech and Language Disorders for Health Care Practitioners**

Overview of speech and language delays and disorders, their etiology, and their treatment. How health care practitioners can identify people with possible disorders and make appropriate referrals. Consideration of the communication needs within the health care system of people with speech-language disorders. (3 semester hours)

**BHS 4154—Effect of Hearing Impairment on Speech and Language**

Phonologic, morphologic, syntactic, and pragmatic aspects of human communication associated with hearing impairment. Study of methods of screening hearing-impaired patients for concomitant speech and language disorders. **Prerequisite:** a course in normal language development (3 semester hours)

**BHS 4160—Education for the Health Professions**

This course will provide an opportunity to explore learning theories, learning styles, testing and assessment, education trends, and the use of technology in instruction as it relates to the health professional and professions. (3 semester hours)

**BHS 4500—Clinical Externship I**

This course will be mainly provided through immersion in a clinical setting assigned by the end of the first year. Students will be a daily integral part of the operations of the diagnostic ultrasound department they have been assigned to for the length of the term. Students will report to the clinical coordinator or an assigned professor of the program at NSU. (6 semester hours)

**BHS 4600—Clinical Externship II**

This course is a continuation of Clinical Externship I. (7 semester hours)

**BHS 4700—Clinical Externship III**

This course is a continuation of Clinical Externship II. (8 semester hours)

**BHS 5001—APA Writing Seminar**

This course is designed to introduce students to the APA writing form and style. Students will be guided by an instructor in the use of the *APA Publication Manual* and the components of an APA-style academic paper and practicum and internship reports. All courses within the Department of Health Science require that all written assignments be submitted in APA form and style. (3 semester hours)

**CVS 3000—Introduction to Cardiovascular Sonography Instruments**

This course is designed to introduce the students to the equipment used in cardiovascular ultrasound. The course will, therefore, be primarily taught in the ultrasound

training laboratory in small groups, with supplemental online content and challenge-based learning assignments. The focus of the course will be to lead the students toward proficiency and competency in using all the tools available on the ultrasound equipment for the production of quality images, as well as proper ergonomics, patient handling, and care of the equipment. This course is the foundation for all the following core courses. (3 semester hours)

**CVS 3010—Echocardiography I**

This course will provide an introduction to techniques, measurements, and normal function of the adult heart as evaluated with ultrasound. It will have a strong hands-on component and students will spend several hours per week in the ultrasound training laboratory acquiring skills in basic imaging, patient positioning, and ergonomics to form a solid foundation for later, more-advanced courses. Lectures will include, but will not be limited to, a review of the normal anatomy and physiological function of the heart, commonly encountered pathology, pathophysiology, basic treatment options, and beginning analysis of data obtained by ultrasound, as well as introduction to other cardio-focused techniques. (3 semester hours)

**CVS 3020—Echocardiography II**

This is an intermediate course on the use of ultrasound for the evaluation of the adult heart and heart function. It will have a strong hands-on component and students will spend several hours per week in the ultrasound training laboratory acquiring advanced imaging skills to begin mastery of the adult echocardiography examination. Lectures will continue with advanced subjects including, but not limited to, acquired and congenital pathologies, pathophysiology, and treatment options. In-depth analysis of echocardiographic findings and presentation of same in preliminary reporting will also be covered in detail. (3 semester hours)

**CVS 3030—Echocardiography III**

This is an advanced course on the use of specialized ultrasound techniques for the evaluation of the adult heart, with additional content for pediatric echocardiography and other advanced imaging techniques and considerations. It will have a strong hands-on component and students will spend several hours per week in the ultrasound training laboratory acquiring advanced imaging skills. Lectures will cover special considerations for advanced imaging, specific pathologies and anatomical considerations for pediatric imaging, pediatric congenital pathologies, pathophysiology, treatment options, and analysis of data obtained by ultrasound, as well as other cardio-focused techniques. Additional topics will cover procedures and other considerations surrounding the performance of the echocardiography exam that will be encountered in a clinical setting, preparing the student for clinical externships in year two of the program. (4 semester hours)

### **CVS 3040—Ultrasound Physics**

This course is designed to help students acquire knowledge of all the fundamental principles and concepts necessary to understand the properties of sound and ultrasound as used in diagnostic imaging. These principles and concepts will span from basic properties of sound in soft tissue to advanced techniques such as Doppler, spectral analysis, and M-mode as they pertain to evaluation for vascular and cardiac ultrasound imaging. Students will also learn about artifacts, safety, and the concepts of bio-effects. Key physics principles will be illustrated with hands-on exercises and activities in the classroom and lab, utilizing both the imaging equipment and more everyday materials to facilitate understanding. Challenge-based learning physics assignments will also be given to further the learning process. **(4 semester hours)**

### **CVS 3050—Ultrasound Physics Review**

This course is designed to review the principles and concepts learned in CVS 3040 through quizzes and exams to help the student prepare for the Sonography Principles and Instrumentation (SPI) exam administered by the ARDMS. The students will take the exam after completion of the course in late April/early May. **(2 semester hours)**

### **CVS 3060—Cerebrovascular Testing**

This course will focus on the use of ultrasound for the evaluation of the extracranial and intracranial cerebrovascular circulation. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other diagnostic techniques. **(3 semester hours)**

### **CVS 3070—Peripheral Arterial Testing**

This course will focus on the use of ultrasound for the evaluation of the arterial circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other technologies specific to vascular laboratories. **(3 semester hours)**

### **CVS 3080—Venous Testing**

This course will focus on the use of ultrasound for the evaluation of the venous circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other techniques. **(3 semester hours)**

### **CVS 3090—Abdominal Vascular Testing**

This course will focus on the use of ultrasound for the evaluation of the arterial and venous circulation of organs of the abdomen. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other diagnostic imaging techniques. **(3 semester hours)**

### **CVS 4000—Clinical Preparation**

This course will provide for and reinforce the nontechnical aspects of the profession of diagnostic medical sonographers. This will include, but is not limited to, professionalism, billing, quality assurance, image storage, and reporting. The course will prepare students for the clinical experience that follows in the second year. Embedded in this course will also be a certification training seminar for Basic Life Saving (BLS) for Health Care Providers. **(3 semester hours)**

### **CVS 4500—Clinical Externship I**

In the second year of the program, students may have the option of performing their clinical externships in a vascular, adult echo, or combined vascular/echo clinical experience, depending on their interests and demonstrated competencies. This course will be mainly provided through immersion in a clinical setting assigned at the culmination of the first year. Students will be a daily integral part of the operations of the vascular laboratory and/or echocardiography imaging department they have been assigned to for the length of the term. They will report to the clinical coordinator or an assigned professor of the program at NSU. **(9 semester hours)**

### **CVS 4600—Clinical Externship II**

This course is a continuation of CVS 4500. **(9 semester hours)**

### **CVS 4700—Clinical Externship III**

This course is a continuation of CVS 4500 and CVS 4600. **(9 semester hours)**

## 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 xstudy 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.

All applicants must show evidence of computer skills through coursework or self-study skills prior to the end of the first term. 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 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  
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 resume. 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 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 2014–2015 is \$384 per credit hour. An NSU student services fee of \$1,050 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 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 Law Center 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 resume
- all documents must be received at least one month prior to the anticipated start date.

Nova Southeastern University  
Enrollment Processing Services  
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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

## 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 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 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)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	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

Elective Courses* (9 credits—choose three courses)			Credit Hours
MHS	5103	Principles of Advanced Life Support	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	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

Practical Courses (10 credits)			Credit Hours
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 five concentrations: sports medicine, higher education, health law, forensic investigative technology, and leadership in health care. 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)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (12 credits)			Credit Hours
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)			Credit Hours
MHS	5309	U.S. Health Policy	5
MHS	5207	Practicum	5

## Higher Education Concentration Curriculum

Core Courses (15 credits)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (12 credits)			Credit Hours
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

Practical Courses (10 credits)			Credit Hours
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 Law Center. **Students in this concentration should consider themselves in a locked-step schedule.** For the health law concentration, two residential institutes are required on the main campus. These summer institutes are one–two days long.

Core Courses (15 credits)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5530	Principles and Practice of Management in Health Care	3

Concentration Courses (18 credits offered through the Shepard Broad Law Center)			Credit Hours
MHL	1020	Legal Research Methods and Reasoning*	4
MHL	1060	Tort and Contract Law	2
MHL	2030	Risk Management	2
MHL	1030	Administrative Law	3
MHL	1040	Legal and Ethical Issues in Health Care	2



MHL	1090	Law Accreditation/Licensing	2
OR			
MHL	1080	Law of Patients Rights and Advocacy	2
MHL	2021	Pharmaceutical Law*	3

Practical Courses (10 credits)			Credit Hours
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)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (15 credits)*			Credit Hours
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)			Credit Hours
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)			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Medical Writing for Publication	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3

Concentration Courses (15 credits)			Credit Hours
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)			Credit Hours
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**

This concentration is designed for health care professionals seeking to enter, or be promoted in, the rapidly expanding field of health care risk management, compliance, and patient safety. 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.

<b>Core Courses (12 credits)</b>			<b>Credit Hours</b>
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Medical Writing for Publication	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5501	Epidemiology and Biostatistics	3

<b>Concentration Courses (15 credits)</b>			<b>Credit Hours</b>
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>			<b>Credit Hours</b>
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**

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>			<b>Credit Hours</b>
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Medical Writing for Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3

<b>Concentration Courses (15 credits)</b>			<b>Credit Hours</b>
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>			<b>Credit Hours</b>
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.

## 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 5205—Writing for Medical Publication

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)

##### 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)

### 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 1010—Institute on Campus I (1 credit)**

#### **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 1060—Tort and Contract Law**

This course provides a detailed introduction to the legal principles and major concepts of tort law and contract law, focusing on legal claims and disputes in the health care context. **Prerequisite:** MHL 1020 (2 credits)

**MHL 2000—Institute on Campus II (1 credit)****MHL 2030—Risk Management**

This course focuses on the legal importance of risk management programs for health care institutions. In doing so, it examines the keys to organizing and implementing successful risk management programs. It also focuses on considerations for developing effective risk management programs, evaluating them, and addressing specific risk areas, including those arising in managed care and integrated health care delivery systems. **Prerequisite:** MHL 1020 (2 credits)

**MHL 1030—Administrative Law**

This course explores the role of administrative law in health care and the effects of federalism and constitutional issues in that context. Students will review the sources of law for health care providers (institutions, organizations, and individuals). In doing so, they will chart the overlapping, and sometimes conflicting, roles of federal and state legal regulation and study the implications and effects of the various types of laws that govern the provision of health care—administrative agency regulations, constitutional provisions, statutes, and court decisions. (3 credits)

**MHL 1040—Legal and Ethical Issues in Health Care**

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)

**MHL 1080—Law of Patients Rights and Advocacy**

Over the last century, the law governing medicine has seen a shift from paternalism to respect for patients as the decision makers. Beginning with the development of the bedrock legal principles of informed consent, this course will examine the legal aspects of the 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. **Prerequisite:** MHL 1020 (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—Communication Skills for Academics**

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)

### **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)

## **Master of Science in Anesthesia (M.S.A)— 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 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 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 M.S.A. 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: 1361 Park Street, Clearwater, Florida 33756, 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 anesthetists 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 M.S.A. 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

- 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 w/lab (6 semester hours or 9 quarter hours)
- Organic chemistry w/lab (3 semester hours or 4 quarter hours)
- Biochemistry (3 semester hours or 4 quarter hours)
- General physics w/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
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 NSU code number is 5522. GRE information can be obtained from [www.gre.org](http://www.gre.org). Information for the MCAT is at [www.aamc.org/students/mcat](http://www.aamc.org/students/mcat).

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—A) 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 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 below.

- World Education Services  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311 • [www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616 • (305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400 • [www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. complete resume 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 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 2014–2015 (subject to change by the board of trustees without notice): \$37,800. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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.

## Requirements for Graduation

In order to be eligible to graduate with the M.S.A. 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:	129
Total Clinical Hours:	2,000

All courses with the MHS prefix (except MHS 5103) will be taken online.

Summer—Semester I Courses			Credit Hours
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	Principle of Airway Management I	2
MHS	5507	Ethical, Legal, and Cultural Trends in Today's Health Care Environment	4
<b>Total Credit Hours</b>			<b>22</b>

Fall—Semester II Courses			Credit Hours
ANES	5302	Anesthesia Laboratory II	3
ANES	5462	Pharmacology for Anesthesia I	2
ANES	5601	Applied Physiology for Anesthesia Practice I	3
ANES	5622	Principle of Airway Management II	2
ANES	5801	Principles of Instrumentation and Patient Monitoring I	2
ANES	5901	Anesthesia Principle and Practices I	2
MHS	5103	Principles of Life Support*	3
MHS	5205	Writing for Medical Publication	3
<b>Total Credit Hours</b>			<b>20</b>

\*Basic Life Support Certification and Advanced Cardiac Lifesaving will be obtained during this semester.

Winter—Semester III Courses			Credit Hours
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 Principle and Practices II	2
MHS	5400	Directed Studies in Anesthesia I	3
MHS	5511	Statistics and Research Methods in Health Care	4
<b>Total Credit Hours</b>			<b>21</b>

Minimum clinical experience: 150 hours (anesthesia rotations in hospital)

<b>Summer—Semester IV Courses</b>			<b>Credit Hours</b>
ANES	5002	Clinical Anesthesia II	3
ANES	5304	Anesthesia Laboratory IV	3
ANES	5903	Anesthesia Principle and Practices III	2
MHS	5109	Capstone I	5
MHS	5401	Directed Studies in Anesthesia II	3
MHS	5530	Principles and Practice of Management in Health Care	3
<b>Total Credit Hours</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>			<b>Credit Hours</b>
ANES	6110	Anesthesia Review I	1
ANES	6001	Clinical Anesthesia III	13
<b>Total Credit Hours</b>			<b>14</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Winter—Semester VI Courses</b>			<b>Credit Hours</b>
ANES	6120	Anesthesia Review II	1
ANES	6002	Clinical Anesthesia IV	15
<b>Total Credit Hours</b>			<b>16</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

Clinical Year, Summer—Semester VII Courses			Credit Hours
ANES	6003	Clinical Anesthesia V	12
MHS	5207	Practicum—Senior Seminar in Anesthesia	5
<b>Total Credit Hours</b>			<b>17</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 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. (2 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. (2 credits)

### ANES 5003—Clinical Anesthesia III

This course is a continuation of ANES 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. (5 credits)

### ANES 5004—Clinical Anesthesia IV

This course is a continuation of ANES 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. (5 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 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**

Basic and advanced ECG interpretation using simulators to understand an overview of heart anatomy, function, and neurophysiology. (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**

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)

**ANES 5602—Applied Physiology for Anesthesia Practice II**

This course is a continuation of ANES 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. (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 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. (3 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. (11 credits)

#### **ANES 6110—Anesthesia Review I**

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 6120—Anesthesia Review II**

This course is a continuation of ANES 6110. 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 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 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 5109—Capstone I**

The course is composed of 36 weeks of journal club, in which students are responsible for presenting, discussing, and critiquing current medical articles from peer-reviewed journals relevant to their profession. This course provides the anesthesiology assistant student with the opportunity for in-depth study in the area of anesthesiology. The course was specifically designed to help anesthesiology assistant students to enhance their education in the area of anesthesiology and to provide them with the opportunity to use newly acquired concepts/knowledge in preparation for clinical practice. (5 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)

#### **MHS 5207—Practicum —Senior Seminar in Anesthesia**

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 promotion and disease prevention interventions with underserved and/or nontraditional populations. (5 credits)

#### **MHS 5400—Directed Studies in Anesthesia 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. (3 credits)

#### **MHS 5401—Directed Studies in Anesthesia II**

This course is a continuation of MHS 5400. (3 credits)

#### **MHS 5507—Ethical, Legal, and Cultural Trends in Today's Health Care Environment**

This course will examine ethical principles, cultural issues, and legal trends in today's health care environment. Discussion, analysis, and application of cultural issues and ethical principles that guide decision making as related to current health care reform will be explored. (4 credits)

### **MHS 5511—Statistics and Research Methods in Health Care**

Research is the foundation for making meaningful improvements in clinical and public health practice. Health care professionals need to use evidence-based research to direct their decisions in their clinical, administrative, or academic positions. An increasingly important component of a health care professional's education involves conducting quantitative and qualitative research, which includes developing research questions that will answer the problem under study, reviewing the literature, selecting the appropriate methodology, obtaining reliable and valid data, organizing data into manageable datasets, conducting suitable statistical analysis, writing the results, and making informed conclusions. This course is designed to promote an understanding of the principles, uses, and applications of the basic research methods utilized in the clinical and public health arena. This is supported by the study of the statistical concepts used in the analysis and interpretation of data collected as part of the research process. These analytical tools will assist students in creating their own research proposals and critically evaluating research conducted by others. **(4 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, and the allocation of scarce resources. **(3 credits)**

### **MHS 5530—Principles and Practice of Management in Health Care**

The 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)**

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  
[www.nova.edu/mhs/anesthesia](http://www.nova.edu/mhs/anesthesia)

### **Master of Science in Anesthesia (M.S.A.)—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 M.S.A. 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: 1361 Park Street, Clearwater, Florida 33756, 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 M.S.A. 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.A. 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 w/lab (6 semester hours or 9 quarter hours)
- Organic chemistry w/lab (3 semester hours or 4 quarter hours)
- Biochemistry (3 semester hours or 4 quarter hours)
- General physics w/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 [www.gre.org](http://www.gre.org). Information for the MCAT is at [www.aamc.org/students/mcat](http://www.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—A) 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
- 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. complete resume 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 Regional Campus and are by invitation only. Interviews will be held from December 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 2014–2015 (subject to change by the board of trustees without notice): \$37,800. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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.

## 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	June
Length	27 months
Degree	Master of Science in Anesthesia
Total Credit Hours	128
Total Clinical Hours	2,000

Note: All courses with the MHS prefix will be taken online.

Summer—Semester I Course			Credit Hours
ANET	5048	Medical Terminology	1
ANET	5621	Principle of Airway Management I	2
ANET	5081	Introduction to Clinical Anesthesia	2
ANET	5328	ECG for Anesthesiologist Assistants	2
ANA	5420	Anatomy	5
PHS	5400	Physiology	3
ANET	5301	Anesthesia Laboratory I	3
MHS	5507	Ethical, Legal, and Cultural Trends in Today's Health Care Environment	4
<b>Total Credit Hours</b>			<b>22</b>

Fall—Semester II Course			Credit Hours
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 Principle and Practices I	2
ANET	5622	Principle 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
MHS	5103	Principles of Life Support*	3
<b>Total Credit Hours</b>			<b>21</b>

\*Basic and Advanced Cardiac Lifesaving and Pediatric Advanced Lifesaving will be obtained during this semester.

Winter—Semester III Courses			Credit Hours
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 Principle and Practices II	2
ANET	5102	Student Lecture Series II	1
MHS	5511	Statistics and Research Methods in Health Care	4
<b>Total Credit Hours</b>			<b>19</b>

Minimum clinical experience: 150 hours (anesthesia rotations in hospital)

<b>Summer—Semester IV Courses</b>			Credit Hours
ANET	5002	Clinical Anesthesia II	3
ANET	5304	Anesthesia Laboratory IV	3
ANET	5602	Applied Physiology for Anesthesia Practice II	2
ANET	5903	Anesthesia Principle and Practices III	2
MHS	5109	Capstone I	5
ANET	5103	Student Lecture Series III	1
MHS	5530	Principles and Practice of Management in Health Care	3
<b>Total Credit Hours</b>			<b>19</b>

MHS 5109 will be completed over summer and fall semesters.  
 Minimum clinical experience: 144 hours (anesthesia rotations in hospital)

<b>Clinical Year, Fall—Semester V Courses</b>			Credit Hours
ANET	6001	Clinical Anesthesia III	13
ANET	6110	Anesthesia Review I	1
<b>Total Credit Hours</b>			<b>14</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Winter—Semester VI Courses</b>			Credit Hours
ANET	6002	Clinical Anesthesia IV	15
ANET	6120	Anesthesia Review II	1
<b>Total Credit Hours</b>			<b>16</b>

Minimum clinical experience: 675 hours (anesthesia rotations in hospital)

<b>Clinical Year, Summer—Semester VII Course</b>			Credit Hours
ANET	6003	Clinical Anesthesia V	12
MHS	5207	Practicum—Senior Seminar in Anesthesia	5
<b>Total Credit Hours</b>			<b>17</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 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. (1 credit)

### **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 5003—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. (5 credits)

### **ANET 5004—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. (3 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. (1 credit)

### **ANET 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)

### **ANET 5622—Principle 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. (1 credit)

#### **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. (2 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. (1 credit)

#### **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. (2 credits)

#### **ANET 5328—ECG for Anesthesiologist Assistants**

Basic and advanced ECG interpretation using simulators to understand an overview of heart anatomy, function, and neurophysiology. (1 credit)

#### **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. (2 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 5802—Principles of Instrumentation and Patient Monitoring II**

This course is a continuation of ANET 5801. 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. (1 credit)

**ANET 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)

**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. (3 credits)

**ANET 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)

**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. (11 credits)

#### **ANET 6110—Anesthesia Review I**

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)

#### **ANET 6120—Anesthesia Review II**

This course is a continuation of ANET 6110. 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)

#### **ANET 6130—Anesthesia Review III**

This course is a continuation of ANET 6120. 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)

#### **ANET 6200—Clinical Practice in Anesthesia**

This course is a continuation of ANET 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 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 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 5107—Internship**

The student will complete 80 hours of internship in an area of interest within a health care organization, outside of his or her regular place 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 M.H.Sc. faculty approval. (5 credits)

#### **MHS 5109—Capstone I**

The course is composed of 36 weeks of journal club, in which students are responsible for presenting, discussing, and critiquing current medical articles from peer-reviewed journals relevant to their profession. This course provides the anesthesiology assistant student with the opportunity for in-depth study in the area of anesthesiology. The course was specifically designed to help anesthesiology assistant students to enhance their education in the area of anesthesiology and to provide them with the opportunity to use newly acquired concepts/knowledge in preparation for clinical practice. (5 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)

#### **MHS 5207—Practicum—Senior Seminar in Anesthesia**

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 promotion and disease prevention interventions with underserved and/or nontraditional populations. (5 credits)

#### **MHS 5507—Ethical, Legal, and Cultural Trends in Today's Health Care Environment**

This course will examine ethical principles, cultural issues, and legal trends in today's health care environment. Discussion, analysis and application of cultural issues and ethical principles that guide decision making as related to current health care reform will be explored. (4 credits)

#### **MHS 5511—Statistics and Research Methods in Health Care**

Research is the foundation for making meaningful improvements in clinical and public health practice. Health care professionals need to use evidence-based research to direct their decisions in their clinical, administrative, or academic positions. An increasingly important component of a health care professional's education involves conducting quantitative and qualitative research, which includes developing research questions that will answer the problem under study, reviewing the literature, selecting the appropriate methodology, obtaining reliable and valid data, organizing data into manageable

datasets, conducting suitable statistical analysis, writing the results, and making informed conclusions. This course is designed to promote an understanding of the principles, uses, and applications of the basic research methods utilized in the clinical and public health arena. This is supported by the study of the statistical concepts used in the analysis and interpretation of data collected as part of the research process. These analytical tools will assist students in creating their own research proposals and critically evaluating research conducted by others. (4 credits)

#### **MHS 5400—Directed Studies in Anesthesia 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 goals of the student. Possible topics involve clinical and non-clinical aspects of the practice of medicine in the United States. (3 credits)

#### **MHS 5401—Directed Studies in Anesthesia II**

This course is a continuation of MHS 5400. (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, and the allocation of scarce resources. (3 credits)

#### **MHS 5530—Principles and Practice of Management in Health Care**

The 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)

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  
[www.nova.edu/mhs/anesthesia](http://www.nova.edu/mhs/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  
2209 Dickens Road  
Richmond, Virginia 23230-0090  
email: [aaaa@societyhq.com](mailto:aaaa@societyhq.com).  
[www.anesthetist.org](http://www.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  
[www.aa-nccaa.org](http://www.aa-nccaa.org)

For information about the anesthesia care team, contact:

American Society of Anesthesiologists  
520 N. Northwest Highway  
Park Ridge, Illinois 60068-2573  
[www.asahq.org](http://www.asahq.org)

## **Master of Health Science— General and Vascular Sonography (On-Campus, Entry-Level)**

### **Diagnostic Medical Sonography**

Diagnostic medical sonography includes four primary areas of specialization: general (RDMS), cardiac (RDCS), vascular (RVT), and musculoskeletal (MSK). General sonography includes subspecialties in obstetrics and gynecology, organs of the body, and small parts (soft tissues and superficial glands), as well as neurosonology. Cardiac sonography examines the anatomical structure and function of the heart and is subdivided into three different subspecialties: adult echocardiography, fetal echocardiography, and pediatric echocardiography. Vascular sonography studies the anatomical and physiological characteristics of blood vessels (veins and arteries) in the human body. The most recently created specialty in sonography is musculoskeletal sonography. This specialty studies the different joints and tendons in the body. Diagnostic medical sonography uses mechanical, nonionizing sound waves to obtain images and is considered a noninvasive modality.

### **General Sonography**

Professionals in this field are called sonographers or medical sonographers. Sonographers use diagnostic medical ultrasound to obtain images of internal organs such as the liver, gallbladder, bile ducts, pancreas, spleen, appendix, kidneys, and adrenal glands. They also can obtain images from superficial glands and soft tissues. Sonographers specializing in obstetrics and gynecology obtain images of the female pelvic organs and the fetus, while those specializing in neurosonology obtain images of the brain and its blood vessels. Sonographers working in all these specialties determine normal from abnormal situations and contribute to the making of a diagnosis of pathologies affecting those organs.

### **Vascular Sonography**

Professionals working in this specialty are called vascular sonographers. They use ultrasound and other specialized equipment to assess the anatomic, physiologic, and pathologic conditions of veins and arteries. Among the most common studies are those of the carotid arteries, arteries of the upper and lower extremities, abdominal blood vessels, and intracranial circulation. Exploration of these vessels helps to determine the presence of plaques and thrombus, the direction of blood flow, and the process of revascularization, as well as patency of grafts. Vascular sonographers play a very important role in assessing the blood vessels in special situations such as stroke, peripheral arterial disease, abdominal aortic aneurysm, portal hypertension, and deep vein thrombosis. They even can help to select native vessels for grafts to be used in cardiac surgeries.

### **General and Vascular Sonography Program**

The NSU General and Vascular Sonography Program in Fort Lauderdale offers didactic and clinical training in the general and vascular sonography subspecialties as one integrated curriculum. At the end of the program, the student will be able to perform general (abdomen, small parts, and neurosonology), obstetrical and gynecological, and vascular studies. The growing use of ultrasound and the need for sonographers with multiple credentials to accommodate new regulations in the health care field have set the ground for a comprehensive program that combines the two main specialties of RDMS (abdomen, ob-gyn, breast, and neuro) and RVT.

During the first year, students take online courses as well as on-campus classes that include many hours each week in the training ultrasound lab. This is followed by a 12-month externship in a clinical site and online courses. Graduates from this program will be able to apply for national examinations with the American Registry of Diagnostic Medical Sonography (ARDMS) and obtain RDMS and RVT credentials. Upon graduation from the Master of Health Science—GVS program, students will be eligible to apply for admission to the online Doctor of Health Science (D.H.Sc.) program.

### **Master of Health Science—General and Vascular Sonography (M.H.Sc.—GVS)**

The Master of Health Science—General and Vascular Sonography specialization at Nova Southeastern University is designed to train highly skilled and knowledgeable general and vascular sonographers at a graduate level. Students will take master's degree-level online courses and will develop professor-monitored research projects for publication and/or presentation in their second year. This course of study will prepare graduates for leadership positions in research, clinical management, and education.

**This specific program is no longer accepting new students. Applicants who want a career in sonography should apply to either NSU's Bachelor of Science—Medical Sonography, Bachelor of Science—Cardiovascular Sonography, or Certificate in Cardiac Sonography program.**

### **Program Objectives**

- to graduate competent diagnostic medical sonographers in the general and vascular specialties who are qualified to perform a variety of standard and specialized diagnostic general and vascular procedures
- to ensure that graduates are qualified to take, and successfully pass, a national credentialing exam, from either the American Registry of Diagnostic Medical Sonography (ARDMS) or Cardiovascular Credentialing International (CCI)
- to prepare master's degree-level graduates for future leadership roles in diagnostic medical ultrasound

laboratories (general and/or vascular), research centers, or related professional organizations

- to develop advanced academic and clinical skills, for pursuing research studies and publication in the field of diagnostic medical general and vascular sonography

## Curriculum Overview

### Length of the Program: 27 months

The general and vascular sonography program, both at the bachelor's and master's degree levels, includes on-campus lectures; extensive, hands-on training in the ultrasound laboratory; online courses; and a 12-month externship in an accredited clinical facility. The curriculum for this program follows the standards recommended by the American Registry of Diagnostic Sonography (ARDMS) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Graduating students will earn either a Bachelor of Health Science—General and Vascular Sonography degree or a Master of Health Science—General and Vascular Sonography degree, depending on the program completed. Upon graduation, students will be able to sit for the professional registry exam with the ARDMS and earn RDMS and RVT credentials.

The curriculum follows a lock-step model, and the courses must be taken and passed in a predetermined sequence. Examples of the courses in health sciences include: Health Care Ethics, Academic and Professional Writing, Research Methods, and Principles of Management. Some of the core courses for the concentration in general and vascular sonography include: Ultrasound Physics, Abdominal Sonography, Obstetrics and Gynecology, Cerebrovascular Testing, and Peripheral Arterial Testing. In the second year, students have a 12-month externship, allowing them to gain experience through observation and hands-on practice, while being supervised by clinical mentors.

Students enrolled in the master's degree program will also participate in a research project mentored by a faculty member to satisfy the internship and practicum course requirements. In the same manner, master's degree students will develop an extensive research project suitable for presentation or publication.

### Distance Education Support

All students are required to have access to a computer (PC or Apple equivalent) with the following minimum specifications:

- AMD or Intel dual-core processor
- Windows XP Pro running Service Pack 2 or better
- 4 GB RAM
- 250 GB hard-drive
- CD-ROM drive (read-write)

- USB port
- high-speed Internet connection (cable, DSL, etc., 100 Mb/second or better)
- graphics printing capability

Students on clinical externships in general and vascular sonography must maintain Nova Southeastern University computer accounts, including email. New students receive an orientation and access to extensive online technical support for online access, online tools and methods, and library resources. Online interactive learning methods involve Web pages to access course materials, announcements, the electronic library, and other information, plus a range of online activities that facilitate frequent student-professor interaction. Faculty members and students interact via online forums using threaded bulletin boards, streaming video, and email. Students are able to submit assignments through online course tools sent directly to program instructors. Some online courses may include electronic classroom sessions.

Online students have online access to books, journal articles, microfiche, dissertations, index searches, catalog searches, and reference librarians. The online medical database collection at NSU is extensive and includes access to high-quality subscription services free of charge to students.

### Tuition and Fees

- \$21,710 tuition for 2014–2015 academic year
- \$1,050 annual student fee
- \$145 annual HPD general access fee
- \$200 Sonography Principles and Instrumentation (SPI) Examination fee
- A graduation and diploma fee of \$275 will be incurred.

Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials. A \$145 health professions general access fee is also required yearly. This fee is required to pay for background checks, drug testing (if required), affiliation agreements, and immunizations.

Applicants should have a specific plan for financing 24 months of professional education. This includes 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 hospital insurance plan through the university.

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 College of Health Care Sciences. Tuition, fees, and payment schedules are subject to change without notice.

### **Requirements for Graduation**

To be eligible to receive the M.H.Sc.—General and Vascular Sonography degree, students are required to

- complete the general education, major, and elective requirements as specified by the program at the time of admission
- attain a cumulative grade point average of 3.0 or higher
- submit a degree application form before completing registration for the last semester
- fulfill all obligations to the library, their program, and the bursar's office
- attend graduation ceremonies
- take ARDMS Sonography Principles and Instrumentation (SPI) examination by the end of their first year

### **Graduation with Honors**

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed at least 90 credits at NSU is eligible to receive the degree with distinction.

### **Computer Skills**

All students 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.

### **Accreditation, National Examinations, and Registry**

The Vascular Sonography course of study is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Commission on Education in Diagnostic Medical Sonography (JRC-DMS). JRC-DMS, Address: 2025 Woodlane Drive, St. Paul, MN 55125-2998, Telephone: 651-731-1582, Web-site: [www.jrcdms.org](http://www.jrcdms.org). Amanda Glassing, Accreditation Manager, Email: [aglassing@jcahpo.org](mailto:aglassing@jcahpo.org), Telephone: 651-731-1582.

Graduates will be eligible to take the national registry examination administered by the American Registry of Diagnostic Medical Sonographers (ARDMS)

American Registry of Diagnostic  
Medical Sonographers (ARDMS)  
51 Monroe Street, Plaza East One,  
Rockville, Maryland 20850-2400

Tel: (301) 738-8401 or 800-541-9754  
Fax: (301) 738-0312



## Master of Health Science—General and Vascular Sonography Curriculum Outline

Required M.H.Sc. Courses			Credit Hours
BHS	3100	Ultrasound Physics I/Lab	3
BHS	3111	Advanced Anatomy and Physiology for the Health Professions	4
BHS	3200	Ultrasound Physics II/SPI Exam	1
BHS	3220	Introduction to Diagnostic Medical Sonography	3
BHS	3300	Cerebrovascular Testing/Lab	4
BHS	3400	Venous Testing/Lab	4
BHS	3500	Peripheral Arterial Testing/Lab	4
BHS	3700	Clinical Preparation and Review	4
BHS	3800	Abdominal Sonography/Lab	4
BHS	3830	Small Parts Sonography	4
BHS	3900	Obstetrics and Gynecology Ultrasound I	4
BHS	3910	Obstetrics and Gynecology Ultrasound II	4
BHS	4500	Clinical Externship I	6
BHS	4600	Clinical Externship II	7
BHS	4700	Clinical Externship III	8
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5510	Research Methods	3
MHS	5403	Directed Studies in Medical Sonography	9
MHS	5501	Epidemiology and Biostatistics	3
MHS	5530	Principles of Management in Health Care	3
MHS	5107	Internship	5
MHS	5207	Practicum	5
<b>Total required for graduation with the B.H.Sc.—General and Vascular Sonography</b>			<b>64</b>
<b>Total credits from previous bachelor's degree</b>			<b>57</b>
<b>Total credit hours required to complete the B.H.Sc.—General and Vascular Sonography</b>			<b>121</b>
<b>Additional mandatory credits required for graduation with the M.H.Sc.</b>			<b>37</b>
<b>Total credit hours required to complete the M.H.Sc.—General and Vascular Sonography</b>			<b>158</b>

Curriculum is subject to change without notice.

## Master of Health Science—General and Vascular Sonography Course Descriptions

### BHS 3100—Ultrasound Physics I/Lab

This course is designed to help the student acquire knowledge of all the fundamental principles and concepts necessary to understand the properties of sound and ultrasound as used in diagnostic imaging. These principles and concepts will span from basic properties of sound in soft tissue to advanced techniques such as Doppler, spectral analysis, M-mode, etc. as they pertain to evaluation for vascular and cardiac ultrasound imaging. The students will also learn about artifacts, safety, and the concepts of bioeffects. Some of the principles will be illustrated. (3 credit hours)

### BHS 3111—Advanced Anatomy and Physiology for the Health Professions

This course is designed as an advanced survey of human physiology and functional anatomy. It will be presented following fundamental concepts in cellular physiology, as an organ system approach. (4 credit hours)

### BHS 3200—Ultrasound Physics Review

This course is designed to review the principles and concepts learned in BHS 3111 through quizzes and exams and to prepare students for the Sonography Principles and Instrumentation (SPI) exam administered by the ARDMS. The students will take the exam after completion of the course in late April/early May. (1 credit hour)

### BHS 3220—Introduction to Diagnostic Medical Sonography

This course is designed to introduce students to the equipment used in vascular ultrasound. The course will, therefore, be primarily taught in the ultrasound training laboratory in small groups. The focus of the course will be to lead students toward proficiency and competency in using all the tools available on the ultrasound equipment for the production of quality images, as well as proper ergonomics. This course is the foundation for all the following core courses. (2 credit hours)

### BHS 3300—Cerebrovascular Testing/Lab

This course will focus on the use of ultrasound for the evaluation of the extracranial and intracranial cerebrovascular circulation. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. (4 credit hours)

### BHS 3400—Venous Testing/Lab

This course will focus on the use of ultrasound for the evaluation of the venous circulation of the upper and lower extremities. It will have a strong hands-on component

with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. (4 credit hours)

### BHS 3500—Peripheral Arterial Testing/Lab

This course will focus on the use of ultrasound for the evaluation of the arterial circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other technologies specific to vascular laboratories, as well as some other imaging techniques. (4 credit hours)

### BHS 3700—Clinical Preparation and Review

This course will provide and reinforce the nontechnical aspects of the profession of diagnostic medical sonography. These include, but are not limited to, professionalism, patient care, and clinical rationale. This course will also prepare the students for the clinical experience that follows in the second year. (4 credit hours)

### BHS 3800—Abdominal Sonography

This course will review the abdominal anatomy and physiology associated with visceral and vascular disease, with a focus on cross-anatomy. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory learning to recognize normal sonographic anatomy, abnormal sonographic anatomy, and the diagnostic criteria for assessing visceral and abdominal vascular disease. Lectures will focus on the above mentioned aspects, as well as on how to collect patient information relevant to the different ultrasound studies and how to correlate with the sonographic findings. This course provides a foundation that will help students understand the clinical exam and the elements contributing to their role and the scope of practice as general sonographers. (4 credit hours)

### BHS 3830—Small Parts Sonography

This course will focus on the use of ultrasound for the evaluation of superficial structures such as the thyroid and parathyroid glands, breasts, male reproductive system, superficial soft tissue structures, shoulders, hands, and wrists, as well as the neonatal brain, pediatric spine, pediatric hip/pelvis, and pediatric abdomen. It will have a strong hands-on component with students spending several hours in the laboratory. Lectures will focus on relevant normal and abnormal anatomical and physiological aspects as well as on clinical findings, signs, and symptoms of diseases related to these areas. (4 credit hours)

**BHS 3900—Obstetrics and Gynecology Ultrasound I**

This course will focus on the use of ultrasound for the evaluation of the organs in the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. The lectures will focus on the aspects previously mentioned, as well as on fetal abnormalities and abnormal conditions of the fetus. The course will explore infertility and assisted reproductive technologies. (4 credit hours)

**BHS 3910—Obstetrics and Gynecology Ultrasound II**

This course is a continuation of Obstetrics and Gynecology Ultrasound I. It is a further comprehensive approach to in-depth studies of the organs contained within the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. The course will focus on fetal abnormalities and abnormal conditions of the fetus. (4 credit hours)

**BHS 4500—Clinical Externship I**

This course will be mainly provided through immersion in a clinical setting assigned by the end of the first year. Students will be a daily integral part of the operations of the diagnostic ultrasound department they have been assigned to for the length of the term. Students will report to the clinical coordinator or an assigned professor of the program at NSU. (6 credit hours)

**BHS 4600—Clinical Externship II**

This course is a continuation of Clinical Externship I. (7 credit hours)

**BHS 4700—Clinical Externship III**

This course is a continuation of Clinical Externship II. (8 credit hours)

**MHS 5003—Current Trends and Cultural Issues in Health Care**

This course serves to familiarize the student with current 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 credit hours)

**MHS 5205—Writing for Medical Publication**

This course is 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 credit hours)

**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 credit hours)

**MHS 5510—Research Methods**

This course is designed to enable participants to develop skills in reading and critically evaluating published research 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 credit hours)

**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 process that providers and patients engage in are analyzed. Topics will include informed consent and the allocation of scarce resources. (3 credit hours)

**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. It will explore topics such as concepts of organizational management, decision making, strategic planning, resource management and allocation, conflict, and the concept of power. (3 credit hours)

**MHS 5107—Internship**

The student will complete 80 hours of internship in an area of interest within a health care organization, outside of his or her regular place 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 M.H.Sc. faculty member approval. (5 credit hours)

**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 promotion and disease prevention interventions with underserved and/or nontraditional populations. (5 credit hours)

**MHS 5403—Directed Studies in Medical Sonography**

This course is the foundation of a three-tiered series that will culminate in a paper or poster presentation based on extensive research on a particular topic in diagnostic medical ultrasound/technology. In this first part of the course, the student will select a topic related to the field of diagnostic medical sonography/technology, obtain approval from the program director, and explore the foundation of that topic, including issues and questions. (9 credit hours)

## Bachelor of Science in Medical Sonography with Concurrent Master of Health Science Option Curriculum Outline

### Master of Health Science Option

Students applying to the Bachelor of Science—Medical Sonography (B.S.—MS) who already hold a bachelor's degree from an accredited institution with a minimum GPA of 3.0 are eligible to apply for the concurrent Master of Health Science (M.H.Sc.) option. Students who enroll in this concurrent M.H.Sc. will graduate with a Bachelor of Science in Medical Sonography and a Master of Health Science. Both programs will be completed in 27 months. Upon application, a review of the bachelor's transcript will be conducted and all general education requirements will need to be satisfied. In addition, up to 27 credits of open electives will be transferred. Upon transfer credit evaluation, completion of any additional credit to meet or fulfill the 57 credits for general education and open elective requirements will be required.

Curriculum for the M.H.Sc.			Credit Hours
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5205	Writing for Medical Publication	3
MHS	5510	Research Methods	3
MHS	5403	Directed Studies in Medical Sonography	9
MHS	5501	Epidemiology and Biostatistics	3
MHS	5530	Principles of Management in Health Care	3
MHS	5107	Internship	5
MHS	5207	Practicum	5
<b>Total M.H.Sc. Degree Semester Hours Required</b>			<b>37</b>

### Degree Map

General education requirements	30
Open electives	27
Medical sonography	68
Total for B.S. in Medical Sonography	120
M.H.Sc. credits (required)	37
<b>Total Credit Hours Required to Complete the B.S.—MS and the M.H.Sc.</b>	<b>162</b>

## **Bachelor of Science in Medical Sonography with Concurrent Master of Health Science Option Course Descriptions**

### **BHS 3100—Ultrasound Physics I/Lab**

This course is designed to help the student acquire knowledge of all the fundamental principles and concepts necessary to understand the properties of sound and ultrasound as used in diagnostic imaging. These principles and concepts will span from basic properties of sound in soft tissue to advanced techniques such as Doppler, spectral analysis, and M-mode, as they pertain to evaluation for vascular and cardiac ultrasound imaging. The students will also learn about artifacts, safety, and the concepts of bioeffects. Some of the principles will be illustrated. **(3 credit hours)**

### **BHS 3111—Ultrasound Cross-Sectional Anatomy**

This course is designed to expand upon student's present knowledge and understanding of normal anatomy through developing spatial relationships of organs, vessels, bones, muscles, and connective tissues. **(4 credit hours)**

### **BHS 3200—Ultrasound Physics Review**

This course is designed to review the principles and concepts learned in BHS 3111 through quizzes and exams and to prepare students for the Sonography Principles and Instrumentation (SPI) exam administered by the ARDMS. The students will take the exam after completion of the course in late April/early May. **(1 credit hour)**

### **BHS 3220—Introduction to Diagnostic Medical Sonography**

This course is designed to introduce students to the equipment used in vascular ultrasound. The course will, therefore, be primarily taught in the ultrasound training laboratory in small groups. The focus of the course will be to lead students toward proficiency and competency in using all the tools available on the ultrasound equipment for the production of quality images, as well as proper ergonomics. This course is the foundation for all the following core courses. **(2 credit hours)**

### **BHS 3300—Cerebrovascular Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the extracranial and intracranial cerebrovascular circulation. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. **(4 credit hours)**

### **BHS 3400—Venous Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the venous circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound, as well as some other imaging techniques. **(4 credit hours)**

### **BHS 3500—Peripheral Arterial Testing/Lab**

This course will focus on the use of ultrasound for the evaluation of the arterial circulation of the upper and lower extremities. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. Lectures will focus on anatomy, pathologies, treatment options, and analysis of data obtained by ultrasound and other technologies specific to vascular laboratories, as well as some other imaging techniques. **(4 credit hours)**

### **BHS 3700—Clinical Preparation and Review**

This course will provide and reinforce the nontechnical aspects of the profession of diagnostic medical sonography. These include, but are not limited to, professionalism, patient care, and clinical rationale. This course will also prepare the students for the clinical experience that follows in the second year. **(4 credit hours)**

### **BHS 3800—Abdominal Sonography I**

This course will review normal abdominal anatomy and physiology with a focus on cross-sectional anatomy. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory learning to recognize normal sonographic anatomy. Lectures will focus on the above mentioned aspects, as well as on how to collect patient information relevant to the different ultrasound studies and other imaging techniques. This course provides a foundation that will help students understand the clinical exam and the elements contributing to their role and the scope of practice as general sonographers. **(4 credit hours)**

### **BHS 3810—Abdominal Sonography II**

This course will review abnormal abdominal anatomy and physiology with a focus on clinical correlations. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory strengthening the skills learned from Abdominal Sonography I. Lab assignments will incorporate case studies, clinical correlations, and other imaging modalities (e.g., MRIs, nuclear medicine, CTs, etc.). Lectures will focus on the above mentioned aspects, as well as on how to collect patient information relevant to the different ultrasound studies and pathologies. This course provides a foundation that will help students understand the clinical exam and the elements contributing to their role and the scope of practice as general sonographers. **(4 credit hours)**

### **BHS 3830—Small Parts Sonography**

This course will focus on the use of ultrasound for the evaluation of superficial structures such as the thyroid and parathyroid glands, breasts, male reproductive system, superficial soft tissue structures, shoulders, hands, and wrists, as well as the neonatal brain, pediatric spine, pediatric hip/pelvis, and pediatric abdomen. It will have a strong hands-on component with students spending several hours in the laboratory. Lectures will focus on relevant normal and abnormal anatomical and physiological aspects, as well as on clinical findings, signs, and symptoms of diseases related to these areas. **(4 credit hours)**

### **BHS 3900—Obstetrics and Gynecology Ultrasound I**

This course will focus on the use of ultrasound for the evaluation of the organs in the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. It will have a strong hands-on component with students spending several hours per week in the ultrasound training laboratory. The lectures will focus on the aspects previously mentioned, as well as on fetal abnormalities and abnormal conditions of the fetus. The course will explore infertility and assisted reproductive technologies. **(4 credit hours)**

### **BHS 3910—Obstetrics and Gynecology Ultrasound II**

This course is a continuation of Obstetrics and Gynecology Ultrasound I. It is a further comprehensive approach to in-depth studies of the organs contained within the human female pelvic cavity in both normal and abnormal, gravid and non-gravid anatomy and physiology. The course will focus on fetal abnormalities and abnormal conditions of the fetus. **(4 credit hours)**

### **BHS 4500—Clinical Externship I**

This course will be mainly provided through immersion in a clinical setting assigned by the end of the first year. Students will be a daily integral part of the operations of the diagnostic ultrasound department they have been assigned to for the length of the term. Students will report to the clinical coordinator or an assigned professor of the program at NSU. **(6 credit hours)**

### **BHS 4600—Clinical Externship II**

This course is a continuation of Clinical Externship I. **(7 credit hours)**

### **BHS 4700—Clinical Externship III**

This course is a continuation of Clinical Externship II. **(8 credit hours)**

### **MHS 5003—Current Trends and Cultural Issues in Health Care**

This course serves to familiarize the student with current 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 credit hours)**

### **MHS 5205—Writing for Medical Publication**

This course is 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 credit hours)**

### **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 credit hours)**

### **MHS 5510—Research Methods**

This course is designed to enable participants to develop skills in reading and critically evaluating published research 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 credit hours)**

**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 process that providers and patients engage in are analyzed. Topics will include informed consent and the allocation of scarce resources. (3 credit hours)

**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. It will explore topics such as concepts of organizational management decision making, strategic planning, resource management and allocation, conflict, and the concept of power. (3 credit hours)

**MHS 5107—Internship**

The student will complete 80 hours of internship in an area of interest within a health care organization, outside of his or her regular place 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 M.H.Sc. faculty member approval. (5 credit hours)

**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 promotion, and disease prevention interventions with underserved and/or nontraditional populations. (5 credit hours)

**MHS 5403—Directed Studies in Medical Sonography**

This course is the foundation of a three-tiered series that will culminate in a paper or poster presentation based on extensive research on a particular topic in diagnostic medical ultrasound/technology. In this first part of the course, the student will select a topic related to the field of diagnostic medical sonography/technology, obtain approval from the program director, and explore the foundation of that topic, including issues and questions. (9 credit hours)

## 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 College of Health Care Sciences.

## Tuition and Fees

Tuition for M.H.Sc. courses are \$384 per semester hour for courses offered during the summer II and fall 2014 terms. Tuition for winter, spring, summer II, and fall 2015 terms will subsequently be posted on our Web site ([www.nova.edu/cah/healthsciences/mhs](http://www.nova.edu/cah/healthsciences/mhs)).

Tuition for D.H.Sc. courses are \$620 per semester hour for courses offered during the summer II and fall 2014 terms. Tuition for winter, spring, summer II, and fall 2015 terms subsequently will be posted on our Web site ([www.nova.edu/cah/healthsciences/dhs](http://www.nova.edu/cah/healthsciences/dhs)).

An NSU student services fee of \$1,050 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 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 below.

- World Education Services  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. complete resume or curriculum vitae

6. copies of national and professional certifications or licenses by a recognized certifying body (if applicable)

Complete applications and all admission documentation must be sent to

Nova Southeastern University  
Enrollment Processing Services  
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

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.

## 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 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 2009**

Students are required to have 21 credits in the MHS core courses.

<b>Courses</b>			<b>Credits</b>
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5205	Writing for Medical Publication	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

<b>Courses</b>			<b>Credits</b>
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	5205	Writing for Medical Publication	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5530	Principles and Practice of Management in Health Care	3
<b>Total:</b>			<b>12</b>

MHS Elective Courses (choose three)			Credits
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>			<b>21</b>

D.H.Sc. Degree Curriculum Required DHS Courses			Credits
DHS	8040	Professionalism and Health Care Ethics	4
DHS	8190	Health Care Education	4
DHS course for internship/practicum preparation			13
<b>Total:</b>			<b>21</b>

### 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>			<b>12</b>

Required Summer 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>			<b>12</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 track and the conflict resolution track.

**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
<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
<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	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**

## 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 credit hours)

#### MHS 5205—Writing for Medical Publication

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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

#### 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 credit hours)

## **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

#### **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 credit hours)**

#### **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 credit hours)**

#### **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 credit hours)**

#### **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 hour)**

#### **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 credit hours)**

#### **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 credit hours)**

#### **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 hours)**

#### **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 hours)**

### **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 credit hours)**

### **DHS 8180—Medical Writing**

This course examines in practical terms the elements required for the successful publication of a 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. **(4 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**



**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 credit hours)**

**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 credit hours)**

**DHS 8800—Health Care Informatics and Technology**

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 credit hours)**

**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 credit hours)**

**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 credit hours)**

**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 credit hours)**

## **Doctor of Health Science (D.H.Sc.) Program**

The D.H.Sc. has a two-track curriculum. One is the generalist track. The second is a generalist track with a concentration in global health studies. The generalist D.H.Sc. program requires completion of a minimum of 61 semester hours of coursework. This includes 48 semester hours didactic coursework, 11 semester hours practical coursework, and 2 semester hours for the Doctoral Objective Analysis. The generalist D.H.Sc. program with a concentration in global health studies also consists of 61 semester hours, with the majority of electives and the internship and practicum dedicated to global health topics.

The D.H.Sc. program is designed for completion in a distance learning format and requires only minimal on-campus time during two intensive, one-week, summer institute seminar sessions. The residential summer sessions are available at the NSU campuses or student educational centers, with the location varying from year to year.

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 generalist course of study, the student must complete a practicum and internship approved by the D.H.Sc. program director in an area of health care such as leadership, education, policy, or delivery. Students selecting the global health concentration will focus their internship and practicum work in the global health arena. 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 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 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 non-clinical (An administrative/non-clinical 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  
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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

5. a complete resume 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/non-clinical 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  
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 are \$620 per semester hour for courses offered during the summer II and fall 2014 terms. Tuition for winter, spring, summer II, and fall 2015 terms subsequently will be posted on our Web site ([www.nova.edu/cah/healthsciences/dhs](http://www.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 \$1,050 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 College of Health Care Sciences

## Curriculum Outline

### Core Courses

#### Core Block One—16 credits

Four of the following courses are required. Either DHS 8090 or DHS 8095 may be used to fulfill the health policy requirement. Either 8040 or 8045 will fulfill the ethics requirement. Courses not taken as requirements may be used as electives.

			Credit Hours
DHS	8000	Clinical Competencies in the Delivery of Health Care to Diverse and Special Populations	4
DHS	8030	Community Health Promotion and Disease Prevention	4
DHS	8040	Professionalism and Health Care Ethics	4
	OR		
DHS	8045	The Influence of Ethics and Culture on Global Health	4
DHS	8090	Health Policy, Planning, and Management	4
	OR		
DHS	8095	Global Health Policy	4
DHS	8110	Community Environmental and Occupational Health	4

Students interested in a global health concentration should take DHS 8045 and DHS 8095, either as core courses or as electives. Students matriculating after July 2007 should take at least one ethics course (either 8040 or 8045) and one health policy course (either 8090 or 8095), unless they obtain program director approval.

#### Core Block Two—8 credits

Two of the following courses are required. The other courses may be omitted or used as electives.

			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>Summer 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

<b>Electives (two or three courses must be completed)—8–12 Credits</b>			Credit Hours
DHS	8100	Alternative and Complementary Medicine	4
DHS	8180	Medical Writing	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	8900	Narrative Medicine	4

Students interested in the global health concentration should take DHS 8400 and DHS 8810, either as core courses or electives.

**Capstone (required)—2 Credits**

This course must be completed in the last semester of coursework.

			Credit Hours
DHS	8120	Doctoral Analysis	2

**Total 61**

On-campus institutes—These one-week, summer sessions are held either on the main campus or at one of the NSU student educational centers. Two such institutes are required to complete the program for the D.H.Sc. degree. These institutes are required for both the generalist track and the conflict resolution track.

## Doctor of Health Science Course Descriptions

### DHS 8000—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 credit hours)

### 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 credit hours)

### 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 credit hours)

### 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 credit hours)

### 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 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 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 credit hours)

### 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 credit hours)

### 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 credit hours)

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 credit hours)**

### **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 hour)**

### **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 credit hours)**

### **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 credit hours)**

### **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 hours)**

### **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 hours)**

### **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 credit hours)**

### **DHS 8180—Medical Writing**

This course examines in practical terms the elements required for the successful publication of a 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. **(4 credit hours)**

### **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 credit hours)**

### **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. **(1–4 credit hours)**

### **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. **(1–4 credit hours)**

### **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 credit hours)**

### **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 credit hours)**



**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 credit hours)**

**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 credit hours)**

**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 credit hours)**

**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 credit hours)**

**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 credit hours)**

**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 credit hours)**

**Capstone Course (all)****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 credit hours)**

## **Doctor of Philosophy (Ph.D.) in Health Science Program**

The 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 Doctor of Philosophy 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. Through professor-driven, student-centered online course delivery, coupled with a research practicum; three one-week, on-campus institutes; and a dissertation with oral defense, 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.

### **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. Prospective Ph.D. students are selected by considering the overall qualities of the applicant through application content, academic record, prior health care experience, letters of recommendation, and personal motivation.

Applicants who successfully complete DHS Core Block One and Two courses and the two required institutes shared with the DHS program may petition in writing to the Ph.D. program director for activation into the program. The Ph.D. Internal Review Committee will recommend applicants for admission based on the following requirements:

1. As of fall 2012, applicants must submit official 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.
2. Applicants must submit two writing samples from previous D.H.Sc. coursework.
3. Applicants must provide letters of recommendation from two D.H.Sc. faculty members.

### **Application Procedures**

**The Ph.D. Office of Admissions works on a rolling basis. Applications are accepted year-round. All final documentation must be received at least 30 days prior to tentative enrollment.**

All applicants to the Ph.D. program must enter through the Doctor of Health Science (D.H.Sc.) program and successfully complete the required Core Block One and Two courses, HSP 9006, and the three required summer institute courses.

1. Applicants will submit GRE scores, writing samples, and letters of recommendation directly to the Ph.D. program director.
2. The student's transcript will be reviewed to confirm the successful completion of all required D.H.Sc. coursework. Each required course will be evaluated for currency and congruency.
3. The program director will request that the Ph.D. Internal Review Committee review the required documents and GRE scores for the applicant's qualifications for admission.

Applicants who petition for entrance into the Ph.D. one year beyond graduation from the D.H.Sc. program may need to take additional coursework prior to entering the Ph.D. Completion of the required DHS core courses does not guarantee acceptance into the Ph.D. program.

### **Transfer of Credits**

Students matriculated in the Ph.D. program may petition for transfer of a maximum of 8 credits from a regionally accredited doctoral program of study to meet D.H.Sc. Core Block One or Core Block Two course requirements, but only if the transferred courses meet the goals and objectives of the courses in question.

### **Tuition and Fees**

Tuition for doctoral courses are \$620 per semester hour for courses offered during the summer II and fall 2014 terms. Tuition for winter, spring, summer II, and fall 2015 terms subsequently will be posted on our Web site ([www.nova.edu/chcs/healthsciences/phd/index.html](http://www.nova.edu/chcs/healthsciences/phd/index.html)). 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 \$1,050 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 Ph.D. in Health Science degree, students must

1. be of good moral character
2. complete all core and research courses, as well as required electives
3. complete a minimum of 75 semester hours of prescribed coursework in the program
4. complete the research practicum
5. pass the comprehensive exam after completion of all courses
6. complete a dissertation based on original research in an area of the student's expertise or concentration, as approved by the program chair and dissertation committee
7. defend the dissertation, as determined by the dissertation committee

### **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

### General Core Courses—28 Credits

#### Core Block One

Students must choose either DHS 8090 or DHS 8095 and take six additional courses to fulfill the Core Block One requirements.

			Credit Hours
DHS	8000	Clinical Competencies in the Delivery of Health Care to Diverse and Special Populations	4
DHS	8010	Statistics or Research Methods*	4
DHS	8030	Community Health Promotion and Disease Prevention	4
DHS	8090	Health Policy, Planning, and Management	4
OR			
DHS	8095	Global Health Policy	4
DHS	8110	Community, Environmental, and Occupational Health	4
DHS	8080	Conflict Resolution in Health Care*	4
DHS	8170	Leadership in Health Care*	4

\* DHS 8010, DHS 8080, and DHS 8170 are required summer institute courses.

#### Core Block Two

DHS 8810 and one of the following general core courses are required.

			Credit Hours
DHS	8800	Health Care Informatics	4
DHS	8810	Epidemiology and Global Health	4
DHS	8400	Global Health Issues	4
DHS	8750	Patient Safety Medical Error	4
DHS	8190	Health Care Education	4

**HPD Research Courses—18 Credits**

Credit Hours

HPH	7200	Ethics	3
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

**Health Science Research Courses—9 Credits**

Credit Hours

HSP	9006	Concepts in Evidence-Based Medical Practice	4
HSP	9007	Research Practicum*	5
HSP	9010	Research Practicum Continued	2**

\*HSP 9007 is a required winter institute course.

**Comprehensive Exam—0 Credits**

Credit Hours

HSP	9008	Comprehensive Exam	0
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**Dissertation—12 Credits**

Credit Hours

HSP	9011	Dissertation	
HSP	9012	Dissertation	
HSP	9013	Dissertation	
HSP	9014	Dissertation	12
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 8000—Clinical Competencies in the Delivery of Health Care to Diverse and Special Populations

This course includes a discussion and analysis of the impact of ethnic and cultural issues on health care delivery systems. An in-depth analysis of the barriers faced by health care providers when presented with a diverse ethnic population is presented. Critical analysis of the different cultural perceptions of disease and treatment is given, and the need for developing cultural sensitivity is explored. The student is expected to gain knowledge of cultural differences and the need to respect the background of the patient when formulating treatment plans. The student will be required to research a chosen topic on a diverse population and their impact on the health care system. Chat sessions and discussion boards are a required portion of this course. (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. Students will select a health care topic and perform a review of the literature that is at least 10 pages and includes a minimum of 20 references from books and journals, using the NSU electronic library. (4 credits, on-campus institute)

### 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. (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, 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. (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 examines the health policy issues confronting international health organizations, financial institutions, governments, and specific populations. It reviews the processes that influence the development and implementation of policies and examines specific topics related to HIV/AIDS, conflict, infectious disease, smoking, concerns of food distribution, reproductive health/safety, and other major global health concerns. On a weekly basis, the student will evaluate information that is available through a variety of Internet sites and reference materials to develop a 3–5 page paper that demonstrates an understanding of the topic. Each student will also complete two health policy analysis papers (8–10 pages each) and participate in weekly discussions based on current policy issues. (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. Students will participate by contacting one of their senators or house representatives for an environmental statement, and then writing a critical analysis. (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 theory. (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. The capstone of the course will be to develop a 10-page paper on a specific method of educating health care professionals. Chat sessions and discussion boards are a required portion of this 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. On a weekly basis, the student will evaluate information that is available through a variety of Internet sites and develop a 3–5 page paper that demonstrates an understanding of the topic. Each student will also complete a course paper (20–25 pages) on an international health topic of his or her choice that includes an analysis of related policy, relevant statistical data, summary of programs, and a thorough discussion of issues. (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 8800—Health Care Informatics**

The application of computers and technology in health care has become increasingly critical to patient care over the past two decades. There is no area of health care that does not rely on this discipline to some extent. This course explores the field of informatics and technology in health care. Emphasis will be placed on applications that directly impact health care delivery. Through assigned readings, a research paper, a special demonstration project, discussion board postings, and group chat sessions, the learner will be expected to demonstrate a broad knowledge of health care informatics, technology applications, and

educational needs, as well as present his or her own experiences. Participants will use knowledge gained to evaluate technology and create business-case analyses to propose to their organizations. (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)

#### **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)

#### **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 are able 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. (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)

### **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. (5 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 75. Students who do not successfully complete HSP 9010 in one semester may be dismissed from the program. (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 Nova Southeastern University main campus in the greater Fort Lauderdale, Florida, area. Students register with the Department of Health Science prior to attending one of the institutes to take the comprehensive exam and receive an examination number.



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 preparatory training 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 do not show, or students who do not contact the program director requesting to be excused from the examination, will automatically fail the comprehensive examination. Students must take the comprehensive examination within one year of completion of all academic coursework. Students who fail to complete the requirements within the time frame will automatically fail the comprehensive examination. Students who have failed the comprehensive exam are referred to the Department of Health Science Committee for Student Progress (CSP) for possible dismissal from the Ph.D. program. The CSP then makes recommendations to the department chair. The department chair notifies the student of the decision by certified mail (return receipt requested) and by email with response requested. Students have the right to appeal the decision of dismissal from the Ph.D. program to the College of Health Care Sciences Appeals Committee within five business days of notification from the chair of their department.

The grading of the comprehensive examination is on a Pass/Fail basis. 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 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 who pass two of the three categories may retake the one failed category at the next scheduled examination date. Students have one opportunity to pass the failed category. Students who wish to dispute their grades must contact the Ph.D. program director, as there is no direct communication between graders and students. 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 level. Failure to pass the comprehensive examination may result in dismissal from the program, irrespective of students' performance in other aspects of doctoral study. Students who do not pass two, or all three, categories have failed the comprehensive exam and are referred to the Department of Health Science Committee for Student Progress

Students are strongly encouraged to familiarize themselves with the academic standards and the academic honesty policy and procedure as described in the *College of Health Care Sciences Student Handbook* (2013–2014). **(0 credits)**

#### **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, and have 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 main campus. The oral defense must be arranged at least 45 days in advance. Process and requirements are detailed in the *Health Professions Division 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 75. **(2 credits, continuing service charge)**

#### **On-Campus Institutes**

These one-week sessions are located either at the Health Professions Division complex on NSU's main campus in Fort Lauderdale, Florida; the NSU regional campus in Orlando, Florida; or the NSU regional campus in Tampa, Florida. Three such 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 winter institute.

## Bachelor of Science in Respiratory Therapy (First-Professional Program)

A respiratory therapist (RT), or respiratory care practitioner (RCP), is an allied health professional and life-support specialist concerned with the diagnostic evaluation, treatment, and management of patients with cardiopulmonary disorders. The RT is proficient in the therapeutic administration of medical gases and aerosols, intermittent and continuous mechanical ventilation, bronchopulmonary hygiene, basic and advanced cardiac life-support techniques, noninvasive and invasive patient monitoring, pulmonary function evaluation, arterial blood gas analysis, airway management procedures, and pulmonary rehabilitation techniques. An RT must also be knowledgeable regarding various assessment techniques and patient education models. These skills are used with neonatal, pediatric, and adult patients in acute, sub-acute, and home care settings.

To function effectively as a member of the multidisciplinary health care team, the respiratory therapist must have a sound understanding of the physiological and psychological needs of the patient, the role of the various therapeutic interventions in the patient care plan, and development of broad-based skills to more effectively contribute to the overall care of the patient.

### Accreditation

Nova Southeastern University First-Professional Bachelor of Science in Respiratory Therapy Program is accredited by the Commission on Accreditation for Respiratory Care (CoARC). The program's reference number is 200615. The program is not accredited in polysomnography. Commission on Accreditation for Respiratory Care, 1248 Harwood Road, Bedford, TX 76021-4244, phone: 817-283-2835, fax: 817-354-8519, [www.coarc.com](http://www.coarc.com)

### Mission Statement

The mission of NSU's Department of Cardiopulmonary Sciences is to advance the respiratory care profession through leadership in teaching, research, and service. We will provide a premiere health care education experience in a learning environment that cultivates critical thinking, inspires professional leadership, encourages and promotes research, and imparts a strong awareness of ethical standards and social diversity. By engaging all faculty members and students in research and scholarly activity, we intend to cultivate the knowledge, attitudes, and skills necessary to not only support national leadership for the respiratory care profession, but also develop future educators and providers in professionally related health care arenas.

### Admissions Requirements

Admission to the Bachelor of Science in Respiratory Therapy (B.S.R.T.) program has once-a-year enrollment and requires the following:

- successful completion of all prerequisite coursework with a grade of C or higher, from a regionally accredited college or university
- minimum cumulative GPA of 2.75 on a 4.0 scale from all undergraduate work
- minimum cumulative science GPA of 2.75

### Computer Requirements

The B.S.R.T. program is primarily iPad based, therefore, each student is required to have an iPad.\* In addition to the iPad, the following is the recommended minimum computer configuration for students.

- PC or Mac, 2 GHz minimum processor (If Mac, the computer must be able to run select Windows programs. This will require a program—such as Parallels, Boot Camp, or equivalent—and a Windows operating system.)
- 2 GB RAM or more, based on the computer and operating system
- video and monitor capable of 1024 X 8 resolution or better and streaming video capable
- CD-ROM
- full-duplex sound card and speakers
- microphone with headset or boom microphone
- cable, DSL, satellite, or cell modem
- Internet connection with Internet service provider
- the ability to run Windows XP or higher
- Microsoft Office 2007 or higher with PowerPoint and Word (or Office replacement, such as Open Office or iWork)
- Adobe Reader

\*Apple iPad with camera, 32 GB memory or more, and Wi-Fi

## Application Procedures

- submit application with \$50, nonrefundable application fee
- submit writing sample that includes a clear statement of the goals set for entering the B.S.R.T. program
- submit two evaluations (reference) forms
- send official transcripts from each university or college attended

## 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
www.wes.org

Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
www.jsilny.com

Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
www.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 Health Care Sciences, Department of Health Science Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

Applicants meeting minimum admissions criteria will be scheduled for a required, on-campus interview with the program director.

## Tuition and Fees

- \$50, nonrefundable application fee
- \$26,500 tuition per year (2014–2015 academic year)
- NSU student services fee of \$1,050—required annually
- \$145 annual HPD general access fee

- \$200 acceptance fee—required to reserve the accepted applicant's place in the entering first-year class, but nonrefundable in the event of a withdrawal—payable within two weeks of an applicant's acceptance

Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials.

## Academic Dismissal

See the suspension/dismissal section of the student handbook.

## Readmission Policy

Each course in any given semester must be successfully completed with a passing grade in order to move to the next semester. If this requirement is not met, students can re-enter the program upon approval of the program's administration, successful competency evaluations, and auditing of courses starting in the beginning of the academic year in which the failure took place. Students will be charged for the course(s) that resulted in a failing grade. Students will be allowed only one re-entry to the program.

## Course of Study

The Bachelor of Science in Respiratory Therapy degree is awarded after successful completion of 24 months of coursework. Beginning in the second semester, students are given clinical assignments and experiences. There will be increased clinical involvement throughout the program as students have direct patient care at health care facilities throughout the state of Florida.

## Requirements for Graduation

In order to be eligible for a Bachelor of Science in Respiratory Therapy, students are required to do the following:

- satisfactorily complete the program of 75 semester hours (minimum) of study in the B.S.R.T. major required for the degree (not including CLEP, proficiency examination's or prior experiential learning credits)
- complete general education, prerequisite, major, and elective requirements as specified by the program at time of admission resulting in a minimum total of 120 semester hours
- attain a 2.0 cumulative grade point average
- attain a 2.25 grade point average in the major area
- submit a degree application form before completing registration for the last semester
- fulfill all obligations to the library, the student's program, and the bursar's office
- attend the commencement ceremony

## Bachelor of Science in Respiratory Therapy (First-Professional Program) Curriculum Outline

Prerequisites Courses	Credits
General Chemistry with Lab*	4
Human Anatomy and Physiology I and II with Lab*	8
Humanities	6
Math (higher than level 1040, one of which must be College Algebra)	6
Medical Terminology	1
Microbiology with Lab*	4
Physics I with Lab*	4
Social/Behavioral Sciences	6
Written Communications (above 1000 level)	6
<b>Total Credits</b>	<b>45</b>

\*These courses will meet the Natural and Physical Science General Education requirements of 6 credits.

### NSU Professional Curriculum

Fall—Semester I Courses (16 Weeks)			Credit Hours
BHS	4031	Statistics for Health Sciences	3
RCP	3002	Cardiopulmonary Anatomy and Physiology with Lab	3
RCP	3003	Fundamentals of Respiratory Care with Lab	4
RCP	3004	Respiratory Basics and Patient Assessment with Lab	4
<b>Total Credit Hours</b>			<b>14</b>

Winter—Semester II Courses (18 Weeks)			Credit Hours
RCP	3007	Pulmonary Disease	3
RCP	3008	Pharmacology for Respiratory Therapy	3
RCP	3009	Patient Monitoring with Lab	4
RCP	3501	Clinical I (an 8-hour day, once a week for 10 weeks)	1
RRT	4009	Legal and Ethical Considerations in Respiratory Care	3
<b>Total Credit Hours</b>			<b>14</b>

<b>Summer—Semester III Courses (12 Weeks)</b>			<b>Credit Hours</b>
RCP	3011	Mechanical Ventilation with Lab	4
RCP	3012	Cardiopulmonary Diagnostics and PFT with Lab	3
RCP	3013	Human and Infectious Disease (nonpulmonary)	3
RCP	3502	Clinical II (12-hour days, twice a week for 10 weeks)	3
<b>Total Credit Hours</b>			<b>13</b>

<b>Fall—Semester IV Courses (16 Weeks)</b>			<b>Credit Hours</b>
RCP	4001	Neonatal/Pediatric Respiratory Care with Lab	4
RCP	4002	Cardiopulmonary Technology/Specialties	3
RCP	4003	Alternate Respiratory Disciplines	3
RCP	4501	Clinical III (12-hour days, 3 times a week for 10 weeks)	5
<b>Total Credit Hours</b>			<b>15</b>

<b>Winter—Semester V Courses (18 Weeks)</b>			<b>Credit Hours</b>
RCP	4005	Health Care Research and Evidence-Based Practice	3
RCP	4100	Clinical Seminar I	2
RCP	4502	Clinical IV (12-hour days, 3 times a week for 10 weeks)	5
RRT	4006	Leadership and Management in Respiratory Care	3
<b>Total Credit Hours</b>			<b>13</b>

<b>Summer—Semester VI Courses (12 Weeks)</b>			<b>Credit Hours</b>
RCP	4101	Clinical Seminar II	1
RCP	4503	Specialization Clinical V (12-hour days, 3 times a week for 10 weeks)	5
<b>Total Credit Hours</b>			<b>6</b>

**Total Professional Program Credit Hours 75**  
**Total Prerequisites and Professional Program Credit Hours 120**

Program requirements and curriculum are current as of March 2013. Requirements are subject to change without notice.

## **Bachelor of Science in Respiratory Therapy (First-Professional Program) Course Descriptions**

### **BHS 4031—Statistics and Principles of Scientific Literature Evaluation**

This course is designed to introduce the conceptual foundation of statistical analysis and statistical reasoning of health sciences data and prepare the student to calculate, interpret, and utilize appropriate software packages for basic statistical analysis. This course will also provide an introduction to critical analysis of research and medical literature, as well as basic research methods. Statistical and research concepts and procedures are combined with an emphasis on evidenced-based research in respiratory.

### **RCP 3002—Cardiopulmonary Anatomy and Physiology with Lab**

Provides a comprehensive study of cardiopulmonary anatomy and physiology. Topics include normal ventilation, lung mechanics, pulmonary circulation, diffusion, and gas transport in the blood. The course will also include the natural and chemical regulation of breathing, blood flow and pressure, cardiac output with an emphasis on heart-lung relationship, clinical applications of respiratory care, and commonly associated disorders. The renal system will be included.

### **RCP 3003—Fundamentals of Respiratory Care with Lab**

Provides students with an introduction to the field of respiratory care. Historical development of the profession, the principles of chemistry and physics as they apply to respiratory care, and cardiopulmonary anatomy and physiology, as well as respiratory care procedures, are covered. This course will include oxygen delivery devices, humidifiers, aerosol generators, gas delivery, metering and analyzing devices, precursors, vibrators, environmental devices, manometers, gauges, and vacuum systems. Specific modes of respiratory care are examined to understand the indications, hazards, contraindications, and evaluation of therapy. Modes of care include medical gases, humidity/aerosol therapy, aerosol medications, positive pressure breathing, incentive spirometry, expiratory resistance, postural drainage, and percussion/vibration.

### **RCP 3004—Respiratory Basics and Patient Assessment with Lab**

Essentials of respiratory assessment will be covered to include review of existing data in the patient record, patient history, physical examination, oximetry, blood gases, respiratory monitoring, laboratory studies, chest and upper airway radiographs, bedside EKG interpretation, cardiovascular monitoring, and nutritional assessment. Basic life support will be covered to include cardiopulmonary resuscitation, artificial ventilation and circulation, endotracheal intubation, airway care, tracheostomy care, and recognition and treatment of arrhythmias.

### **RCP 3007—Pulmonary Disease**

The course provides a comprehensive approach to etiology, pathophysiology, clinical manifestations, diagnosis, treatment, and prognosis of common pulmonary diseases and syndromes. Main topics include obstructive and restrictive pulmonary and cardiovascular disorders, neoplastic disease of the lung, disordered breathing, cardiac and cardiovascular disorders, neuromuscular disorders, shock, near drowning, burns, smoke inhalation, and carbon monoxide poisoning.

### **RCP 3008—Pharmacology for Respiratory Therapy**

The purpose of this course is to cover the physiologic and pharmacologic basis of pulmonary and cardiac medications. Preparation, calculation of dosages and mixtures, and general principles of pharmacology will be covered followed by an in-depth discussion of the most commonly used respiratory drugs. This will include bronchoactive drugs and drug groups related to the cardiopulmonary system, neuromuscular blocking agents, central nervous system depressants, cardiovascular agents, diuretics, and commonly used antibiotics and antifungals.

### **RCP 3009—Patient Monitoring with Lab**

This course provides a study of invasive and noninvasive patient monitoring techniques and equipment. Invasive topics include hemodynamic monitoring, arterial pressure monitoring, central venous, and pulmonary artery catheters, as well as cardiac output measurement. Noninvasive monitoring topics include pulse oximetry, transcutaneous monitoring, inductance plethysmography, capnography, and electrocardiogram. This course will also include the recognition and treatment of arrhythmias and cardiovascular pharmacology. ACLS instruction will be provided.

### **RCP 3011—Mechanical Ventilation with Lab**

This course provides instruction in the theory, setup, operation, and maintenance of mechanical ventilators and related equipment. Topics include mechanical ventilator theory, ventilator operation, ventilator maintenance, and troubleshooting. Lab hours will provide students with hands-on practice in these areas.

### **RCP 3012—Cardiopulmonary Diagnostics and PFT with Lab**

Provides an overview of the various areas comprising cardiopulmonary diagnostics to include normal and abnormal pulmonary function and related technology. The student will learn to perform, interpret, and evaluate pulmonary function studies. In addition, the student will learn the operation and maintenance of pulmonary function and gas analysis equipment. Other topics include stress and exercise testing, metabolic testing, ventilation/

perfusion scanning, cardiac catheterization laboratory, nutrition, and noninvasive cardiology. Lab hours will provide students with hands-on practice.

#### **RCP 3013—Human and Infectious Disease**

This course will cover nonrespiratory disease managed in the critical care unit and will include neurologic disorders, shock, trauma, sepsis, drug overdose, renal failure, and acute gastrointestinal disturbances. Respiratory care of the postoperative patient will also be reviewed. Common infectious diseases, such as HIV/AIDS, hepatitis, SARS, and influenza, will be discussed.

#### **RCP 3501—Clinical I**

This course is an 8-hour day, once a week for 10 weeks. It introduces students to clinical practice in basic respiratory care procedures. Topics include introduction to the clinical affiliate, patient assessment, chart review, medical documentation, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment. In addition, intermittent positive pressure breathing and chest physiotherapy and airway care using nasal, endotracheal, and tracheal tubes is introduced in basic care situations. Critical respiratory care is introduced to include basic care as applied in the intensive care unit including arterial puncture and blood gas analysis, and EKG services (observation and analysis only).

#### **RCP 3502—Clinical II**

This course is a 12-hour day, twice a week for 10 weeks. Critical respiratory care is further introduced to include all tasks presented in Clinical Practice I as applied to the intensive care unit. In addition, tracheostomy care, ventilator monitoring, arterial puncture and blood gas analysis, endotracheal intubation, EKG services, and bronchoscopy observation are introduced. Case presentations are required to integrate clinical and classroom theory.

#### **RCP 4001—Neonatal/Pediatric Respiratory Care with Lab**

This course provides an overview of the most important concepts to understand the neonatal and pediatric patient. From fetal growth to infant development, students will learn how to assess, identify, and treat the most common respiratory diseases that affect the neonatal and pediatric patient. An overview of common congenital diseases of the respiratory, cardiac, gastrointestinal, and neurologic systems will be included. Also included are neonatal and pediatric critical care and mechanical ventilation. Laboratory time will allow students to work with respiratory care equipment used to care for neonates and pediatric patients to include isolettes, ventilators, specialty gases, intubation, manual resuscitators, airway clearance devices, and airway maintenance.

#### **RCP 4002—Cardiopulmonary Technology/Specialties**

An overview of the various areas comprising cardiopulmonary diagnostics and related technology will be provided. Topics include sleep laboratory, disaster management, extracorporeal membrane oxygenation, mechanical circulatory assistance, hyperbaric medicine, bronchoscopy (laser, etc.), flight and ground transport, and perfusion technology. This course will also cover the genetics and development of humans, including application of genetic technology with regard to the pulmonary system.

#### **RCP 4003—Alternate Respiratory Disciplines**

This course provides an overview of the concepts, procedures, and equipment utilized in the delivery of long-term care to individuals with a chronic cardiopulmonary disorder. The development and implementation of disease management programs for the care of patients with asthma, COPD, and other chronic conditions is presented. Pulmonary rehabilitation, patient education, and smoking cessation programs are reviewed. Provision of health care services in the home and other nonacute settings is examined.

#### **RCP 4005—Health Research and Evidence-Based Practice**

This course is designed as an introduction to critical analysis of research and medical literature, as well as basic research methods. The course includes an introduction to descriptive and inferential statistics and research design. Statistical and research concepts and procedures are combined with an emphasis on evidenced-based research in respiratory care.

#### **RCP 4006—Leadership and Management in Respiratory Care**

This course will provide extensive examination of current practices and trends of techniques used in the leadership of the health care environment. Emphasis will be placed upon specific skill sets used by managers of today's cardiopulmonary and respiratory workforce. Topics such as reimbursement and understanding and communicating with diverse populations will be included.

#### **RRT 4009—Legal and Ethical Considerations in Respiratory Care**

This course will provide a forum for discussion of current ethical, legal, and professional issues. We will refer to historical and emerging controversies in health care and society that influence the patient-care giver relationship. The method of instruction will primarily be student presentation and classroom discussion of current issue.

**Prerequisite:** statistics

### **RCP 4100—Clinical Seminar I (RT Protocols, CRT Review)**

This is a hybrid course. Legal and ethical considerations in respiratory care will be discussed in the online environment and will cover current ethical, legal, and professional issues faced by practitioners. It will include a review of respiratory care as it pertains to the credentialing examinations administered by the National Board for Respiratory Care. A series of written and simulation examinations will be used to prepare the students for these exams. Emphasis will be placed on decision making and problem solving as they relate to clinical respiratory care. In conjunction with the review, a final case study presentation will be required and presented to the program director, medical director, director of clinical education, and faculty members (at a minimum) to assess the understanding of being a respiratory therapy professional. Students will also obtain medical error certification necessary for licensure. Current processes for respiratory therapy protocol development and initiation will be discussed.

### **RCP 4101—Clinical Seminar II**

This is a hybrid course. It will include continued review of respiratory care as it pertains to the registry (RRT) credentialing examinations administered by the National Board for Respiratory Care. A series of written and simulation examinations will be used to prepare the students for these exams. Emphasis will be placed on decision making and problem solving as they relate to clinical respiratory care. In conjunction with the review, a final case study presentation will be required and presented to the program director, medical director, director of clinical education, and faculty members (at a minimum) to assess the understanding of being a respiratory therapy professional.

### **RCP 4501—Clinical III**

This course is 12 hours a day, twice a week for 12 weeks. Students will have an opportunity to further develop skills required in the intensive care of the respiratory patient. Topics include comprehensive ventilator management, measurement and evaluation of hemodynamic variables, noninvasive monitoring, and pulmonary function laboratory. Specialty rotations include intubation, hyperbaric oxygen therapy units, cardiac catheterization, echocardiography, pulmonary rehabilitation, and home care. Case presentations are required to integrate clinical and classroom theory. Bronchoscopy observation is introduced.

### **RCP 4502—Clinical IV**

This course is 12 hours a day, three times a week for 12 weeks. The course focuses on perinatal, neonatal, and pediatric respiratory care. Topics include medical gas therapy, oxygen delivery devices, aerosol therapy, hyperinflation therapy, airway clearance devices, patient assessment, monitoring (invasive and noninvasive), airway care, vent management, and labor and delivery assistance. Specialty rotations include the burn unit. Case presentations are required to integrate clinical and classroom theory.

### **RCP 4503—Specialization Clinical V**

This course is 12 hours a day, three times a week for 12 weeks. Students will pick their preferred areas and will have an opportunity for in-depth application and reinforcement of adult intensive care. In addition, students are provided with the opportunity to develop an area of specialization. Specialization areas may include neonatal/pediatrics, adult critical care, pulmonary function laboratory, advanced diagnostics, pulmonary rehabilitation, home care, management, research, or education.



## Bachelor of Science in Respiratory Therapy—Postprofessional Program (Online)

This program is designed for the licensed registered respiratory therapist who has completed the prescribed general education courses listed. The postprofessional Bachelor of Science in Respiratory Therapy (B.S.R.T.) completion degree allows respiratory therapists to further expand their expertise with advanced knowledge in a variety of areas. Delivered entirely online through a combination of synchronous (real-time) and asynchronous instruction, the B.S.R.T. completion program is designed for students who are unable to be on campus or for those with schedule or family constraints that make traditional college class schedules difficult.

### Admissions Requirements

Admission to the program will require the following:

- successful completion of the coursework listed below, taken at an accredited college or university, with a grade of C (2.0) or higher

#### Prerequisite Courses

- Written communication about 1500 level 6 semester hours
- Mathematics about 1040 level (one of which must be College Algebra) 6 semester hours
- Humanities 6 semester hours
- Social and behavioral sciences 6 semester hours
- Natural and physical sciences 6 semester hours

Credits from the applicant's respiratory therapy program will be evaluated for equivalency by the Office of Transfer Services, and a curriculum plan will be developed on an individual basis.

- an associate's degree in the field of respiratory therapy, unless registered respiratory therapist (RRT) was obtained prior to the associate's degree requirement
- current licensure as a registered respiratory therapist (Applicant must provide a copy of his or her RRT license in the state in which he or she is employed. For states that do not require licensure, a copy of the NBRC RRT is needed.)

### Application Procedures

The postprofessional respiratory therapy program offers four start dates per year: October, January, March, and June. In order to be considered for October, applications must be received by September 1. In order to be considered for January, applications must be received by December 1. In order to be considered for April, applications must be received by March 1. In order to be considered for July, applications must be received by June 1.

All applicants must submit

- a completed, online application that includes a nonrefundable, \$50 application fee
- official transcripts from each university/college attended
- current license to practice respiratory therapy (Applicant must provide a copy of his or her RRT license in the state in which he or she is employed. For states that do not require licensure, a copy of the NBRC RRT is needed.)

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

All admission materials should be sent to

Nova Southeastern University  
Enrollment Processing Services  
College of Health Care Sciences  
Bachelor of Science in Respiratory Therapy Program  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### Computer Requirements

For minimum recommended university computer specifications, visit [www.nova.edu/pulications/it-standards/](http://www.nova.edu/pulications/it-standards/).

### Tuition and Fees

Tuition for the 2014–2015 B.S.R.T. postprofessional completion program for the practicing registered respiratory therapist is \$445 per credit. An NSU student services fee of \$1,050 is also required annually. All tuition and fees are subject to change by the board of trustees without notice.

### Course of Study

The Bachelor of Science in Respiratory Therapy degree for the practicing respiratory therapist is a fully online, continuous-enrollment program. The program is presented in a distance-learning format and requires no on-campus time. The coursework is professor-paced using Web-based delivery. The curriculum and coursework follow a standard, 12-week semester calendar. The curriculum is designed to build upon the existing knowledge base of the registered respiratory therapist, while focusing on the overall health care picture. Leadership, evidence-based practice, and education are a few of the areas covered in the curriculum.

### Graduation Requirements

In order to be eligible for a Bachelor of Science in Respiratory Therapy, students are required to

- be of good moral character
- satisfactorily complete 45 credits in the B.S.R.T. program
- attain a minimum 2.5 cumulative grade point average while in the program
- earn a minimum total of 120 credit hours, including 30 credit hours of general education requirements
- obtain a grade of C or better (greater than or equal to 73 percent)
- demonstrate professional behavior throughout the program
- comply with all university Health Professions Division, College of Health Care Sciences, Department of Cardiopulmonary Science, and student handbook policies and procedures

## Bachelor of Science in Respiratory Therapy (Postprofessional Program) Curriculum Outline

Courses			Credits
BHS	4031	Statistics for Health Sciences	3
RRT	3014	Advanced Patient Monitoring and Assessment	3
RRT	3015	Critical Care Pathophysiology in Respiratory Care	3
RRT	3016	Advanced Cardiopulmonary Physiology	3
RRT	3017	Outpatient Services in Respiratory Therapy	3
RRT	3018	Advanced Pharmacology in Respiratory Therapy	3
RRT	3020	Quality Improvement in Health Care	3
RRT	3021	Sleep Medicine	3
RRT	4005	Evidence-Based Practice	3
RRT	4006	Leadership and Management for Health Care Professionals	3
RRT	4007	Education Principles in Health Care	3
RRT	4009	Legal and Ethical Considerations in Respiratory Care	3

RRT	4010	Case Management Theory and Process	3
Health Professions Division Practical Coursework and Experiences (Select two courses from the following for 6 credits)			
• RRT	4502	Practicum	3
• RRT	4505	Scientific Investigation	3
• RRT	4506	Internship	3
• RRT	4507	Scientific Investigation II	3
<b>Total Credits</b>			<b>120 (minimum)</b>
<b>Generalist Track Major Requirements</b>			<b>45</b>
<b>Core Courses</b>			<b>39</b>

### Optional Specialization in Management

Successful completion of the following courses, in addition to the requirements for the Bachelor of Science in Respiratory Therapy postprofessional program's generalist track, will grant a B.S.R.T. degree with the added specialization in management.

Courses			Credits
BHS	3155	Conflict Resolution in Health Care	3
BHS	3161	Health Care Finance	3
BHS	3162	Economics of Health Services	3
RRT	4014	Operational Analysis and Quality Improvement	3
RRT	4103	Strategic Planning and Organizational Development for Health Care	3

## **Bachelor of Science in Respiratory Therapy (Postprofessional Program) Course Descriptions**

### **BHS 3155—Conflict Resolution in Health Care**

This course discusses the fundamentals of conflict resolution and how it is applicable within the health care setting. During this course you should develop an understanding of conflict and effective methods and strategies for reducing the incidence of workplace conflict. This includes employee-employee conflict, supervisor-subordinate conflict, patient-patient conflict, and patient-provider conflict. (3 credits)

### **BHS 3161—Health Care Finance**

The course introduces the fundamental tools, concepts, and applications aimed at providing students with an understanding of numerous financial theories and techniques used in health care financial management. The course materials are structured around emerging health care policies and the role finance and economics play in establishing policy. Case studies are drawn from a variety of sources, such as health maintenance organizations, home health agencies, nursing units, hospitals, and integrated health care systems. Some topics of discussion also include concepts of capital financing for providers, budgeting, financial ethics, payment systems, provider costs, high cost of health care, and measuring costs. (3 credits)

### **BHS 3162—Economics of Health Services**

This course will teach the student to use economic analysis to understand critical issues in health care and health policy. Issues to be studied include the demand for health care, health insurance markets, managed care, medical technology, government health care programs, national health reform, and the pharmaceutical industry. The course will focus on the U.S. health care sector, but will also examine health care systems of other countries. (3 credits)

### **BHS 4031—Statistics for Health Sciences**

This course is designed to introduce the conceptual foundation of statistical analysis and statistical reasoning of health sciences data and prepares the student to calculate, interpret, and utilize appropriate software packages for basic statistical analysis. (3 credits)

### **RRT 3014—Advanced Patient Monitoring and Assessment**

Techniques and methods used to analyze and evaluate the health status of critically ill adult patients with emphasis on the respiratory, cardiovascular, and renal systems. (3 credits)

### **RRT 3015—Critical Care Pathophysiology in Respiratory Care**

A survey of the disease processes that affect the tissues, organs, or body as a whole. Special emphasis is placed on infectious cardiac and pulmonary diseases, their causes, prevention, and treatment in the critical care setting. This course includes a review of respiratory physiology, cardiac, and circulatory function. (3 credits)

### **RRT 3016—Advanced Cardiopulmonary Physiology**

This course covers advanced physiology of the cardiovascular and pulmonary systems. It includes study of respiratory physiology, cardiac, and circulatory function with relevant clinical application of concepts in ECG interpretation, blood pressure regulation, gas exchange and transport, breathing regulation, respiratory insufficiency, and congenital abnormalities. (3 credits)

### **RRT 3017—Outpatient Services in Respiratory Therapy**

This course encompasses an introduction to the history, trends, issues, and evolution of the outpatient services and reimbursement with the respiratory therapy profession. The course includes selected respiratory care theories and practices in alternate-care sites including pulmonary diagnostics, pulmonary rehabilitation, home care, and subacute care. Topics and emphasis may vary. (3 credits)

### **RRT 3018—Advanced Pharmacology in Respiratory Therapy**

This course builds upon a basic understanding of the concepts and principles of pharmacology as applied in the respiratory therapy in the management of patients with cardiopulmonary disease and critical care. (3 credits)

### **RRT 3020—Quality Improvement in Health Care**

This course provides an introduction and evaluation of current approaches to assessing risk and improving health care quality through the practice of continuous quality improvement. It focuses on conceptual understanding and experiential learning. **Prerequisite:** statistics (3 credits)

### **RRT 3021—Sleep Medicine**

This course is an overview of sleep medicine and anatomy and physiology of sleep and breathing. It serves as an introduction to sleep disorders and polysomnography including monitoring techniques and instrumentation. (3 credits)

**RRT 4005—Evidence-Based Practice**

This course will provide the student with an introduction to the concept of evidence-based practice and an opportunity to acquire the skills necessary to be able to incorporate evidence and best practices into professional work. These include an understanding of research methods and the approach to critical appraisal of research literature.

**Prerequisite:** statistics (3 credits)

**RRT 4006—Leadership and Management for Health Care Professionals**

This course is an extensive examination of current practices and trends of techniques used in the leadership of the health care environment. Emphasis will be placed upon specific skill sets used by the managers of today's workforce. (3 credits)

**RRT 4007—Education Principles in Health Care**

This course is an introduction to basic principles of education and their application to the current health care environment. Course content includes information on designing a lecture or course for the classroom as an in-service or in a continuing education program. It focuses on assessing educational needs, organizing instruction, instructional methods, and evaluation. (3 credits)

**RRT 4009—Legal and Ethical Considerations in Respiratory Care**

This course will provide a forum for discussion of current ethical, legal, and professional issues. The course will refer to historical and emerging controversies in health care and society that influence the patient-care giver relationship. The method of instruction will primarily be student presentation and classroom discussion of current issues. **Prerequisite:** statistics (3 credits)

**RRT 4010—Case Management Theory and Process**

This course uses the framework of the strengths-based model in working with different populations with a special focus on pulmonary patients. Through an integration of online activities and discussion, key issues will be explored and examined in depth. (3 credits)

**RRT 4014—Operational Analysis and Quality Improvement**

This course addresses health care strategies that affect operational decisions. Strategic and tactical planning issues, with particular attention to marketing and strategic planning, opportunity assessment, and external analysis, are covered. Students also analyze and evaluate total quality management principles and continuous quality improvement processes in organizations. Students compare total quality tools and performance measures and examine leadership and teamwork in the business environment. (3 credits)

**RRT 4103—Strategic Planning and Organizational Development for Health Care**

This course focuses on management of human resources. Topics include employment law; typical middle management functions of recruitment, supervision, and retention; disciplinary procedures; and performance standards. The student will gain knowledge of organizational behavior, entrepreneurialism, and change management. Assessment and benchmarking techniques are also explored. (3 credits)

**RRT 4502—Practicum**

This course includes experiences in a chosen focus area (clinical, administrative, or population based). This experience will culminate in a capstone project in the form of research or another scholarly activity that articulates the design, organization, statistics, and data analysis used and includes a written presentation of the project. **Prerequisites:** statistics and all core courses (3 credits)

**RRT 4505—Scientific Investigation**

This course provides the student with the opportunity to gain experience in application of the scientific method. Emphasis will be on literary inquiries, statistical analysis, research design, and the preparation of material for publication. The student will develop an independent project on thesis proposal with the aid of a faculty adviser and prepare and submit a final report prior to graduation. **Prerequisites:** statistics, instructor permission, and all core courses (3 credits)

**RRT 4506—Internship**

This course is designed to have the student demonstrate competency related to clinical processes in an advanced practice area, such as neonatal critical care, pediatric critical care, adult critical care, pulmonary rehabilitation, pulmonary function laboratory, polysomnography, hyperbaric therapy, respiratory care management, or respiratory care education. Students should select the specialty section that reflects their area of expertise. A written presentation will be required. Degree completion students must enroll in the specialty section in which they have the most clinical experience and expertise. **Prerequisite:** statistics, instructor permission, and all core courses. (3 credits)

**RRT 4507—Scientific Investigation II**

This course provides the student with the opportunity to perform a systematic review or meta-analysis. Emphasis will be on study protocol design, defining inclusion/exclusion criteria, literature search strategies, and statistical methods for analysis. The student will develop an independent, systematic review or meta-analysis with the aid of a faculty adviser and submit it as a final project prior to graduation. **Prerequisite:** A course in statistics, scientific investigation, permission of instructor, and all core courses (3 credits)





**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

**Howard S. Hada**, B.A., M.S., Ph.D.  
Assistant Dean for Academic Affairs

**Lori B. Dribin**, B.A., M.S., Ph.D.  
Assistant Dean for Student 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 eight 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 six semesters 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 15.)

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 15 of the year of matriculation.

### **Tuition and Fees**

1. Tuition for 2014–2015 is \$36,059 (subject to change by the board of trustees). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually. A microscope/lab fee of \$100 is required of all students for the first year.

2. Acceptance fee is \$100. 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. A deposit of \$400 is due two weeks after the notification of acceptance.

4. Preregistration fee is \$500, due July 15, under the same terms as the acceptance fee.

5. Student activities fee is \$100, payable at each fall registration.

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.

- Transfers from one graduate college to another graduate college shall require that the last year of instruction be completed within a graduate college.
- Transfer credits shall be given only if the student is eligible for readmission to the previously attended graduate college.

### **Dismissal and Suspension**

Students may be dismissed from the College of Medical Sciences if

- they earn less than an 80 percent grade in more than seven hours of classroom courses in any semester or overall
- they do not maintain an overall average, at any time, of 80 percent in the program
- they fail a course during any semester
- they fail a course they are repeating
- they exceed a 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
- they exceed a three-year limit for completing all graduation requirements for the Certificate in Anatomical Studies program, exclusive of any approved leave of absence or withdrawal in good standing
- in the opinion of the dean, circumstances of a legal, moral, behavioral, ethical, or academic nature warrant such action, or if, in the dean's opinion, there are factors that would interfere with or prevent them from meeting appropriate professional standards

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 the academic level and/or has deviated significantly from the standards of behavior established by the College of Medical Sciences.

### **Readmission Following Dismissal or Suspension**

If a student is dismissed from the College of Medical Sciences, he or she may reapply to the dean for admission and will be considered, provided that he or she can present adequate evidence that the conditions and/or factors that caused the prior poor academic performance have changed significantly so that there is reasonable expectation that the applicant 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, but none of the prior grades will be calculated in the new grade point average.

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. The student's prior academic record will remain part of his or her overall academic record and will be recorded on the permanent transcript, but none of the prior grades for courses being retaken will be calculated in the new GPA.

### **Graduation Requirements**

Degrees and/or certificates 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 examinations
- complete a minimum of 36 semester hours of coursework for the Master of Biomedical Sciences degree
- complete a minimum of 19 semester hours of coursework for the Certificate in Anatomical Studies
- satisfactorily complete the program requirements for the degree, including all assignments, with a minimum GPA of 80 percent and with no course credit hours 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. Students select an adviser who directs their program of study. 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**

**Student Council**—The College of Medical Sciences Student Council 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.

## 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 semester hours.

### Anatomy

Chairman and Professor: **G. R. Conover** | Professors: **L. Dribin, N. Lutfi, A. Mariassy, C. Purvis, K. Tu, R. K. Yip** | Associate Professor: **P. Greeman** | Assistant Professor: **A. Ahmadi** | Instructor: **D. McNally**

#### 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

Topics and hours to be arranged. (1 to 6 semester hours)

### Biochemistry

Chairman and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam** | Associate Professor: **W. G. Campbell**

#### 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

Topics and hours to be arranged. (1 to 6 semester hours)

### Microbiology

Chairman and Professor: **H. Hada** | Professors: **D. Burris, K. Davis, H. E. Laubach** | Associate Professor: **B. Mayi**

#### 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 pathogens. (24-0-1.5)

### **MIC 6700—Special Topics**

Topics and hours to be arranged. (1 to 6 semester hours)

### **Pathology**

Chairman and Professor: **M. Khin** | Professors: **B. C. Jones, K. Khin, A. B. Trif** | Assistant Professor: **E. Murdoch**

### **PTH 5500—General Pathology**

The course is to provide the student with the basic pathologic processes of human disease, with a scientific foundation in etiology, pathogenesis, morphologic alterations, and effects of disease of the organ systems, and with an emphasis on bone pathology and relevant disease states that affect the orofacial region. (54-0-3)

### **PTH 6700—Special Topics**

Topics and hours to be arranged. (1 to 6 semester hours)

### **Pharmacology**

Chairman and Associate Professor: **M. Parker** | Professors: **T. Panavelil, C. Powell** | Assistant Professor: **M. Zhao**

### **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**

Topics and hours to be arranged. (1 to 6 semester hours)

### **Physiology**

Chairman and Professor: **W. A. Schreier** | Professors: **H. N. Mayrovitz, S. Taraskevich, Y. Zagvazdin** | Associate Professor: **L. Lyons** | Assistant Professor: **A. Mashukova**

### **PHS 5500—Physiology**

Physiology covering organ systems, cell function, membrane functions, membrane translocation, electrophysiology, muscle physiology, neurophysiology, and the cardiovascular, renal, respiratory, gastrointestinal, endocrine, and nervous systems. (64-0-4)

### **PHS 5723—Medical Physiology I**

The first semester of a two-semester course covering the study of general physiology (cell function, membrane translocation, electrophysiology, and muscle physiology), the autonomic nervous system, and cardiovascular physiology. (54-0-3)

### **PHS 5724—Medical Physiology II**

The continuation of Medical Physiology I. This semester includes the study of renal, respiratory, endocrine, reproductive, gastrointestinal and nervous systems. (72-0-4)

### **PHS 6700—Special Topics**

Topics and hours to be arranged. (1 to 6 semester hours)

### **Core Courses**

#### **COMS 5702—Seminar**

Students and faculty members observe and present research seminars on selected topics. Topics and hours to be arranged. (1 to 4 semester hours)

#### **COMS 6700—Special Topics**

Coursework is designed to advance knowledge in a specific area of science. Topics and hours to be arranged. (1 to 6 semester hours)



# College of Dental Medicine







# College of Dental Medicine



Linda Niessen,  
D.M.D., M.P.H., M.P.P.  
Dean

## Mission Statement

The mission of the College of Dental Medicine (CDM) is to educate students to become competent in all phases of the general practice of dental medicine, and postdoctoral residents to become proficient in their respective specialty fields. The CDM is committed to ensuring graduates' excellence in the art and science of dental medicine and their commitment to independent, lifelong learning. This mission requires graduates to be knowledgeable in the biological sciences, clinically skilled, technologically proficient, compassionate, and sensitive to the needs of the public. The graduate will be competent to function as a member of, or in conjunction with, an interdisciplinary primary care health team.

The CDM fosters leadership and excellence in dental education through a commitment to:

- recruitment and retention of the highest caliber of self-motivated students, residents, and faculty members
- innovative teaching methods, research, scholarship, professionalism, and ethical principles
- continuing education
- service to the local, national, and international communities
- interdisciplinary research with a focus on biomaterials, regenerative medicine, clinical product testing, public health, and health services research

The CDM has a special commitment to educate students and residents to provide culturally sensitive care to the underserved and special needs populations.

## Administration

**Linda Niessen**, D.M.D., M.P.H., M.P.P.  
Dean

**Abby Brodie**, D.M.D., M.S.  
Interim Associate Dean for Academic Affairs  
Associate Dean for Curriculum and Educational Affairs

**Steven Haas**, D.M.D., J.D.  
Associate Dean for Clinic Services/Division Chief,  
Primary Care

**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

**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/Division Chief,  
Developmental Sciences

**William Parker**, D.D.S.  
Acting Associate Dean for Advanced Educational  
Programs, Section Chair of Periodontics

**Albert Whitehead**, D.M.D., M.Ed., eM.B.A.  
Assistant Dean for Continuing 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 virtual reality dental simulation laboratory; 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.

## Predocutorial Program

### 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 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

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, 2014, for the class entering August 2015.

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 [www.adea.org](http://www.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, 2014:

- 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 2014–2015 (subject to change by the board of trustees without notice) is \$58,699 for Florida residents and \$59,565 for out-of-state students. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 April 15 must pay their acceptance fee immediately.

- Preregistration fee is \$1,000 and is due April 15, under the same terms as the acceptance fee.

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. 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.

## 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; a psychomotor bench test; and a clinical case presentation. The psychomotor bench test and clinical case presentation may include the following: Canadian wax carving examination, typodont tooth preparation and restoration in amalgam, and typodont tooth preparation for a full metal crown. The clinical case presentation will consist of an oral presentation related to a clinical scenario. 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 and

clinical case presentation 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, 2015.

- 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, 2015, 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 2014–2015 (subject to change by the board of trustees without notice) is \$63,225.
- A microscope fee of \$125 per year is required of all students.
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.
- Students will no longer have to buy a laptop computer through NSU-CDM. Students will be required to have personal laptops of their choice that will meet needed specifications to accommodate the program requirements. These specifications will be sent to them under separate cover, upon final acceptance.
- 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.

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.

### **Expenses and Financial Aid for All Predoctoral Programs**

Students should anticipate the following approximate expenses for books and learning materials:

- first year—\$1,200
- second year—\$1,200
- third year—\$1,200
- fourth year—\$1,200

Students should anticipate the following approximate expenses for instruments and equipment:

- first year—\$12,000
- second year—\$8,000
- third year—\$4,000
- fourth year—\$4,500

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 are 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, and professional qualities deemed necessary for the successful and continued study and practice of dental medicine
- 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 satisfactorily completed all assigned curriculum requirements for the D.M.D. degree with a numerical average of 70 percent or higher
- 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.

## 2014–2015 Curriculum Outline

Calculations based on an 18-week semester (subject to change)

Fall 2014—D1, Class of 2018			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 2015—D1)	7	0	1
CDM	1205	Primary Care and Public Health I (continued in Winter 2015—D1)	8	0	1
CDM	1110	Microbiology	45	0	3
CDM	1135	Multidisciplinary Introduction to Record Keeping (continued in Winter 2015—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

Winter 2015—D1, Class of 2018			Contact	Laboratory	Credit Hours
CDM	1016	Clinical Experience Rotation II (continued in Summer 2015—D1)			1
CDM	1051	Ethics and Professionalism II	14	0	1
CDM	1070	Periodontology I (continued from Fall 2014—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	Multidisciplinary Introduction to Record Keeping (continued from Fall 2014—D1)	0	3	1
CDM	1160	Oral Histology	36	0	2
CDM	1185	Introduction to Clinical Periodontology	0	8	1
CDM	1205	Primary Care and Public Health I (continued from Fall 2014—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

**Summer 2015—D1, Class of 2018**

			Contact	Laboratory	Credit Hours
CDM	1016	Clinical Experience Rotation II (continued from Winter 2015—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 2015—D2)			1
CDM	2060	Endodontics Laboratory (continued in Fall 2015—D2)			1
CDM	2005	Craniofacial Growth and Development	10	0	1
CDM	2501	Periodontology Clinic (continued in Fall 2015—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 2015—D2)			1
CDM	2110	Radiology I	16	0	1

**Fall 2014—D2, Class of 2017**

			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 2014—D1)	24	0	1
CDM	2060	Endodontics Laboratory (continued from Summer 2014—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	2
CDM	2175	QA/Recare Clinical Rotation I (continued from Summer 2014—D1) (continued in Winter 2015—D2)			1
CDM	2280	Internal Medicine for Dentists	36	0	2
CDM	2501	Periodontology Clinic (continued from Summer 2014—D1) (continued in Winter 2015—D2)			1
CDM	2505	Radiology Preclinical Laboratory (continued in Winter 2015—D2)			1

Winter 2015—D2, Class of 2017			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	2
CDM	2160	Periodontology III	18	0	1
CDM	2170	Pharmacology, Analgesia, and Local Anesthesia II	18	0	1
CDM	2175	QA/Recare Clinical Rotation I (continued from Fall 2014—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	Axium EHR Treatment Planning Module	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 2014—D2)			1.5

CDM	2505	Radiology Preclinical Laboratory (continued from Fall 2014—D2)	0	9	1
CDM	2995	Clinical Practice of Dentistry Fundamentals	13	40	2

<b>Summer 2015—D2, Class of 2017</b>			Contact	Laboratory	Credit Hours
CDM	2999	Clinic Prerequisite Orientation	35	0	1
CDM	3000	Applied Patient Care Foundations I (continued in Fall 2015—D3)			1
CDM	3500	Clinical Restorative Dentistry I (continued in Fall 2015—D3)			1
CDM	3410	Clinical Fixed Prosthodontics I (continued in Fall 2015—D3)			1
CDM	3411	Clinical Removable Prosthodontics I (continued in Fall 2015—D3)			1
CDM	3501	Clinical Periodontology I (continued in Fall 2015—D3)			1
CDM	3503	Clinical Periodontology Rotation (continued in Fall 2015—D3)			1
CDM	3621	Clinical Endodontics I (continued in Fall 2015—D3)			1
CDM	3507	Clinical OMFS Rotation I (continued in Fall 2015—D3)			1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued in Fall 2015—D3)			1
CDM	3650	Radiology Clinic I (continued in Fall 2015—D3)			1
CDM	3200	Laboratory and Clinical Applications of Occlusion	8	10	1
CDM	3175	QA/Recare Clinical Rotation II (continued in Fall 2015—D3)			1

<b>Fall 2014—D3, Class of 2016</b>			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 2014—D2) (continued in Winter 2015—D3)			1

CDM	3410	Clinical Fixed Prosthodontics I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3411	Clinical Removable Prosthodontics I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3000	Applied Patient Care Foundations I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3500	Clinical Restorative Dentistry I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3501	Clinical Periodontology I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3503	Clinical Periodontology Rotation (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3507	Clinical OMFS Rotation I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3530	Evidence-Based Dentistry in Clinical Practice	18	0	1
CDM	3621	Clinical Endodontics I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1
CDM	3605	Orthodontic Clinical Comanagement Program (continued in Winter 2015—D3)			1
CDM	3650	Radiology Clinic I (continued from Summer 2014—D2) (continued in Winter 2015—D3)			1

<b>Winter 2015—D3, Class of 2016</b>			Contact	Laboratory	Credit Hours
CDM	3011	Oral and Maxillofacial Diagnosis III	18	0	1
CDM	3021	Common Oral Conditions	18	0	1
CDM	3060	TMD	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 2014—D3)	5	50	2
CDM	3221	Advanced Clinical Occlusion	18	0	1

CDM	3241	Comprehensive Treatment Planning	18	0	1
CDM	3410	Clinical Fixed Prosthodontics I (continued from Fall 2014—D3)			11
CDM	3411	Clinical Removable Prosthodontics I (continued from Fall 2014—D3)			11
CDM	3000	Applied Patient Care Foundations I (continued from Fall 2014—D3)			13
CDM	3500	Clinical Restorative Dentistry I (continued from Fall 2014—D3)			10
CDM	3501	Clinical Periodontology I (continued from Fall 2014—D3)			2
CDM	3503	Clinical Periodontology Rotation (continued from Fall 2014—D3)	0	20	1
CDM	3507	Clinical OMFS Rotation I (continued from Fall 2014—D3)	0	50	1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Fall 2014—D3)	0	18	1
CDM	3605	Orthodontic Clinical Comanagement Program (continued from Fall 2014—D3)	0	30	1
CDM	3621	Clinical Endodontics I (continued from Fall 2014—D3)	0	12	1
CDM	3650	Radiology Clinic I (continued from Fall 2014—D3)	0	42	2

<b>Summer 2015—D3, Class of 2016</b>			Contact	Laboratory	Credit Hours
CDM	3605	Orthodontic Clinical Comanagement Program			1
CDM	4501	Clinical Periodontology II (continued in Fall 2015—D4)			1
CDM	4500	Clinical Restorative Dentistry II (continued in Fall 2015—D4)			1
CDM	4410	Clinical Fixed Prosthodontics II (continued in Fall 2015—D4)			1
CDM	4411	Clinical Removable Prosthodontics II (continued in Fall 2015—D4)			1
CDM	4621	Clinical Endodontics II (continued in Fall 2015—D4)			1
CDM	4505	Clinical Emergency Rotation (continued in Fall 2015—D4)			1
CDM	4507	Clinical OMFS Rotation II (continued in Fall 2015—D4)			1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued in Fall 2015—D4)			1
CDM	4650	Radiology Clinic II (continued in Fall 2015—D4)			1

CDM	4611	Community Dentistry Rotation (continued in Fall 2015—D4)			1
CDM	4222	Laser Dentistry (Elective)	8	0	1
CDM	4700	Extramural Primary Care Rotation (continued in Fall 2015—D4)			1
CDM	402H	Periodontal Honors (continued in Fall 2015—D4)			1
CDM	4175	QA/Recare Clinical Rotation III (continued in Fall 2015—D4)			1
CDM	4002	Applied Patient Care Foundations II (continued in Fall 2015—D4)			1
CDM	4277	CAD/CAM Restorative Dentistry	8	14	1

**Fall 2014—D4, Class of 2015**

			Contact	Laboratory	Credit Hours
CDM	4060	Practice Management	16	0	1
CDM	4120	Regional Board Prep Course (continued in Winter 2015—D4)	5	10	1
CDM	4170	Oral Manifestations of Disease	16	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4240	Advanced Comprehensive Treatment Planning	18	0	1
CDM	4404H	Oral Medicine Honors (continued in Winter 2015—D4)			1
CDM	4410	Clinical Fixed Prosthodontics II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4411	Clinical Removable Prosthodontics II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4500	Clinical Restorative Dentistry II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			3
CDM	4501	Clinical Periodontology II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4002	Applied Patient Care Foundations II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4505	Clinical Emergency Rotation (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4507	Clinical OMFS Rotation II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1

CDM	4555	Dental Auxiliary Utilization (continued in Winter 2015—D4)	1		1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4611	Community Dentistry Rotation (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4621	Clinical Endodontics II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4650	Radiology Clinic II (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4700	Extramural Primary Care Rotation (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	4999	Advanced Techniques in Pain and Anxiety Control	18	0	1
CDM	403E	Advanced Elective in Endodontics (continued in Winter 2015—D4)			1
CDM	400H	Honors Endodontics (continued in Winter 2015—D4)			1
CDM	402H	Honors Program in Periodontics (continued from Summer 2014—D3) (continued in Winter 2015—D4)			1
CDM	410H	Honors Program in Pediatric Dentistry (continued in Winter 2015—D4)			1
CDM	412H	Honors Program in Prosthodontics (continued in Winter 2015—D4)			1
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued in Winter 2015—D4)			1
CDM	408H	Honors Program in Oral and Maxillofacial Surgery (continued in Winter 2015—D4)			1

**Winter 2015—D4, Class of 2015**

			Contact	Laboratory	Credit Hours
CDM	4120	Regional Board Prep Course (continued from Fall 2014—D4)	0	72	1
CDM	4501	Clinical Periodontology II (continued from Fall 2014—D4)			2
CDM	4500	Clinical Restorative Dentistry II (continued from Fall 2014—D4)			11
CDM	4621	Clinical Endodontics II (continued from Fall 2014—D4)			2

CDM	4002	Applied Patient Care Foundations II (continued from Fall 2014—D4)			13
CDM	4410	Clinical Fixed Prosthodontics II (continued from Fall 2014—D4)			11
CDM	3900E	Extramural Primary Care Clinical Rotation Elective			0.5
CDM	4411	Clinical Removable Prosthodontics II (continued from Fall 2014—D4)			11
CDM	4020	Clinical Oral Medicine Case Presentations	16	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Fall 2014—D4)	3	14	1
CDM	4505	Clinical Emergency Rotation (continued from Fall 2014—D4)	0	45	1
CDM	4507	Clinical OMFS Rotation II (continued from Fall 2014—D4)	0	50	1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Fall 2014—D4)	0	28	2
CDM	4555	Dental Auxiliary Utilization (continued from Fall 2014—D4)		48	1
CDM	4611	Community Dentistry Rotation (continued from Fall 2014—D4)			1
CDM	4650	Radiology Clinic II (continued from Fall 2014—D4)			1
CDM	4700	Extramural Primary Care Rotation (continued from Fall 2014—D4)	0	75	7
CDM	400H	Honors Endodontics (continued from Fall 2014—D4)	10	0	1
CDM	402H	Periodontal Honors (continued from Fall 2014—D4)	42	4	3
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued from Fall 2014—D4)	36	0	2
CDM	4404H	Oral Medicine Honors (continued from Fall 2014—D4)	48	0	1
CDM	412H	Honors Prosthodontics (continued from Fall 2014—D4)	54	0	1
CDM	403E	Advanced Elective in Endodontics (continued from Fall 2014—D4)	14	0	1
CDM	425E	Forensic Odontology Elective	8	8	1
CDM	426E	Cone Beam CT Elective	4	0	1
CDM	410H	Honors Pediatric Dentistry (continued from Fall 2014—D4)	22	0	2
CDM	428E	Dentistry in Sleep Medicine Elective	6	0	1
CDM	408H	Honors Program in Oral and Maxillofacial Surgery (continued from Fall 2014—D4)			

## College of Dental Medicine Course Descriptions

### Interdisciplinary Biomedical Sciences

**Anatomy**—Chair and Professor: **G. R. Conover** | Professors: **L. Dribin, N. Lufti, A. Mariassy, C. Purvis, K. Tu, 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** | Associate Professor: **W. G. Campbell**

#### 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: **H. Hada** | Professors: **D. Burris, K. Davis, H. Laubach**

#### 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 Professor: **M. A. Khin** | Professor: **B. Jones, K. Khin, A. B. Trif** | Assistant Professors: **E. Murdock, A. Varela**

#### 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** | Assistant Professors: **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, P. S. Taraskevich, Y. Zagvazdin**

#### 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**—Adjunct Assistant Professor:  
M. Fimiani

#### 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.

#### Division of Primary Care

**Cariology and Restorative Dentistry and Prosthodontics**—Division Chief and Assistant Professor: **S. Haas** | Assistant Division Chief, Section Chair for Cariology and Restorative Dentistry, and Associate Professor: **A. Galka** | Section Chair for Prosthodontics and Professor: **S. C. Siegel** | Predoctoral Co-Clinical Director and Associate Professor: **R. Castellon** | Predoctoral Co-Clinical Director and Assistant Professor: **A. Farhangpour** | Postgraduate Program Directors and Assistant Professors: **M. Nahon, L. Oliveira Haas** | Assistant Director and Assistant Professor: **M. Pasciuta** | Professors: **J. Antonelli, J. Thompson** | Associate Professors: **A. Brodie, E. Kilinc, L. Krasne** | Assistant Professors: **K. Alston, G. Bozutti, E. Chiang, T. Dwork, P. Fleisher, R. Gaines, M. Georgescu, A. Godoy, M. Golberg, H. Gordon, C. J. Hsu, J. Kodish-Stav, E. Lara, R. Lichtman, H. Lippman, V. Noce, A. Notzer, P. Papatzimas, M. Patten, P. Pugliese, H. Quinton, R. Ramer, M. Ramos, V. Rampertaap, J. Rodriguez, J. Schiuma, M. Schweizer, L. Shapiro, R. Vogel** | Instructors: **T. Gonzalez, M. Guerrero** | Adjunct Faculty: **R. Acosta-Ortiz, A. Amini, T. Balshi, J. Banos, B. Belsky, S. Berger, A. Cardenas Manzur, A. Despaigne, C. Drago, E. Fellows, D. Fleischman, J. Gartner, D. Goldberg, H. Goldberg, L. Gordon Brown, M. Greenberg, M. Gutierrez, N. Guzman, S. Hack, M. Hervas, D. Jackson, G. Kolos, H. Lehrer, T. Leonard, H. Levine, N. Levy, M. Malo, M. Mendelson, L. Mosquera, E. Neuwirth, S. Perlow, M. Platt, M. Pomerantz, M. Radu, T. Rangarajan, S. Rauchwerger, S. Resnick, M. Richards, R. Rohan, D. Rolfe, D. Roy, S. Sadati, R. Sanchez, M. Scharmett, R. Selz, B. Sharp, B. Shipman, D. Skopp, S. Stempel, J. Velasco, G. Wallach, D. Wessel, G. Wolfinger**

#### 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—Multidisciplinary Introduction to Record Keeping

This course will give first-year dental students hands-on experience with completing dental treatment records by making entries in a "chart" made for the student's typodont. The students will participate in clinical exercises to generate their own dental records as well. The content in this course will be integrated with the content in the following courses: Clinic Experience I and II and Ethics and Professionalism.

#### 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 Web sites 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 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—Axium EHR Treatment Planning Module**

This course is designed to train the sophomore students to understand and develop dental treatment plans using the electronic health record software system axiUm that is currently used at NSU CDM. The students will use the knowledge from various dental disciplines to develop treatment plans for patient presentation while learning how to navigate the axiUm program.

### **CDM 2995—Clinical Practice of Dentistry Fundamentals**

The 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 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 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.

### **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.

### **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 428E—Dentistry in Sleep Medicine Elective**

This is an introductory course in the field of sleep disorders in dentistry. Participants will review the normal vs. the obstructive airway. The role of a dentist in the multidisciplinary approach to treating snoring and sleep apnea will be defined. The various types of oral appliances, as well as their selection and fabrication will be discussed. Long- and short-term side effects, titration of the appliance, and verification of clinical results will be presented. Upon completion of this course, all participants will be able to understand how to identify patients that have a problem with sleep disordered breathing and the fundamental considerations in their management.

### **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 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 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 3060—TMD**

This course is a series of lectures that present the clinical evaluation, diagnosis, and management of patients that present with pain and/or dysfunction in the masticatory system (temporomandibular disorders) and other related orofacial pain conditions.

**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.

**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 junior 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 junior 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 3221—Advanced Clinical Occlusion**

This course will provide the dental students with a complete understanding of the normal function of the masticatory system and will be the introduction to the studies on occlusal analysis and occlusal diagnosis. Through lectures and preclinical and guided clinical procedures, the dental students will attain a comprehensive understanding on all the related areas of dental anatomy and occlusion.

### **CDM 3410—Clinical Fixed Prosthodontics I**

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 4277—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 (D4D), Encode (Biomet 3I), Itero (Cadent), LAVA C.O.S., Procera Forte (Nobel BioCare). 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**

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.

## **Division of Developmental Sciences**

**Community Dentistry and AEGD**—Interim Postgraduate Program Director, Section Chair, and Associate Professor: **D. Ede-Nichols** | Assistant Professors: **R. Block, S. Ellen, F. Slavichak, B. Waterman** | Clinical Instructor: **A. Bezerra** | Adjunct Faculty: **M. Ben-Shalom, N. Browner, A. Burch, A. Epstein, M. Fimiani, R. Jabbar, J. Velasco**

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 Institute for Special Needs Dentistry, located in the main clinic on the Davie campus. The institute 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 patients with special needs. 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 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.

**Orthodontics**—Section Chair, Clinic Director, 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 Assistant Professor: **R. Singer** | Assistant Professors: **G. Contasti, S. Khatami, S. Real** | Adjunct Faculty: **M. Cooper, J. Coro, J. Ginzler, M. Hall, A. Kapit, S. Kessel, B. Matza, M. Meister, J. Morrish, 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 Facial 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.

**Pediatric Dentistry**—Section Chair and Professor: **R. Ocanto** | Predoctoral Director and Assistant Professor: **A. Noguera** | Postgraduate Director and Assistant Professor: **L. Drukteinis** | Professor: **G. White** | Associate Professors: **A. Ibarra, J. Larumbe, O. Padilla** | Assistant Professors: **V. Bhoopathi, S. Brenner** | Adjunct Professors: **D. Arnold, S. Ashley, C. Brenner, H. Hill, J. Lipoff, E. Stelnicki, M. Suchar**

#### **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) nonpharmacological behavioral management; 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) nonpharmacological behavioral management; 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.

## **Division of Surgical Sciences**

Division Chief: : **K. Namerow**

**Diagnostic Sciences**—Chair and Professor: **M. A. Siegel** | Section Vice Chair and Professor: **P. Bradley** | Professors: **G. Conover, I. Velez** | Associate Professor: **L. Solomon** | Assistant Professors: **E. Choi, M. Hogge, P. Levine, L. Mejia** | Adjunct Professors: **J. Arenas, J. Bloch, M. Lieberman, D. Stern, M. Todd**

### **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— Radiology Clinic 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 4505—Clinical Emergency Rotation**

The fourth-year student will develop a systematic approach to evaluating a patient who presents with severe pain or swelling in the orofacial region. The student will present an emergency treatment plan and provide the treatment as appropriate. Students on rotation will participate in a grand-rounds summary at the close of each session to review specific patients and techniques.

### **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 six qualified D4 students. The course format will include didactic and hands-on components. The didactic portion will include lectures on anthropology, toxicology, crime scene investigation, head and neck anatomy, dental charting, nomenclature, WinID, and Dexis Imaging Systems. The hands-on component will require the student to assess unidentified remains collectively through charting, digital imaging, online ID media, and NCIC database forms. The above instructional exercises will be faculty-supervised at all times.

### **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.

**Endodontics**—Section Chair and Professor: **K. Namerow** | Postgraduate Program Director and Associate Professor: **M. Flax** | Professors: **S. Kuttler, P. Murray, S. Oliet, R. Uchin** | Predoctoral Director and Associate Professor: **R. Seltzer** | Associate Professors: **R. Gelman, M. Marchesan, T. Sayin** | Assistant Professor: **M. Bonilla** | Adjunct Faculty: **S. Berman, I. Epelman, S. Goldstein, A. Helfer, R. Herman, A. Moskow, R. Powell, J. Sainsbury, J. Satovsky, J. Schapiro, S. Shapiro, J. Silberman, A. Skidmore, J. Slingbaum, 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—Advanced 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.

**Oral and Maxillofacial Surgery**—Section Chair and Professor: **S. Kaltman** | Postgraduate Program Director and Professor: **TBD** | Predoctoral Director, Director of Pediatric Craniomaxillofacial Surgery, and Associate Professor: **J. Portnof** | Postgraduate Research Director and Associate Professor: **S. McClure** | Director of Allied Clinics and Assistant Professor: **J. Kaltman** | Adjunct Professors: **G. Laboda, E. Lopez, M. Ragan, A. Sclar** | Adjunct Associate Professors: **M. Digney, J. Eisner, G. Freedman, M. Harris, K. Kaner, R. Katz, T. Koyama, M. Krohn, J. McCain, P. Richman, C. Schalit, D. Smith, T. Splaver, S. Stewart, L. Sultan, T. Tejera** | Visiting Professors: **B. Epker, S. Guttenberg, M. Pikos**

#### **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 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. 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.

**Periodontology**—Section Chair and Associate Professor: **W. Parker** | Predoctoral Director and Assistant Professor: **S. Drukteinis** | Postgraduate Director and Assistant Professor: **M. Hernandez** | Associate Professor: **S. Vardar** | Assistant Professors: **D. Bronstein, B. Garcia, M. Roth** | Instructor: **K. Wang** | Adjunct Associate Professors: **M. Forrest, J. Ganeles, L. Garfinkel, T. Kang** | Adjunct Assistant Professors: **D. Boden, N. Dalal, N. DeTure, I. Freedman, I. Garazi, I. Ginsberg, D. Glassman, A. Horowitz, G. Jacobson, M. Liebman, F. Norkin, L. Ostroff, M. Rosenbluth, S. Ross, L. Shapiro** | Adjunct Clinical Hygienists: **L. Allen, J. Black, R. Charin, R. Cohen, J. Hernandez, L. Hochman, L. Jones, S. Kong, 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.

## **Related Educational Programs**

The College of Dental Medicine also offers the following programs:

### **D.O./D.M.D. Dual Degree Program**

This 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.

#### **Predocutorial Research Program**

Students showing exceptional performance in basic sciences, laboratory, and clinical dentistry may be eligible to participate in the Predocutorial Research Program. Under the supervision of faculty members, these students will gain familiarity with the scientific method and engage in laboratory and clinical research.

#### **Predocutorial Honors Peer Tutoring**

Students with exceptional academic records may be eligible to offer peer tutoring assistance to predocutorial students in need of academic assistance. Peer tutors will receive transcript credit and an hourly wage for their time.

#### **Predocutorial Honors Clinical Participation Program**

Students with exceptional academic records may be eligible for special clinical experiences in the third and fourth years of predocutorial study in endodontics, oral surgery, orthodontics, pediatric dentistry, and restorative dentistry. Selection of such participants will be at the discretion of the department chairperson.

### **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 specialty training programs in several fields starting in the fall of 1997. There are training positions available in endodontics, orthodontics, pediatric dentistry, periodontology, prosthodontics, advanced education in general dentistry, and oral and maxillofacial surgery.

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 predocutorial 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 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 and Jurisprudence**

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.

Additionally, postdoctoral students are required to take didactic and clinical courses within their respective area of specialization throughout their training.

## **Postdoctoral Specialties**

### **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- to 36-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.

### **CDM 7660—Operative Dentistry Clinic I**

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 7703—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—Classic Literature Review Seminar I**

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 Web site, 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 7650—Advanced Operative Dentistry 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.

### **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 through Florida International University College of Medicine. 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 section of Orthodontics offers a 30-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-IX

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

### **Clinical Orthodontics I–IX**

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 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 philosophies 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 rooted in, and built upon, the specialty's historic foundations. The structure of the orthodontic didactic component of the curriculum continually contributes to the residents' developing a knowledge base, including evidence-based science, of sufficient depth and breadth incumbent upon 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.

### **Postdoctoral Pediatric Dentistry**

The section 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.

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 5364—Advanced Craniofacial Growth and Development**

Students need to read articles provided in the reading list prior to the start of class. Students will present and discuss the topics. Faculty members will lecture and summarize/lead the discussion and topics.

#### **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 6010—Pediatric Dentistry Clinic III–IV**

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 V**

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.

#### **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.

#### **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 6030—Advanced Clinical Periodontology I**

This course focuses on the clinical aspects of periodontal and dental implant-related treatment. Residents provide comprehensive therapy to patients beginning with the examination, diagnosis, treatment planning, and treatment of patients with various forms of periodontal disease including chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of systemic disease, abscesses, periodontitis associated with endodontic lesions, and developmental or acquired deformities and conditions. Residents will develop their skills in the surgical and nonsurgical management of the periodontal diseases. In addition, residents will begin to evaluate, diagnose, and create patient treatment plans for implant-related surgical and nonsurgical procedures.

#### **CDM 6040—Advanced Didactic Periodontics I**

This course offers didactic instruction related to diagnosis and treatment of periodontal diseases. Residents will be able to demonstrate integration of the histology and biology in their patient diagnosis and treatment plans. Residents will also review the classic and current literature related to periodontics and implant dentistry. Articles are selected and discussed among the residents and faculty members. Residents will learn to read, analyze, and apply the literature to clinical practice.

#### **CDM 6050—Advanced Clinical Periodontology IV**

This course focuses on the clinical aspects of periodontal and dental implant-related treatment and builds on the skills and experiences of CDM 6230. Residents continue to provide comprehensive therapy to patients including examination, diagnosis, treatment planning, and treatment of patients with various forms of periodontal disease such as chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of systemic disease, abscesses, periodontitis associated with endodontic lesions, and developmental or acquired deformities and conditions. Residents continue to follow their previously treated patients in a patient-specific recall/maintenance program with support from registered dental hygienists. Residents

will treat patients with various forms of periodontal disease while providing more surgical and nonsurgical care related to implant dentistry with increasing degrees of difficulty. They will also utilize various sedation techniques with their patients.

#### **CDM 6060—Advanced Didactic Periodontics III**

This course provides the resident with in-depth knowledge of relevant biomedical sciences as they correlate to the theory and practice of periodontology. Residents will review all the concepts related to diagnosis, prognosis, and treatment planning of periodontal diseases. This didactic course will also offer detailed instructions on surgical and nonsurgical treatment modalities, including implant therapy.

#### **CDM 6070—Advanced Clinical Periodontology VII**

This course continues with the third-year resident's progression toward proficiency in all aspects of periodontal and implant therapy and builds on the knowledge, skills, and abilities gained in the first two years of postgraduate training. This clinical course allows the resident to provide treatment to patients with complex treatment needs, and oftentimes, with complex medical conditions. The resident will gain proficiency in a number of surgical and nonsurgical techniques encompassing the entire aspect of periodontal therapy and implant dentistry. The resident will utilize the experience gained over the previous two years to mentor a first-year resident during his or her time in the clinic.

#### **CDM 6080—Advanced Didactic Periodontics V**

This course will offer didactic instructions for the treatment of advanced periodontal and implant therapy cases. Multidisciplinary approaches and modalities will be covered and instructed. This course offers a complete program on diagnosis, treatment planning, and maintenance of periodontal simple and complex patients. Patient management and patient communication will be emphasized. Practice management will also be covered.

#### **CDM 6130—Advanced Clinical Periodontology II**

This course focuses on the clinical aspects of periodontal and dental implant-related treatment and builds on the skills and experiences of CDM 6030. Residents continue to provide comprehensive therapy to patients including examination, diagnosis, treatment planning, and treatment of patients with various forms of periodontal disease such as chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of systemic disease, abscesses, periodontitis associated with endodontic lesions, and developmental or acquired deformities and conditions. Residents will follow their previously treated patients, designing and implementing a recall/maintenance program specific to each patient's needs. Residents will develop their skills in more complex surgical cases and will gain increased speed and proficiency. In addition, the resident

will develop clinical skills relating to implant dentistry including the placement and maintenance of dental implants and related surgical and nonsurgical procedures.

#### **CDM 6140—Advanced Didactic Periodontics II**

This course offers didactic instruction related to diagnosis and treatment of periodontal diseases. Residents will be able to demonstrate integration of the histology and biology in diagnosis and treatment plans for their patients. Residents will also review the classic and current literature related to periodontics and implant dentistry. Articles are selected and discussed among the residents and faculty members. Residents will learn to read, analyze, and apply the literature to clinical practice.

#### **CDM 6150—Advanced Clinical Periodontology V**

This course focuses on the clinical aspects of periodontal and dental implant-related treatment and builds on the skills and experiences of CDM 6050. Residents continue to provide comprehensive therapy to patients including examination, diagnosis, treatment planning, and treatment of patients with various forms of periodontal disease such as chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of systemic disease, abscesses, periodontitis associated with endodontic lesions, and developmental or acquired deformities and conditions. Residents continue to follow their previously treated patients in a patient-specific recall/maintenance program with support from registered dental hygienists. Residents will treat patients with advanced treatment needs and with multiple systemic factors contributing to the complexity of the case. More advanced surgical and nonsurgical treatment techniques will be required.

#### **CDM 6160—Advanced Didactic Periodontics IV**

This course provides residents with in-depth knowledge of the relevant biomedical sciences as they correlate to the theory and practice of periodontology. Residents will review all the concepts related to diagnosis, prognosis, and treatment planning of periodontal diseases. This didactic course will also offer detailed instructions on surgical and nonsurgical treatment modalities, including implant therapy.

#### **CDM 6170—Advanced Clinical Periodontology VIII**

The culmination of this course will mark the resident's completion of his or her clinical training in periodontology. During this course, residents will gain increased efficiency and proficiency in the provision of the multiple modalities of treatment related to periodontal diseases and implant dentistry. The patients treated have complex treatment needs, and oftentimes, complex medical conditions. Residents will gain proficiency in a number of surgical and nonsurgical techniques encompassing the entire aspect of periodontal therapy and implant dentistry. Residents will also provide support to the first- and second-year residents in the treatment of their patients.

### **CDM 6180—Advanced Didactic Periodontics VI**

This course will offer didactic instructions for the treatment of advanced periodontal and implant therapy cases. Multidisciplinary approaches and modalities will be covered and instructed. This course offers a complete program on diagnosis, treatment planning, and maintenance of periodontal simple and complex patients. Patient management and patient communication will be emphasized. Practice management will also be covered.

### **CDM 6230—Advanced Clinical Periodontology III**

This course focuses on the clinical aspects of periodontal and dental implant-related treatment and builds on the skills and experiences of CDM 6130. Residents continue to provide comprehensive therapy to patients including examination, diagnosis, treatment planning, and treatment of patients with various forms of periodontal disease such as chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of systemic disease, abscesses, periodontitis associated with endodontic lesions, and developmental or acquired deformities and conditions. Residents continue to follow their previously treated patients in a patient-specific recall/maintenance program with support from registered dental hygienists. Residents will treat patients with various forms of periodontal disease while providing more surgical and nonsurgical care related to implant dentistry with increasing degrees of difficulty. Residents will utilize various sedation techniques with their patients.

### **CDM 6250—Advanced Clinical Periodontology VI**

This course marks the beginning of the resident's final year of residency in periodontology. This clinical course allows the resident to provide treatment to patients with complex treatment needs and, oftentimes, with complex medical conditions. The resident will gain proficiency in a number of surgical and nonsurgical techniques encompassing the entire aspect of periodontal therapy and implant dentistry. Residents will utilize the experience gained over the previous two years to mentor first-year residents during their time in the clinic.

### **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 patient care and 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 7170—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.

### **Advanced Education in General Dentistry**

The section of Community Dentistry offers an accredited Advanced Education in General Dentistry (AEGD) residency program. The AEGD program is based in an eight-chair clinic at the North Miami Beach (NMB) campus with an optional second year devoted primarily to special needs dentistry at the main campus. 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. Various off-site rotations are included to expand the range of experiences available. The program does not charge tuition and offers no stipends. 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 8164—Literature Review Seminar**

This is a continual seminar devoted to review of dentistry and related literature and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. Residents learn to critically read and evaluate the scientific evidence that supports advanced dentistry principles and practice.

### **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 8163—Case Presentation and Treatment Planning Seminar**

This case presentation and 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.

### **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. Applicants are required to complete an NSU College of Dental Medicine application for postdoctoral students for all specialties. Applicants should refer to [www.dental.nova.edu](http://www.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 Web site ([www.dental.nova.edu](http://www.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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)



- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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.) 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 2014–2015 (subject to change by the board of trustees without notice) is \$42,445. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually. A microscope/lab fee of \$125 per year is required as well.
- Acceptance/Preregistration fee is \$2,000. 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 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 in Dentistry Program is to provide advanced training in research and research methodology to students, primarily those 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, and a research thesis. Research in this program includes various aspects of craniofacial/oral health and disease. 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.

## 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 letter of interest in this program articulating their career plan, capabilities, special achievements, etc., along with two letters of reference from individuals familiar with the candidate's aptitude to perform adequately at a graduate level.

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.

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 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

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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)

- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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. three 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 and the required credentials, the director of each 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.

## Tuition and Fees

Tuition for 2014–2015 is \$550 per credit hour. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.dental.nova.edu](http://www.dental.nova.edu)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 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 6200M—Effective Teaching, Learning, and Assessment Methodology

Faculty members in health care fields generally do not receive formal training to acquire teaching skills. This course will be beneficial for professional students who have the interest in perusing an academic/teaching career. This course focuses on teaching and facilitating skills, and teaching competencies to prepare participants to be effective teachers in the future. Participants will also learn various types of student learning and assessment methods. This course will also inform participants concerning ethics and diversity in higher education, which enables them to interact with and teach diverse students appropriately.

For the participants interested in perusing faculty appointments, this course will enable an appreciation that education is an imperative part of people's lives. In order for students to attain quality education and learn thoroughly, they must have effective teachers. This course will help prepare students to fulfill that role.

### 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 JMP to perform statistical processing; therefore, students must have basic skills in the use of JMP.

### 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 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 7700—Evaluation, Presentation, and Publication of Clinical Research**

This course prepares the student to effectively ask an appropriate question, organize and design a presentation, and critically analyze and disseminate clinical or basic research information. The course is composed of online lectures, discussions, and independent practice. Initially, emphasis is placed on the factors necessary to make scientific presentations on topics within vision science. Appropriate scientific publications are reviewed and critiqued. Students develop the ability to convey scientific information in a manner suitable for publication.

#### **CVR 7800—Ethical and Legal Issues in Human Subjects Research**

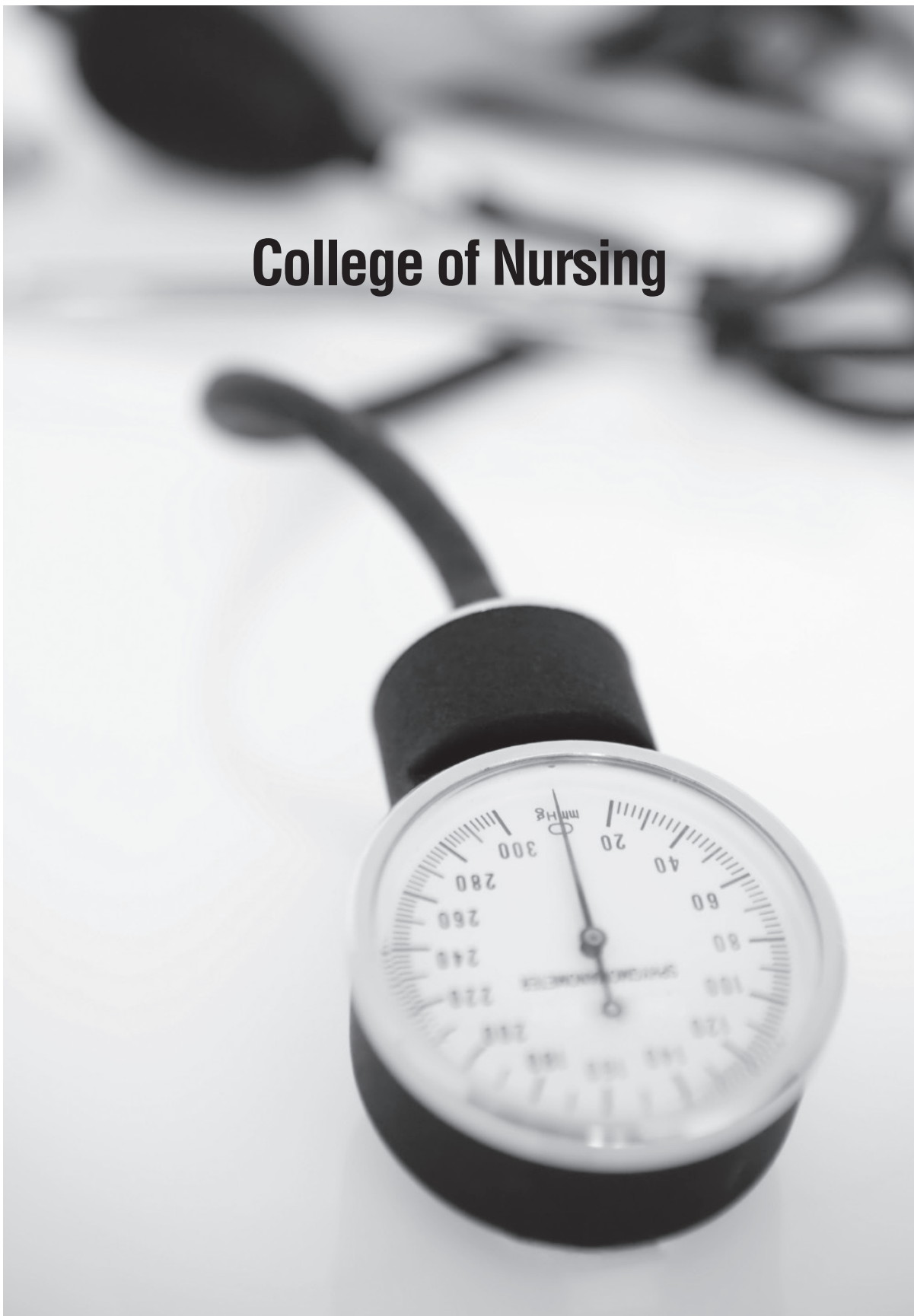
This course introduces the ethical and regulatory aspects involved in human subject research. Students will gain understanding of the history that has shaped the rules that today govern research with human subjects, as well as be introduced to issues that researchers in the 21st century face. Students 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.

# College of Nursing





# College of Nursing



Marcella M.  
Rutherford, Ph.D.,  
M.B.A., M.S.N.  
Dean

## Mission Statement

The mission of the Nova Southeastern University College of Nursing is to provide quality, professional undergraduate and graduate nursing education. We will prepare culturally sensitive and competent nursing leaders who have knowledge and skills that are relevant, futuristic, and responsive to rapidly changing health care trends. Courses are provided in an environment that fosters scholarly inquiry, professional values, interdisciplinary collaboration, and community partnerships.

## Accreditation

The Bachelor of Science in Nursing and Master of Science in Nursing programs at Nova Southeastern University are accredited by the Commission on Collegiate Nursing Education, One Dupont Circle, NW, Suite 530, Washington, DC 20036, 202-887-6791. The Doctor of Nursing Practice program's initial accreditation visit with CCNE is planned for 2014.

## Program Information

The 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 Education. The B.S.N. may be earned through an entry-level Bachelor of Science in Nursing program or an R.N. to B.S.N. or R.N. to M.S.N. completion program for registered nurses holding an associate's degree or diploma in nursing. The M.S.N. program offers three concentrations—nursing education, nursing informatics, and health systems 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). All programs focus on developing nursing professionals to assume leadership roles in the complex health care environment.

## College Administration

**Marcella Rutherford, Ph.D., M.B.A., M.S.N.**  
Dean, College of Nursing

**Barbara E. Barrett, D.N.P., B.B.A., A.R.N.P.**  
Associate Dean, Academic Affairs

**Gale R. Woolley, Ed.D., A.R.N.P.**  
Associate Dean, Entry-Level Program

**Linda Strommen, Ed.D., M.S.N., B.S.N.**  
Associate Dean, Operations

**Andra Hanlon, Ph.D., A.R.N.P., CPNP-PC**  
Associate Dean, Graduate Programs

**Theresa Brahim, D.N.P., A.R.N.P.**  
Program Director, Entry-Level Nursing Program—Miami

**Patricia Dittman, Ph.D., M.S.N., B.S.N.**  
Program Director, Nursing Graduate Programs

**Susan Holland, M.S.N., NEd., R.N.**  
Interim Program Director—Fort Myers

**Elizabeth Levine, Ph.D., M.S.N, R.N.**  
Program Director, R.N. to B.S.N./M.S.N. Programs

**Debbie McGregor, Ed.D., R.N.**  
Program Director, Entry-Level Nursing Program—  
Fort Lauderdale

**Mary Mites-Campbell, Ph.D., M.S.N., R.N.**  
Interim Program Director, Advanced Practice  
Registered Nurse, Family Nurse Practitioner Program

**C. Christine Orton, Ph.D., A.R.N.P.**  
Interim Program Director, Doctor of Nursing  
Practice Program

## Undergraduate Courses of Study

### Option 1: Entry-Level B.S.N. Program

The entry-level program is designed for students who are seeking initial licensure as a registered nurse. Upon completion of 121 credits, the student is awarded a Bachelor of Science in Nursing (B.S.N.) degree and is eligible to apply to sit for the national licensure examination for registered nurses (NCLEX-RN). The entry-level nursing curriculum is completed following a minimum of 39 semester hours (or equivalent quarter hours) of specific undergraduate coursework. This

coursework may be completed at a community college or another university. Upon completion of the 39 semester hours, the student may apply to the nursing program.

The remainder of the 82 semester hours may be completed within seven terms (three terms per year) in the nursing program. Each term is a combination of didactic and clinical courses. The department requires matriculants to complete the entire program. Individual requests for advanced placement, transfer of credit, or credit for experiential learning will be reviewed in line with college requirements.

### **Option 2: R.N. to B.S.N. Program**

This option is designed for the registered nurse holding an associate's degree or diploma from a hospital-based nursing school licensed in the United States who now wants to obtain a B.S.N. If the applicant does not hold this license, the license must be approved by the program director and dean of the College of Nursing. Failure to comply will result in the accepted student's inability to continue with his or her coursework. Students may complete the general education requirements in conjunction with the R.N. to B.S.N. program. Students are awarded 61 semester hours of prior learning credits. Individual requests for advanced placement, transfer of credit, or credit for experiential learning will be reviewed in line with college requirements. Although the program may be completed in as little as four semesters, some students elect to spread the coursework out over a longer period of time.

### **Option 3: R.N. to M.S.N. Program**

This option is designed to meet the educational needs of the registered nurse who wants to accelerate the process in obtaining a B.S.N. and an M.S.N. Registered nurses may complete the first three terms through our online option or through the combination on-site and online option offered at the main campus in Fort Lauderdale or the regional campuses in Fort Myers and Orlando. Registered nurses receive 61 prior learning credits for their licensure. Upon evaluation of transcripts, additional transfer credits for general education courses completed at a college or university may be awarded. Completion of all general education courses is a requirement prior to beginning the M.S.N. courses. Students will transition to the M.S.N. courses after meeting the requirements for the M.S.N. program.

## **Entry-Level B.S.N. Program**

### **Program Goals**

The goal of the Nova Southeastern University Bachelor of Science in Nursing degree program is to graduate nurses prepared to

- integrate knowledge, theory, and evidence-based research into current nursing practice
- assume a leadership role as the registered professional nurse in health care systems and diverse community settings
- engage in activities for continued professional growth

### **Admissions Requirements for Fall 2014 and Winter 2015 Entering Classes**

Applicants must have completed a minimum of 39 semester hours (or equivalent quarter hours) of specific undergraduate coursework from a regionally accredited college or university prior to matriculation into the nursing program.

#### **Undergraduate Course Prerequisites**

- Written communication (6 semester hours)
- Social and behavioral sciences (6 semester hours)—One PSYC and Human Growth and Development
- Arts and humanities (6 semester hours)—Any ARTS, HIST, HUMN, LITR, PHIL, THEA, FILM, MUSC, DANC, WRIT, or foreign language
- Mathematics (6 semester hours)—MATH 1040 or above and Statistics
- Natural/physical sciences (12 semester hours)—Anatomy and physiology, at least 6 semester hours with lab (5 semester hours of anatomy and physiology with 3 semester hours of biology may be substituted); chemistry, at least 3 semester hours; microbiology, at least 3 semester hours
- Nutrition (3 semester hours)

#### **Other Requirements**

- completion of each prerequisite course with a grade of C or higher
- overall GPA and science GPA of 3.0 or higher for fall 2014 and winter 2015 entering classes
- no C-s, Ds, Fs, or Ws in required natural/physical science courses
- attendance at a personal interview conducted by nursing faculty members

Applicants selected for an interview will be required to complete a standardized entrance examination administered by the College of Nursing.



Applicants who have a pattern of *W*s on their transcripts may not be considered for admission.

If, at any time, you wish to withdraw your application from consideration, please do so in writing. Direct this correspondence to

Nova Southeastern University  
College of Nursing, Office of Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

NOTE: An overall GPA of 3.0 or higher and a science GPA of 2.75 or higher will be required for the fall 2015 and winter 2016 entering classes.

### Application Procedures for Fall 2014 and Winter 2015 Entering Classes

- All applicants must submit an online application to Nova Southeastern University, along with a \$50, nonrefundable application fee.
- Submit your completed application online at [www.nova.edu/nursing](http://www.nova.edu/nursing).
- Your completed application must be received no later than May 1 in order to be considered for admission for the August entering class and November 1 to be considered for the January class.
- If, at any time, you wish to withdraw your application from consideration, please do so in writing. Direct this correspondence to

Nova Southeastern University  
College of Nursing, Office of Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

- One official copy of your academic transcript must be sent directly from each college, university, or professional school that you have attended to the NSU EPS.

Nova Southeastern University  
Enrollment Processing Services  
College of Nursing  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Transcripts must be official. The school seal must be imprinted or embossed on the transcript, which should be forwarded in a sealed envelope directly from the institution in order to be considered an official transcript. Photocopies and facsimiles will not be accepted. A transcript is required for each college, university, or professional school attended, even though transfer credit from one college may appear on another college's transcript.

- 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Nursing, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

- Applicants meeting minimum admissions criteria will be scheduled for a required on-campus interview.

### Tuition and Fees

- Tuition for the 2014–2015 academic year: \$25,465 for Florida residents and \$26,415 for out-of-state students. Tuition for the 2015–2016 academic year will subsequently be posted on our Web site ([www.nova.edu/nursing/entrylevel](http://www.nova.edu/nursing/entrylevel)).
- A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.
- Acceptance fee is \$200. 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 by registration day, but is not refundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.
- Lab fee is \$150. This is due on or before registration.
- Students may incur additional costs in the program, including testing fees, uniforms, lab coat, transportation, and FSNA dues.

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, 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 avail themselves of the hospitalization insurance plan obtainable through the university.

Students are responsible for their own transportation to clinical agencies and other program-related off-campus locations.

The Office of Student Financial Assistance and the Nursing Department are eager to assist you in exploring all the grants and loans currently available for nursing students. Do not hesitate to ask for this help.

## Entry-Level B.S.N. Curriculum Outline

### Undergraduate Course Prerequisites

General Education	Semester Hours
Written composition—Any college-level written composition course	6
Social and behavioral sciences—One PSYC and Life Span Human Growth and Development	6
Arts and humanities—Any ARTS, HIST, HUMN, LITR, PHIL, THEA, FILM, MUSC, DANC, WRIT, or foreign language	6
Natural/physical sciences—Anatomy and physiology, at least 6 semester hours with lab (5 semester hours of anatomy and physiology with 3 semester hours of biology may be substituted); chemistry, at least 3 semester hours; microbiology, at least 3 semester hours	12
Nutrition—2000 level or higher	3
Mathematics—MATH 1040 or above and Statistics	6
<b>Total General Education Credits</b>	<b>39</b>

General education courses may be completed at any accredited community college or university. Dual enrollment students should follow the Farquhar College of Arts and Sciences Curriculum Plan for Nursing Dual Enrollment Students.

Nursing Courses	Semester Hours
PHS 4904 Advanced Anatomy and Physiology for Health Professions	4
BHS 3110 Health Care Ethics	3
NUR 3002 Introduction to Baccalaureate Nursing Education	3
NUR 3029 Introduction Foundations of Health Assessment	3
NUR 3032 Foundations of Pathophysiology	3
NUR 3050 Research Methodologies and Evidence-Based Practice	3
NUR 3130 Foundations of Professional Nursing Practice	6

NUR	3160	Introduction to Professional Nursing	3
NUR	4172	Nursing in Today's Health Care Environment	3
NUR	3005	Mathematical Applications for Nursing Practice	2
NUR	3131	Problem-Solving Strategies for Nursing Practice	1
NUR	3180	Primary Concepts of Adult Nursing I	6
NUR	3191	Pharmacological Basis for Nursing Interventions I	2
NUR	3192	Pharmacological Basis for Nursing Interventions II	2
NUR	4250	Concepts of Psychiatric-Mental Health Nursing	4
NUR	4020	The Nurse as a Leader and Manager	3
NUR	4030	The Business of Health Care	3
NUR	4110	Primary Concepts of Adult Health Nursing II	6
NUR	4120	Advanced Concepts of Adult Nursing	5
NUR	4130	Concepts of Maternal-Child Nursing and Families	5
NUR	4150	Population Nursing Practice	4
NUR	4160	Genetics for Nursing Practice	2
NUR	4180	Nursing Practicum	6

**Total Nursing Credits** 82

**Total Degree Requirements** 121

## Entry-Level B.S.N. Course Descriptions

### NUR 1999—Prior Learning in Nursing

This course number and prefix indicate award of lower-level undergraduate prior learning in nursing. This course is repeatable for up to 12 credits. (1–12 credits)

### NUR 3002—Introduction to Baccalaureate Nursing Education

This course is designed to introduce the novice nursing student to the discipline of nursing at the baccalaureate level. During the course, students will be introduced to the knowledge and skills essential for understanding the role of the baccalaureate nurse. Opportunities for scholarly writing and conducting library searches focused on using evidence to support nursing practice will be provided. Use of technology as a tool for learning and time management are additional skills that will be emphasized. The class will involve active learning in both individual and team activities. **Corequisites:** NUR 3005, NUR 3160, PHS 4904 (3 credits: 3 didactic/0 clinical)

### NUR 3005—Mathematical Applications for Nursing Practice

This course builds upon previously learned mathematical skills needed to calculate pharmacological dosages for safe medication administration in the clinical setting. Students are taught dimensional analysis as the appropriate clinical/critical reasoning method to ensure safety and quality when determining medication dosages for patients. Students are also taught how to calculate enteral and parenteral dosages. **Corequisites:** NUR 3002, NUR 3160, PHS 4904 (2 credits: 2 didactic/0 clinical)

### NUR 3029—Introduction to Foundations of Health Assessment

This course introduces the entry-level student to foundational health assessment skills, emphasizing data collection. Students will be expected to use principles based on the biological sciences to perform a holistic health assessment. Students will interpret pertinent data to make

the sound clinical judgments needed to deliver safe, quality, and effective nursing care. Students will demonstrate competency in communicating and documenting assessment findings. Integrity, compassion, and stewardship will be discussed as they relate to cultural awareness and legal and ethical issues that pertain to health assessment. **Prerequisites:** NUR 3160, PHS 4904; **Corequisites:** NUR 3032, NUR 3130 (3 credits: 3 didactic/0 lab)

#### **NUR 3032—Foundations of Pathophysiology**

This course introduces the entry-level student to concepts of pathophysiology based on principles from the biological sciences. Students will examine the phenomena that cause changes in physiological functioning. Specific system disorders will be investigated using current, evidence-based literature as a basis for health promotion. Students will utilize pathophysiological concepts as a basis for making sound clinical judgments needed to deliver safe, quality, and effective care. Ethnic, cultural, and other influences on health will be discussed. **Prerequisites:** NUR 3002, NUR 3005, NUR 3160, PHS 4904; **Corequisites:** NUR 3029, NUR 3130 (3 credits: 3 didactic/0 clinical)

#### **NUR 3050— Research Methodologies and Evidence-Based Practice**

This course prepares baccalaureate nursing students to become consumers of research. Students will be introduced to the research processes essential to providing evidence-based nursing care. Research designs will be discussed as a basis for critiquing the efficacy of selected research studies. Students will be introduced to the legal and ethical principles that guide the integrity of nursing research. The nurse's role in retrieval, appraisal, and synthesis of evidence in collaboration with members of the interprofessional team to improve patient outcomes will be addressed. **Corequisite:** NUR 4110 (3 credits: 3 didactic/0 clinical)

#### **NUR 3130—Foundations of Professional Nursing**

This course introduces entry-level students to the discipline of nursing in which they will provide holistic and compassionate care for diverse populations. Students will begin to develop the knowledge, skills, and attitudes needed to provide safe, quality, and effective nursing care. Students will start to use clinical/critical reasoning, communication, and assessment skills to care for patients across the health illness continuum, understanding the need for stewardship and integrity in this changing health care environment. The roles of provider of care, coordinator of care, advocate, and educator will be applied in the delivery of competent patient care. **Prerequisites:** NUR 3002, NUR 3005, NUR 3160, PHS 4904; **Corequisites:** NUR 3029, NUR 3032, NUR 3131 (6 credits: 3 didactic/3 clinical)

#### **NUR 3131—Problem-Solving Strategies for Nursing Practice**

This course introduces the new entry-level nursing student to problem solving and clinical/critical reasoning skills and

strategies needed for safe decision making in the delivery of nursing care. Using patient scenarios and/or case studies, students will apply the nursing process to determine safe, quality, and effective nursing care. **Prerequisites:** NUR 3002, NUR 3160, PHS 4904; **Corequisites:** NUR 3029, NUR 3032, NUR 3130 (1 credit: 1 didactic/0 clinical)

#### **NUR 3160—Introduction to Professional Nursing**

This course introduces the student to the roles of the professional nurse including provider of care, coordinator of care, advocate, educator, researcher, leader, and member of the profession. The history of nursing and how society views the nursing profession are discussed. The student is introduced to theories and quality measures that influence nursing practice and patient-centered care. Ethical and legal principles, sociocultural concepts, and political principles guiding the profession will also be addressed. **Corequisites:** NUR 3000, PHS 4904 (3 credits: 3 didactic/0 clinical)

#### **NUR 4172—Nursing in Today's Health Care Environment**

This course integrates contemporary trends in the present complex health care delivery system with professional nursing practice. Students will synthesize knowledge from previous courses to further investigate health care system quality, safety, evidenced-based practice, technology, and the professional nurse's role. The importance of collaborative relationships among interprofessional team members and their impact on quality and value-based care and patient safety will be analyzed. Students will further develop skills to address relevant legal, ethical, and regulatory issues. **Prerequisites:** NUR 4250, NUR 4020, NUR 4030, NUR 4120, NUR 4150; **Corequisite:** NUR 4180 (3 credits: 3 didactic/0 clinical)

#### **NUR 3180—Primary Concepts of Adult Nursing I**

This course introduces the entry-level student to the application of nursing concepts in order to provide holistic and compassionate care for patients who have specific disorders. Students will apply knowledge, skills, and attitudes needed to provide safe, quality, and effective nursing care. Students will continue to develop clinical/critical reasoning, communication, and assessment skills to care for patients across the health illness continuum, understanding the need for stewardship and integrity in this changing health care environment. Topics covered include gastrointestinal, endocrine, genitourinary, immunological, hematological, and oncological disorders. **Prerequisites:** NUR 3029, NUR 3032, NUR 3130, NUR 3131; **Corequisite:** NUR 3191 (6 credits: 3 didactic /3 clinical)

#### **NUR 3191—Pharmacological Basis for Nursing Interventions I**

This course introduces the entry-level student to pharmacologic concepts in order to provide safe and

effective care for patients who have specific disorders. The concepts of drug efficacy, pharmacokinetics, mechanism of action, and medication interactions will be introduced as a basis for providing safe, quality, and effective nursing care. Students will apply dimensional analysis to calculate safe medication dosages. Students will begin to develop clinical/critical reasoning as related to the nurse's role in pharmacotherapy. Topics covered include medications used in the treatment of gastrointestinal, endocrine, immune, and oncological disorders and those used in the treatment of pain, anxiety, and depression. **Prerequisites:** NUR 3029, NUR 3130, NUR 3131, NUR 3032; **Corequisite:** NUR 3180 (2 credits: 2 didactic/0 clinical)

#### **NUR 3192—Pharmacological Basis for Nursing Interventions II**

This course provides opportunities for the entry-level student to integrate pharmacologic concepts in order to provide safe and effective care for patients who have specific disorders. Students will apply dimensional analysis to calculate safe medication dosages. The concepts of drug efficacy, pharmacokinetics, mechanism of action, and medication interactions will be examined as a basis for safe, quality, and effective nursing care. Students will continue to improve clinical/critical reasoning as related to the nurse's role in pharmacotherapy. Topics covered include medications used in the treatment of cardiovascular, peripheral vascular, respiratory, neurological, musculoskeletal, and sensory disorders. **Prerequisites:** NUR 3180, NUR 3191; **Corequisite:** NUR 4110 (2 credits: 2 didactic/0 clinical)

#### **NUR 4250—Concepts of Psychiatric-Mental Health Nursing**

This course applies theories and concepts from liberal education and evidence-based practice to provide nursing care for diverse populations who have specific psychiatric disorders. The focus is on developing communication skills that facilitate a therapeutic nurse-patient relationship based on trust and integrity. Students will use the nursing process to create strategies that reduce symptoms, support mental health and wellness, and assist patients in developing adaptive behaviors. Legal issues pertaining to the safety, quality, and competency of care of the mentally ill will be examined. Students will provide holistic, compassionate, and ethical care through acts of stewardship. In collaboration with members of the interprofessional team, students will also reflect on their own behaviors and methods of communication. The course will include both a clinical and didactic component. **Prerequisites:** NUR 3029, NUR 3032, NUR 3130, NUR 4110, NUR 4130; **Corequisite:** NUR 4150 (4 credits: 3 didactic/1 clinical)

#### **NUR 4020—The Nurse as Leader and Manager**

This course is designed to assist the baccalaureate nursing student in applying leadership and management theories,

concepts, and skills. Principles of stewardship, prioritization, delegation, quality improvement, patient safety, and evidence-based practice will be discussed. Students will examine the basic concepts of an organizational structure, mission, vision, philosophy, and core values as they relate to individual ethics and values. Students will investigate power, accountability, conflict management, and team-building within an interprofessional team. Legal, ethical, and political issues that impact quality and safety in the delivery of compassionate and competent patient care will be analyzed. **Prerequisite:** NUR 3180; **Corequisite:** NUR 4110 (3 credits: 3 didactic/0 clinical)

#### **NUR 4030—The Business of Health Care**

This course focuses on the financial environments of health care systems and how they relate to today's professional nursing roles in leadership, management, and patient-centered care, incorporating the values of stewardship, integrity, and competence. Students will analyze the principles of financial management, health care reimbursement, regulatory processes, health care policy, and health care reform related to current nursing practice. This course will assist the student in differentiating the concepts of cost and revenue, accounting vocabulary, budgeting, human resource management, financial processes and functions, and reports commonly utilized in health care systems. Emphasis will be placed on the political and economic forces that influence the development of health policy and professional nursing practice. Students will assess how financial management integrates with safety, information technology, patient-centered care, interprofessional teams, quality, and evidence-based practice. **Prerequisites:** NUR 3180, NUR 4010 (3 credits: 3 didactic/0 clinical)

#### **NUR 4110—Primary Concepts of Adult Nursing II**

This course provides opportunities for the entry-level student to integrate nursing concepts in order to provide holistic and compassionate care for patients who have specific disorders. Students will integrate knowledge, skills, and attitudes needed to provide safe, quality, and effective nursing care. Students will continue to improve clinical/critical reasoning, communication, and assessment skills to care for patients across the health illness continuum understanding the need for stewardship and integrity in this changing health care environment. Topics covered include cardiovascular, peripheral vascular, respiratory, neurological, musculoskeletal, and sensory disorders. **Prerequisites:** NUR 3180, NUR 3191; **Corequisite:** NUR 3192 (6 credits: 3 didactic/3 clinical)

#### **NUR 4120—Advanced Concepts of Adult Nursing**

This course provides opportunities for the entry-level student to synthesize nursing concepts in order to create and manage holistic and compassionate care for patients who have complex needs. Students will incorporate knowledge, skills, and attitudes needed to provide safe,

quality, and effective nursing care to patients who have multiple system disorders. Students will apply clinical/critical reasoning, communication, and assessment skills to care for patients across the health illness continuum, understanding the need for stewardship and integrity in this changing health care environment. Legal and ethical issues pertaining to patients who have complex, multisystem health care needs will be analyzed. **Prerequisites:** NUR 4250, NUR 4030, NUR 4110, NUR 4150 (5 credits: 3 didactic/2 clinical)

#### **NUR 4130—Concepts of Maternal-Child Nursing and Families**

This course integrates developmental theories, theories from the biological and social sciences, family nursing theory, and evidence-based practice in order to provide holistic and compassionate care for childbearing and child-rearing families. Health promotion and risk reduction, contemporary trends, social justice issues, and legal and ethical issues will be addressed. Students will apply knowledge, skills, and attitudes needed to provide safe, quality, and effective nursing care. Students will apply clinical/critical reasoning, communication, and assessment skills to care for patients across the health illness continuum and will examine the need for stewardship and integrity in this changing health care environment. Topics covered include care of the members of childbearing and child-rearing families and specific disorders in these populations. **Prerequisites:** NUR 3192, NUR 4110; **Corequisite:** NUR 4160 (5 credits: 3 didactic/2 clinical)

#### **NUR 4150—Population Nursing Practice**

This course provides the foundation for population-oriented nursing practice and focuses on the process of conceptualizing individuals, aggregates, and communities as a single entity. Students are introduced to epidemiological theories and concepts that are relevant in planning and implementing primary, secondary, and tertiary levels of prevention for populations within their own environments. Students will provide stewardship to populations of diverse cultures through community empowerment, so that they can access health care and promote healthy behaviors. Communication, negotiation, and clinical/critical reasoning skills will be practiced when collaborating with the targeted population, the interprofessional health care team, and the community stakeholders. Principles of evidence-based practice will be utilized when implementing the nursing process within the population. Students will examine the legislative and regulatory processes relevant to the provision of safe, quality health care. **Prerequisites:** NUR 3050, NUR 4110, NUR 4130; **Corequisite:** NUR 4250 (4 credits: 3 didactic/1 practicum)

#### **NUR 4160—Genetics for Nursing Practice**

This course will focus on providing students with a fundamental understanding of human genetics and its role in diagnosis, disease management, risk reduction, and health promotion. Students will learn ways to assess protective and predictive genetic factors, which influence the health of individuals, families, groups, communities, and populations, in order to develop a basis for competent nursing care. Students will apply knowledge of inheritance and immunogenetics in predicting the possible effect of genetics on disease development. This course will also address the ethical, social, political, and economic impact of selected genetic diseases, DNA-based genetic diagnoses, and gene therapy. **Prerequisites:** NUR 3192, NUR 4110, PHS 4904; **Corequisite:** NUR 4130 (2 credits: 2 didactic/0 clinical)

#### **NUR 4180—Nursing Practicum**

This seminar/practicum course synthesizes all previous knowledge as a foundation for implementing holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical care, and nursing management. Students will provide competent, compassionate care to diverse patient and family populations across the health illness continuum, across the life span, and in a variety of health care settings. Students will incorporate current evidence-based research in delivering safe, quality patient care. The student will work with a registered nurse preceptor and apply leadership skills in delegating, supervising, and collaborating with other members of the interprofessional health care team. Students will demonstrate stewardship and integrity when providing patient care in this dynamic health care environment. **Prerequisite:** Completion of all prior clinical and didactic courses; **Corequisite:** NUR 4172 (6 credits: 2 didactic/4 clinical)

#### **NPHS 4904—Advanced Anatomy and Physiology for Health Professions**

This course is a survey course of human physiology and functional anatomy. The physiology portion of the course is intended to provide nursing students with an understanding of the basic physio-chemical concepts and physiological principles underlying the development, maintenance, and propagation of life. Topics covered include basic examinations of cellular processes; membrane mechanisms; and a system-based approach to physiological concepts specific to the nervous, muscular, respiratory, endocrine, gastrointestinal, cardiovascular, immune, renal, and reproductive systems. **Corequisites:** NUR 3002, NUR 3005 (4 credits: 3 didactic/1 lab)

#### **Nursing Elective**

Undergraduate nursing electives may be offered at the discretion of the department.

## R.N. to B.S.N. Program

### Admissions Requirements for Fall 2014 and Winter 2015 Entering Classes

- graduation from a regionally accredited college or university and a nursing program accredited by the Accreditation Commission for Education in Nursing (formerly National League for Nursing Accrediting Commission, NLNAC) or the Commission on Collegiate Nursing Education (CCNE)

Applicants who graduated from a diploma program will be reviewed on an individual basis.

- proof of current, active, unencumbered United States R.N. license (**Students residing in the state of Florida must hold an active, unencumbered Florida nursing license.**)

Licensure must remain current throughout the program. Students who do not hold a United States (U.S.) nursing license must receive prior approval from the program director and College of Nursing dean for admission into the program.

- 36 semester hours of undergraduate general education courses (as listed on the following page) passed with a grade of C (2.0) or higher (Please note that courses beginning with 00 are not considered college level.)

### Application Procedures for Fall 2014 and Winter 2015 Entering Classes

- Applicants must submit a completed application form to Nova Southeastern University, along with a \$50, nonrefundable application fee. Send your completed application to

Nova Southeastern University  
Enrollment Processing Services  
College of Nursing  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

- The College of Nursing has rolling admissions for the R.N. to B.S.N. program. Candidates must submit all applications and transcripts by July 16 for priority consideration for the August entering class and by December 10 for priority consideration for the January entering class. Applications are accepted year round for R.N. to B.S.N. entering classes.
- If, at any time, you wish to withdraw your application from consideration, please do so in writing.

Direct this correspondence to

Nova Southeastern University  
College of Nursing  
Office of Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

- Proof of current registered nurse (R.N.) licensure is required. Licensure must remain current throughout the program.

- One official copy of your academic transcript must be sent directly from each college, university, or professional school that you have attended to NSU's EPS. Transcripts must be official. The school seal must be imprinted or embossed on the transcript, which should be forwarded in a sealed envelope, directly from the institution, in order to be considered an official transcript. Photocopies and facsimiles will not be accepted. A transcript is required for each college, university, or professional school attended, even though transfer credit from one college may appear on another college's transcript.

- 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)

- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)

- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Nursing Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

### Tuition and Fees

Tuition for the R.N. to B.S.N. track for academic year 2014–2015 is \$395 per credit hour. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/frntobsn](http://www.nova.edu/nursing/frntobsn)). All tuition and fee amounts are subject to change by the board of trustees without notice. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.

There are a number of national, Florida, and hospital grants available for the R.N. student. Additionally, student loan interest for nursing students is lower than for students seeking other degrees. The financial aid office and the

College of Nursing are eager to assist you in exploring all possible financial aid options. Please do not hesitate to ask for this help.

## R.N. to B.S.N. Curriculum Outline

### Undergraduate Course Requirements

General Education		Semester Hours
Written composition—Any college-level written composition course		6
Social and behavioral sciences—One PSYC and Life Span Human Growth and Development		6
Arts and humanities—Any ARTS, HIST, HUMN, LITR, PHIL, THEA, FILM, MUSC, DANC, WRIT, or foreign language		6
Natural/physical sciences—Credit with R.N. license		12
Mathematics—MATH 1040 or above and Statistics		6
<b>Total General Education Credits</b>		<b>36</b>

Cognate Courses			Semester Hours
PHS	4904	Advanced Anatomy and Physiology for Health Professions	4*
NUT	3000	Nutrition for the Health Professional	3*
BHS	3110	Health Care Ethics	3
<b>Total Cognate Credits</b>			<b>10</b>

Nursing Courses			Semester Hours
NUR	3000	Transition to Baccalaureate Nursing Education for Registered Nurses	3
NUR	3013	Transition to Professional Nursing	3
NUR	3031	Pathophysiology	3
NUR	3030	Health Assessment	3
NUR	3020	Theoretical Foundations of Professional Nursing Practice	3
NUR	3051	Introduction to Nursing Research	3
NUR	4021	Transformational Nursing Leadership	3
NUR	4031	The Business of Health Care in Complex Systems	3



NUR	4151	Population Health: Promotion, Prevention, and Disease Management	4
NUR	4161	Genetic Concepts	2
NUR	4171	Nursing and Health Care Trends	3
<b>Total Nursing Credits Completed at NSU</b>			<b>33</b>
<b>Prior Learning Nursing Credits</b>			<b>42*</b>
<b>Total Degree Requirements</b>			<b>121</b>

General education courses may be completed at any accredited community college or university prior to admission to NSU. Once admitted, general education courses can be CLEP'd within the first three semesters or taken as online courses at NSU. Advisers will work with students on completing a course sequence plan and CLEP'ing. General education CLEP's not completed within the first three semesters must be taken at NSU.

Cognate and nursing courses must be completed at NSU.

\*Credit with R.N. license

## R.N. to B.S.N. Course Descriptions

### NUR 3000—Transition to Baccalaureate Nursing Education for Registered Nurses

This course is designed to assist the registered nurse as an adult learner to make the transition to the university setting and the role of the nursing student. Students will be introduced to computer skills that will facilitate success in achieving their educational goals at NSU and will receive explanations of how the application of these skills can be used in nursing practice. These computer skills will include foundational concepts of information technology, Microsoft Office, and how to access the NSU online library databases and resources to support evidence-based practice. In addition, students will be introduced to the concepts of the American Psychological Association (APA) and scholarly writing. Emphasis is placed on the development of the knowledge and competencies in computer technology that are necessary for registered nurses in education and health care. The class will involve active participation in cooperative group activities as well as individualized activities. (3 credits)

### NUR 3013—Transition to Professional Nursing

This course focuses on the role transition to professional nurse as provider of care, manager of care, and member of the profession. Students will explore the history of nursing and how society views the nursing profession. Ethical and legal principles guiding the nursing profession are introduced. (3 credits)

### NUR 3030—Health Assessment

This course emphasizes the knowledge, skills, and competencies necessary to complete a health assessment for clients across the life span. It analyzes the concepts of health assessment methodology, which include interviewing, history taking, and physical assessment. Students will be expected to utilize assessment skills in identifying pertinent data as it relates to evidence-based health promotion and health education strategies. (3 credits)

### NUR 3020—Theoretical Foundations of Professional Nursing Practice

This course focuses on the practicing nurse's acquisition, evaluation, utilization, and interpretation of nursing theories as a foundation for patient-centered care. In addition, nursing practice knowledge will be derived from the interpretation and application of selected theories from other disciplines. (3 credits)

### NUR 3031—Pathophysiology

This course focuses on the pathogenesis of selected diseases leading to alterations of body structure and functions across the life span. This is emphasized through case study review that includes discussing and applying cell structure, function, and genetic control and its impact on the disease process. The student will integrate and apply pathophysiological concepts to client care in the development of primary, secondary, and tertiary

interventions to attain, maintain, and retain the health state. Contemporary treatment, legal and ethical issues, and health promotion concepts pertaining to pathophysiological disorders will be explored. (3 credits)

#### **NUR 3051—Introduction to Nursing Research**

This course introduces essential concepts of nursing research and evidence-based practice. Students will review the scientific merit of research methods with an emphasis on implication and application for evidence-based nursing practice. Practicing registered nurses will build upon existing knowledge and skills related to research to improve patient outcomes, nursing practice, and interprofessional collaboration. Students will also examine the contemporary trends and legal and ethical issues related to the research process. (3 credits)

#### **NUR 4171—Nursing and Health Care Trends**

This course explores contemporary trends in health care delivery systems and professional nursing practice. Students will integrate knowledge from previous courses, further exploring health care system quality and safety, evidenced-based practice, technology, informatics, and the nurse's role in today's health care delivery system. This course examines the relationships between quality of care, cost of care, and safety, as well as the regulatory effects on patient care and cost. Students will develop skills to address relevant issues within today's health care delivery system. Trends in health care informatics are explored and the effects of nursing informatics on communication and safety will be analyzed. (3 credits)

#### **NUR 4021—Transformational Nursing Leadership**

This course focuses on evidence-based leadership and management skills and competencies needed by professional nurses to be full partners and work productively in interprofessional teams, facilitating the transformation of complex health care systems. Students will analyze current best practices related to leadership roles; organizational communications; team dynamics in learning organizations; quality improvement; safe, patient-centered care; and the role of nursing leadership and how it relates to information systems. The course will assist students in differentiation of the concepts of contemporary trends in leadership and management theories, development of self, and communication skills necessary to influence behaviors. Emphasis will be placed on organizational systems structure and culture, change management, human resource management, and performance improvement in care delivery systems. Legal and ethical issues related to leadership and management will be analyzed. (3 credits)

#### **NUR 4031—The Business of Health Care in Complex Systems**

This course focuses on the financial environments of health care systems and how they relate to today's professional nursing roles in leadership, management, and patient-centered care. Students will analyze the principles of financial management, health care reimbursement, regulatory processes, health care policy, and health care reform related to current nursing practice. This course will assist the student in differentiating the concepts of cost and revenue; accounting vocabulary; budgeting; human resource management; and financial processes, functions, and reports commonly utilized in health care systems. Emphasis will be placed on the political and economic forces that influence the development of health policy and professional nursing practice. Students will assess how financial management integrates with safety, information technology, patient-centered care, interprofessional teams, quality, and evidence-based practice. (3 credits)

#### **NUR 4151—Population Health: Promotion, Prevention, and Disease Management**

This course is designed to prepare the practicing registered nurse to utilize evidenced-based health promotion, health prevention, and disease management as they apply to diverse individuals, families, groups, communities, and populations. Essential concepts of epidemiology, community-based assessment and evaluation, equity, vulnerable populations, and community resources are introduced. This course leads to an increased understanding of the relationships related to sociocultural contexts, ethics, and health/illness beliefs and practices. Students will demonstrate an ability to facilitate health care delivery to populations of diverse cultures using effective communication skills that include negotiation, problem-solving skills, and collaboration with various interprofessional health care teams. (4 credits)

#### **NUR 4161—Genetic Concepts**

This course will focus on building upon the previous experience and knowledge of the practicing registered nurse to develop a further understanding of genetics and its role in pathophysiology and the diagnosis and management of disease. Students will be introduced to basic concepts in human genetics that contribute to an understanding of nursing or related health care problems and will apply knowledge of inheritance and immunogenetics in predicting the possible effect of genetics on disease processes. This course will analyze the ethical, social, political, and economic impact of selected genetic diseases, DNA-based genetic diagnoses, and gene therapy. (2 credits)

#### **Nursing Elective**

Undergraduate nursing electives may be offered at the discretion of the department.

## R.N. to M.S.N. Program

### Admissions Requirements for Fall 2014 and Winter 2015 Entering Classes

Students would declare the major R.N. to M.S.N. upon application to the program. Initial admission criteria would be the current admissions requirements for the R.N. to B.S.N. degree.

- Applicants must have graduated from a regionally accredited college or university and a nursing program accredited by the Accreditation Commission for Education in Nursing (formerly National League for Nursing Accrediting Commission, NLNAC) or the Commission on Collegiate Nursing Education (CCNE).

Applicants who graduated from a diploma program will be reviewed on an individual basis.

- Applicants must have an overall GPA of 2.6 or higher on a 4.0 scale.
- Students must complete all prerequisite general education courses prior to application to the R.N. to M.S.N. program.
- Applicants must have proof of a current, active, unencumbered United States R.N. license (**Students residing in the state of Florida must hold an active, unencumbered Florida nursing license.**)
- The student will complete three terms of B.S.N. coursework. At the end of three terms, the student must meet the 3.0 or higher GPA admissions requirement for the M.S.N. The 3.0 GPA will be calculated from the B.S.N. courses completed at NSU. Any student enrolled in the R.N. to M.S.N. program who does not meet the 3.0 GPA requirements in the third term will be moved to the R.N. to B.S.N. program to complete the two additional terms for the B.S.N. The program directors for the R.N. to B.S.N. and the graduate program director will review applicants at the completion of term III. Written notification to the student regarding their progression into the M.S.N. program will be done by the nursing department.

The M.S.N. program at NSU offers additional education for B.S.N.-prepared nurses working or interested in the areas of nursing education, health systems leadership, nursing informatics, or advanced practice. The College of Nursing offers two M.S.N. degrees—a nonclinical/traditional program and a clinical/A.P.R.N. program. There are three distinct concentrations in the nonclinical/traditional M.S.N. program: education, nursing informatics,

and health systems leadership. Each one offers an in-depth education by faculty experts in these fields.

- The nursing education concentration is for nurses wishing to enhance their ability to transition to an academic or staff development position.
- The nursing informatics concentration is for nurses interested in the field of nursing computer technology and information science.
- The health systems leadership concentration is for nurses who desire a position of leadership within the unique organizational environment of health care.

The clinical/A.P.R.N. program prepares students to be family nurse practitioners (FNPs). There are specific requirements for R.N. to M.S.N. students to move to this program. Students must have

- an undergraduate GPA of 3.0. (The associate's degree in nursing GPA and the GPA received from coursework in the NSU program will be calculated as an overall GPA.)
- transcripts from all universities attended (repeated courses in the three Ps—pathophysiology, pharmacology, and physical assessment—will be reviewed, as will a history of multiple withdrawals and changes in universities)
- completed a college-level statistics course (from a mathematics department) with a grade of C or better
- a grade of B in each of the three Ps is required (If there is no pharmacology course on a transcript at the associate's or B.S.N. level, this may negatively impact the student's possibility of admission to the A.P.R.N. program.)
- three years active, current, R.N. clinical experience (direct patient care)
- two letters of recommendation (one from a faculty member who can attest to the potential success of the student in the A.P.R.N. program and one from the student's current employer)
- a CV/resume
- a current Florida R.N. license
- a letter from the R.N. to M.S.N. program director or adviser attesting that the student is in good standing and has good writing and communication skills that have been consistent throughout the program

## Application Procedures for Fall 2014 and Winter 2015 Entering Classes

- Applicants must submit completed application forms and a \$50, nonrefundable application fee and all admission forms to

Nova Southeastern University  
Enrollment Processing Services  
College of Nursing  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

- The office of admissions works on a rolling basis. R.N. to M.S.N. candidates must submit all applications and transcripts by July 21 for consideration for the August entering class and by December 1 for consideration for the January entering class. Applications are accepted year round for the R.N. to M.S.N. entering classes.
- If, at any time, you wish to withdraw your application from consideration, please do so in writing. Direct this correspondence to

Nova Southeastern University  
College of Nursing  
Office of Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

- All applicants who are accepted must submit official transcripts of all completed coursework to the NSU EPS, College of Nursing Admissions. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.
- 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)

- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)

- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Nursing, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

## Tuition and Fees

Tuition for the R.N. to M.S.N. track academic year 2014–2015 is \$395 per credit hour for courses at the baccalaureate degree (B.S.N.) level and \$650 per credit hour for courses at the master's degree (M.S.N.) level. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/rmtomsn](http://www.nova.edu/nursing/rmtomsn)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$1,050 is also required annually.

All tuition and fees are subject to change by the board of trustees without notice.

## R.N. to M.S.N. Curriculum Outline

General Education		Semester Hours
Written composition—Any college-level written composition course		6
Social and behavioral sciences—One PSYC and Life Span Human Growth and Development		6
Arts and humanities—Any ARTS, HIST, HUMN, LITR, PHIL, THEA, FILM, MUSC, DANC, WRIT, or foreign language		6
Natural/physical sciences—Credit with R.N. license		12*
Mathematics—MATH 1040 or above and Statistics		6
<b>Total General Education Credits</b>		<b>36</b>

Cognate Courses		Semester Hours	
PHS	4904	Advanced Anatomy and Physiology for Health Professions	4*
NUT	3000	Nutrition for the Health Professional	3*
<b>Total Cognate Credits</b>		<b>7</b>	

Nursing Courses		Semester Hours	
NUR	3000	Transition to Baccalaureate Nursing Education for Registered Nurses	3
NUR	3013	Transition to Professional Nursing	3
NUR	3030	Health Assessment	3
NUR	3031	Pathophysiology	3
NUR	4151	Population Health: Promotion, Prevention, and Disease Management	4
NUR	4161	Genetic Concepts	2
NUR	4171	Nursing and Health Care Trends	3
NUR	4175	Transition to Graduate Studies	9
NSG	5000	Advance Nurse Role	3
NSG	5101	Advanced Theory and Research	3
<b>Total Nursing Credits Completed at NSU</b>		<b>36</b>	

Term V		Semester Hours	
NSG	5111	Evidence and Practice	3
NSG	5270	Informatics and Data Analysis	3

Term VI		Semester Hours	
NSG	5130	Health Care Policy	3
Specialty Course 1		3	

Term VII	Semester Hours
Specialty Course 2	3
Specialty Course 3	3

Term VIII	Semester Hours
Specialty Course 4	3
Specialty Course 5	3

Term IX	Semester Hours
Specialty Course 6	6
Specialty Practicum	3

<b>Total B.S.N. Degree Requirements</b>	<b>121</b>
<b>Total M.S.N. Degree Requirements</b>	<b>30**</b>
<b>Total R.N. to M.S.N. Degree Requirements</b>	<b>151</b>

General education courses may be completed at any accredited community college or university. Cognate and nursing courses must be completed at NSU.

\*Credit with R.N. license

\*\*See M.S.N. Web page for course requirements.

## R.N. to M.S.N. Course Descriptions

### NUR 3000—Transition to Baccalaureate Nursing Education for Registered Nurses

This course is designed to assist the registered nurse as an adult learner to make the transition to the university setting and the role of the nursing student. Students will be introduced to computer skills that will facilitate success in achieving their educational goals at NSU and will receive explanations of how the application of these skills can be used in nursing practice. These computer skills will include foundational concepts of information technology, Microsoft Office, and how to access the NSU online library databases and resources to support evidence-based practice. In addition, students will be introduced to the concepts of the American Psychological Association (APA) and scholarly writing. Emphasis is placed on the development of the knowledge and competencies in

computer technology that are necessary for registered nurses in education and health care. The class will involve active participation in cooperative group activities as well as individualized activities. (3 credits)

### NUR 3013—Transition to Professional Nursing

This course focuses on the role transition to professional nurse as provider of care, manager of care, and member of the profession. Students will explore the history of nursing and how society views the nursing profession. Ethical and legal principles guiding the nursing profession are introduced. (3 credits)

### NUR 3030—Health Assessment

This course emphasizes the knowledge, skills, and competencies necessary to complete a health assessment for clients across the life span. It analyzes the concepts of health

assessment methodology, which include interviewing, history taking, and physical assessment. Students will be expected to utilize assessment skills in identifying pertinent data as it relates to evidence-based health promotion and health education strategies. (3 credits)

#### **NUR 3031—Pathophysiology**

This course focuses on the pathogenesis of selected diseases leading to alterations of body structure and functions across the life span. This is emphasized through case study review that includes discussing and applying cell structure, function, and genetic control and its impact on the disease process. The student will integrate and apply pathophysiological concepts to client care in the development of primary, secondary, and tertiary interventions to attain, maintain, and retain the health state. Contemporary treatment, legal and ethical issues, and health promotion concepts pertaining to pathophysiological disorders will be explored. (3 credits)

#### **NUR 4171—Nursing and Health Care Trends**

This course explores contemporary trends in health care delivery systems and professional nursing practice. Students will integrate knowledge from previous courses, further exploring health care system quality and safety, evidence-based practice, technology, informatics, and the nurse's role in today's health care delivery system. This course examines the relationships between quality of care, cost of care, and safety, as well as the regulatory effects on patient care and cost. Students will develop skills to address relevant issues within today's health care delivery system. Trends in health care informatics are explored and the effects of nursing informatics on communication and safety will be analyzed. (3 credits)

#### **NUR 4151—Population Health: Promotion, Prevention, and Disease Management**

This course is designed to prepare the practicing registered nurse to utilize evidenced-based health promotion, health prevention, and disease management as they apply to diverse individuals, families, groups, communities, and populations. Essential concepts of epidemiology, community-based assessment and evaluation, equity, vulnerable populations, and community resources are introduced. This course leads to an increased understanding of the relationships related to sociocultural contexts, ethics, and health/illness beliefs and practices. Students will demonstrate an ability to facilitate health care delivery to populations of diverse cultures using effective communication skills that include negotiation, problem-solving skills, and collaboration with various interprofessional health care teams. (4 credits)

#### **NUR 4161—Genetic Concepts**

This course will focus on building upon the previous experience and knowledge of the practicing registered nurse to develop a further understanding of genetics and its role in pathophysiology and the diagnosis and management of disease. Students will be introduced to basic concepts in human genetics that contribute to an understanding of nursing or related health care problems and will apply knowledge of inheritance and immunogenetics in predicting the possible effect of genetics on disease processes. This course will analyze the ethical, social, political, and economic impact of selected genetic diseases, DNA-based genetic diagnoses, and gene therapy. (2 credits)

#### **NUR 4175—Transition to Graduate Studies**

This course prepares the student for the transition into graduate nursing studies. It incorporates evidence-based research and various theories that may be utilized to enhance nursing practice. Students will be introduced to concepts and theories of leadership and business, relating these to nursing practice. Ethical and legal issues pertinent to graduate nurse practice environments will be explored. This course will provide an overview of the skills required to be successful as a leader in today's health care environment. (9 credits)

#### **NSG 5000—Advanced Nurse Role**

This course introduces the R.N. to the advanced nurse role as leader, collaborator, change agent, advocate for population health, and scholar. Theories of leadership, change, and decision making are explored and applied to health care delivery situations. Issues affecting population health, including communication, collaboration, information management, diversity, and ethics are examined. Students are introduced to the importance of scholarship in the advanced roles of nursing. (3 credits)

#### **NSG 5101—Theory and Research**

This course examines the relationship of theory to research and practice and the use of data as a basis for decision making. Various approaches to the research process are explored. Ethical considerations in research are presented. (3 credits)

## **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 fields. Students who hold Registered Nurse (R.N.) licensure who enter the M.S.N. program without a B.S.N. degree will be required to enroll in NSG 4900 (Bridge Course in Nursing Concepts) 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: education, health systems leadership, and nursing informatics.

The M.S.N. education concentration prepares nurses for career paths in staff development, vocational-technical, or community college education. This degree serves as a foundation for doctoral study for those interested in teaching in B.S.N. or higher programs. All students in M.S.N. concentrations take 15 semester hours of core foundational nursing courses online. An additional 21 semester hours of nursing education courses are required for this concentration, including 6 semester hours of nursing education practicum work applying what has been learned. These courses are taught online by nursing department faculty members with advanced preparation and extensive experience in higher education. Thus, a total of 36 semester hours are required to complete the M.S.N. education concentration; however, additional elective courses may be taken by students with special interests.

The M.S.N. health systems leadership concentration is designed for the future working nurse executive. This concentration allows the student to meet professional aspirations and organizational commitments to accreditation, magnet status, and personal goals. All students in M.S.N. concentrations take 15 semester hours of core foundational nursing courses online. An additional 21 semester hours of coursework in health systems leadership are taught by nursing department faculty members with advanced preparation and extensive experience in health systems and systems thinking. Thus, a total of 36 semester hours are required to complete the M.S.N. health systems leadership concentration.

The M.S.N. nursing informatics concentration is designed for those nurses interested in the field of nursing computer technology and information science. This concentration allows the student to examine the role of nursing informatics competencies and the professional standards on nursing practice. All students in M.S.N. concentrations take 15 semester hours of core foundational nursing courses online. An additional 21 semester hours of coursework in nursing informatics are taught by faculty members with advanced preparation and extensive experience in management

and health and nursing informatics. Thus, a total of 36 semester hours are required to complete the M.S.N. nursing informatics concentration.

### **Admissions Requirements for Fall 2014 and Winter 2015 Entering Classes**

Prospective students for the nonclinical Master of Science in Nursing are selected for admission based on application content, academic record, professional nursing licensure, and evaluation forms.

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 and a nursing degree that is accredited by the Accreditation Commission for Education in Nursing (ACEN) [formerly National League for Nursing Accrediting Commission (NLNAC)] or the Commission on Collegiate Nursing Education (CCNE)
- a B.S./B.A. GPA of 3.0 on a 4.0 scale
- current, active, unencumbered U.S. nursing licensure (If applicant does not hold this license, the applicant's license must be approved by the nursing department chair and the dean of the College of Nursing.)
- completion of a college-level statistics course (from a mathematics department) with a grade of C or better

Students who enter the M.S.N. program without a B.S.N. will be required to enroll in NSG 4900 (Bridge Course in Nursing Concepts) in the first semester of admission to the M.S.N. program. This course is only offered in the fall term.

### **Application Procedures for Fall 2014 and Winter 2015 Entering Classes**

Submit all applications and transcripts by August 1 for consideration for the August entering class and by December 1 for consideration for the January entering class.

1. send signed application form, a writing sample, two evaluation (reference) forms, and a nonrefundable application fee of \$50 to

Nova Southeastern University  
Enrollment Processing Services  
College of Nursing, Office of Admissions  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

2. have official transcripts from each college and university attended sent directly to the EPS from the school attended
3. submit proof of current, active, Florida professional nursing (R.N.) licensure from the jurisdiction of the practicum (Licensure must remain current throughout the program.)



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  
Bowling Green Station  
P.O. Box 5087  
New York, NY 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Nursing Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

### **Tuition and Fees**

Tuition for academic year 2014–2015 is \$650 per credit hour. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/msn](http://www.nova.edu/nursing/msn)). An NSU student services fee of \$1,050 is required annually. A Health Professions Division general access fee of \$145 is also required each year. All tuition charges and fees are subject to change by the board of trustees without notice.

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 on registration day, but is nonrefundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.

### **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 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 must complete all core M.S.N. nursing courses prior to enrolling in specialty nursing courses.

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 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 an 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, health systems leadership, and nursing informatics) or 52 semester hours (for the family nurse practitioner program)
- 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

## Graduate Nursing Program Master of Science in Nursing (M.S.N.) Curriculum Outline

Core Courses			Semester Hours
NSG	5000	Advanced Nurse Role	3
NSG	5101	Theory and Research	3
NSG	5111	Evidence and Practice	3
NSG	5270	Information Management and Data Analysis	3
NSG	5130	Health Care Policy	3
<b>Total Core Credits</b>			<b>15</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. 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 1: Principles of Evaluation	3
NSG	5390	Educational Concepts 2: Technology	3
NSG	5345	Foundations for Clinical Decision Making	6
NSG	5360	Nurse Educator Practicum	3
<b>Total Education Credits</b>			<b>21</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. Health Systems Leadership concentration:

M.S.N. Health Systems 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	5470	Business and Economics of Health Care	3
NSG	5490	Health Systems Leadership Nursing Practicum I	3
<b>Total Health Systems Leadership Credits</b>			<b>21</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. 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 Leadership Project Management in Health Care	3
MI	6410	Consumer Health Informatics	3
NSG	5600	Nursing Informatics Practicum	3
NSG	5610	Advanced Practice in Nursing Informatics	3
<b>Total Nursing Informatics Credits</b>			<b>21</b>

### Master of Science in Nursing—Advanced Practice Registered Nurse, Family Nurse Practitioner Program

The Master of Science in Nursing (M.S.N.)—Advanced Practice Registered Nurse (A.P.R.N.) program, preparing students to apply for certification as a Family Nurse Practitioner (FNP), is a face-to-face/hybrid degree program for graduates of Bachelor of Science programs with majors in nursing or other fields. Students who hold Registered Nurse (R.N.) licensure who enter the M.S.N. program without a B.S.N. degree will be required to enroll in NSG 4900 (Bridge Course in Nursing Concepts) in their first semester of admission to the M.S.N. program. This course is only offered in the fall term.

The M.S.N.—A.P.R.N., Family Nurse Practitioner program prepares nurses for careers as family nurse practitioners. The 15 credits for the M.S.N. core courses will be offered online. The FNP courses (37 credits) will be offered at the Palm Beach campus in a face-to-face/hybrid format.

#### Admissions Requirements for Fall 2014 and Winter 2015 Entering Classes

Prospective Master of Science in Nursing students are selected for admission based on application content, academic record, professional nursing licensure, and evaluation forms.

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 and a nursing degree that is accredited by the Accreditation Commission for Education in Nursing (ACEN) [formerly National League for Nursing Accrediting Commission (NLNAC)] or the Commission on Collegiate Nursing Education (CCNE)
- a B.S./B.A. GPA of 3.0 on a 4.0 scale\* (If the applicant has an associate's degree and a B.S.N. degree, the GPA of the two degrees will be averaged.)
- completion of a college-level statistics course (from a mathematics department) with a grade of C or better
- current, active state of Florida nursing licensure (This license must remain active, without discipline, throughout the program.)
- three years active, current R.N. clinical experience (direct patient care)
- a CV/resume

\*Students who are accepted to the M.S.N. program without a B.S.N. will be required to enroll in NSG 4900 (Bridge Course in Nursing Concepts) in the first semester of admission to the M.S.N. program. This course is only offered in the fall term.

## Application Procedures for Fall 2014 and Winter 2015 Entering Classes

1. Complete an online application at [www.nova.edu/nursing](http://www.nova.edu/nursing). The application will include a nonrefundable, \$50 application fee.
2. Submit all applications and transcripts by July 1 for consideration for the August entering class and by November 1 for consideration for the January entering class.
3. Submit official college or diploma-based transcripts of all completed coursework and all recommendation forms to the NSU Enrollment Processing Services. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent to the address following. Applications will not be reviewed until official transcripts are received.
4. submit proof of current, active, Florida professional nursing (R.N.) licensure from the jurisdiction of the practicum (Licensure must remain current throughout the program.)
5. 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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 Nursing, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

6. Two recommendation forms must be completed by individuals other than relatives. (It is suggested that one letter be from a faculty member who can attest to the potential success of the student in the A.P.R.N. program and one be from the current employer.) Have accurate contact information for these individuals ready to be entered online during the application process.

## Tuition and Fees

Tuition for academic year 2014–2015 is \$650 per credit hour. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/msn](http://www.nova.edu/nursing/msn)). An NSU student services fee of \$1,050 is required annually. A Health Professions Division general access fee of \$145 is also required each year. All tuition charges and fees are subject to change by the board of trustees without notice.

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 on registration day, but is nonrefundable in the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.

## 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 must complete all core M.S.N. nursing courses prior to enrolling in specialty nursing courses.

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 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.

- 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

### Graduation Requirements

To receive an 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, health systems leadership, and nursing informatics) or 52 semester hours (for the family nurse practitioner program)

## Master of Science in Nursing—Advanced Practice Registered Nurse, Family Nurse Practitioner Program Curriculum Outline

Core Courses			Semester Hours
NSG	5000	Advanced Nurse Role	3
NSG	5101	Theory and Research	3
NSG	5111	Evidence and Practice	3
NSG	5270	Information Management and Data Analysis	3
NSG	5130	Health Care Policy	3
<b>Total Core Credits</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:

M.S.N.—Advanced Practice Registered Nurse, FNP			Semester Hours
NSG	5502*‡	Advanced Health Assessment/ Differential Diagnosis	4 (3 theory/1 practicum)
NSG	5501‡	Suture Workshop	1
NSG	5510‡	Advanced Pharmacology	4
NSG	5522‡	Family Nursing: Theory, Research, and Practice	2
NSG	5531	Advanced Pathophysiology	4
NSG	5542*‡	Primary Care: Adult I	5 (3 theory/2 practicum)

NSG	5550*‡	Primary Care: Adult II	5 (3 theory/2 practicum)
NSG	5560*‡	Primary Care: Women	3 (2 theory/1 practicum)
NSG	5570‡	Mental Health Across the Life Span	2
NSG	5580*‡	Primary Care: Pediatrics/Family	3 (2 theory/1 practicum)
NSG	5590*‡	Family Nurse Practitioner Preceptorship	4 (2 theory/2 practicum)

**Total Advanced Practice Registered Nurse Credits 37**

\*60 practicum hours earned for each practicum semester hour taken

‡This course has prerequisites.

## Master of Science in Nursing Course Descriptions

### Education, Health Systems Leadership, Nursing Informatics, and Advanced Practice Registered Nurse Courses

#### NUR 4900—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 Role

This course introduces the R.N. to the advanced nurse role as leader, collaborator, change agent, advocate for population health, and scholar. Theories of leadership, change, and decision making are explored and applied to health care delivery situations. Issues affecting population health—including communication, collaboration, information management, diversity, and ethics—are examined. Students are introduced to the importance of scholarship in the advanced roles of nursing. **(3 semester hours)**

#### NSG 5101—Theory and Research

This course examines the relationship of theory to research and practice and the use of data as a basis for decision making. Various approaches to the research process and the use of evidence in nursing practice are explored. Ethical considerations in research are presented. **(3 semester hours)**

#### NSG 5111—Evidence and Practice

This course focuses on the development, acquisition, evaluation, and use of interdisciplinary evidence in nursing practice, while incorporating strategies for protection of human subjects. Methods of disseminating evidence to improve practice outcomes are explored. **(3 semester hours)**

#### NSG 5130—Health Care Policy

This course focuses on providing present and future nurse leaders with an understanding of health policy, finance, and legislation on health care. Political advocacy and the health policy change process will be explored. **(3 semester hours)**

#### NSG 5230—Nursing Decision Making in Complex Health Care Systems

This course provides the student with an opportunity to utilize models, processes, and theoretical frameworks of decision making as a foundation for leadership activities in complex health care systems. Internal and external factors impacting decision making will be explored and analyzed. The influence of systems thinking, trend analysis, data, evidence quality, and interpersonal collaboration is examined. Ethical considerations of decision making are evaluated. **(3 semester hours)**

**NSG 5240—Nursing Governance and Resource Management in Complex Health Systems**

This course focuses on the perspective of nursing governance from a global to a unit level. Governance models, human resource management, work environments, and best practices related to health systems leadership are explored. Self-governance models and human resource strategies in the practice environments are designed and applied. Ethical and legal issues related to governance and resource management are included. (3 semester hours)

**NSG 5250—Fiscal Management in Complex Health Systems**

This course focuses on fiscal management impacting nursing practice and health care delivery. Students will develop foundational knowledge applicable to fiscal management and develop strategies to improve decision making. Students will apply fiscal management principles to a current 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 focuses on the process of curriculum development. Accreditation standards, trends in professional nursing practice, and economic and policy issues are analyzed within the context of curriculum development and program evaluation. Selected nursing and educational theories, educational research, principles, and techniques of curriculum development are 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 basic concepts of health assessment, pathophysiology, and pharmacotherapeutics. Physiologic changes, clinical manifestations, and drug therapy are integrated. Emphasis is on critical analysis of collected assessment data to support clinical decision making. This course provides the educator with the knowledge used when teaching learners clinical decision making. (6 semester hours)

**NSG 5360—Nurse Educator Practicum**

This course provides an opportunity for students to analyze, synthesize, and utilize all prior courses in an educational environment. Students are mentored by preceptors who are experienced in educational roles in various settings. (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. Ethical considerations of instruction are included. (3 semester hours)

**NSG 5380—Educational Concepts I: Principals of Evaluation**

This course builds on the educational concepts introduced in NSG 5370. Students apply principles of evaluation to the learning outcomes developed in that course. Methods to assess and evaluate learning outcomes in various educational environments are explored. Evidence-based educational research that supports evaluation is explored. Legal and ethical concepts impacting evaluation are discussed. (3 semester hours)

**NSG 5390—Educational Concepts II: Technology**

This course assists students in synthesizing the educational concepts in the design and evaluation of courses and curricula. Instructional strategies related to the clinical setting are explored. Methods of evaluation of learning outcomes are developed. (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 5470—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—Health Systems Leadership Nursing Practicum**

This course provides an opportunity for the student to analyze, synthesize, and utilize all content from prior courses in a nursing leadership environment. Students are mentored by preceptors that are experienced in leadership roles in complex health systems. (3 semester hours)

**NSG 5502—Advanced Health Assessment/Differential Diagnosis**

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 prevention and population health are incorporated into the assessment process. Assessment criteria are appreciated as underpinnings of differential diagnoses and plans of care. (4 semester hours: 3 theory, 1 practicum)

**NSG 5501—Suture Workshop**

This course covers principles and techniques related to the management of lacerations and bite wounds. Topics include wound assessment, mechanism of injury, normal wound healing, cleansing and irrigation, instruments and suture materials, special anatomic sites, alternative closures, tetanus and antibiotic prophylaxis, and suture removal. There is an on-site practice lab for suturing. (1 semester hour)

**NSG 5510—Advanced Pharmacology I**

This course focuses on the use of pharmacotherapeutics across the life span. Medications used to treat and manage common illnesses and conditions are emphasized. Content includes indication, selection, adverse effects, and alternatives to medication therapy with the goal of the safe and effective prescription of pharmaceutical and alternative therapeutic agents for health maintenance, disease prevention, and management for individuals. The current health status, ethnic/racial origins, socioeconomic status, cultural/spiritual implications, gender, and changes that occur across the life span are addressed. Clinical decision-making, client education, and review of laws governing prescriptive authority for the advanced practice nurse are also emphasized. (4 semester hours)

**NSG 5522—Family Nursing: Theory, Research, and Practice**

This course examines the 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. (2 semester hours)

**NSG 5531—Advanced Pathophysiology I**

This course focuses on the pathophysiological concepts that serve as a primary component 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. (4 semester hours)

**NSG 5542—Primary Care: Adult I**

This course focuses on the development of the domains and competencies of the FNP providing evidence-based health care for culturally/spiritually diverse adults and their families in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the multidisciplinary management of routine, chronic, and acute health problems in this population. (5 semester hours: 3 theory, 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 interdisciplinary management of routine, chronic, and acute health problems in this population. (5 semester hours: 2 theory, 1 practicum)

**NSG 5560—Primary Care: 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. (3 semester hours: 2 theory, 1 practicum)

**NSG 5570—Mental Health Across the Life Span**

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. (2 semester hours)



**NSG 5580—Primary Care of Infants, Children, and Adolescents**

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. (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. (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. (3 semester hours)

**NSG 5610—Advanced Practice in Nursing Informatics**

This course provides students with the opportunity to complete an additional 50 hours of supervised practicum experience in order to be eligible to sit for the ANCC informatics certification examination. (3 semester hours)

**MI 5121—Information Systems Leadership and Project Management in Health Care**

This course introduces the fundamental principles of project management and leadership from an information technology perspective, with an emphasis on health care industry applications. These include project integration; health care leadership decision making; and the management of scope, time, cost, quality, human resources, communications, and risks. Discussion also includes project management software and organizational management aspects such as project planning, team building, organizational structure, control mechanisms, and developing strategies for the organization to adapt to change. (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. Database connectivity design (essential in data-driven Web development), database administration, XML, and data warehouse (support for decision-making) will also be introduced. Students will practice designing; developing; and implementing a test-relational, online, medical informatics database application (part of a recent federal research grant) through a comprehensive project that contains the above topics. (3 semester hours)

**MI 5204—Clinical Decision Support Systems**

With the increasing complexity of clinical medicine, clinical decision support systems have evolved to become essential cognitive prostheses for diagnostic and treatment purposes. Clinical decision support systems have been utilized in many areas of clinical medicine, nursing, pharmacy, health care administration, and research. This course introduces students to statistical and theoretical concepts underlying modern medical decision making, including Bayesian analysis. It then reviews the multiple methods for knowledge generation for CDSS systems. The course provides hands-on experience to students in performing Bayesian analysis of clinical problems and building and annotating computer-interpretable guidelines (CIGs). Current implementations of stand-alone and integrated CDSS will be evaluated. Techniques for planning and evaluation of CDSS implementation will be reviewed. Human factors, including work-flow integration and the ethical, legal, and regulatory aspects of CDSS use will be explored. (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**

This course provides an introduction to consumer health informatics and Web 2.0 applications used in health care. It explores the development of consumers as ePatients and tools such as patient-controlled electronic health records, as well as the fluid nature of Web 2.0 in medicine. 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 Doctor of Nursing Practice (D.N.P.) program at Nova Southeastern University (NSU) courses are offered entirely online. The curriculum builds on the foundation established in a master's degree program 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. The program utilizes a scholarly approach to nursing science and is considered a terminal degree for the discipline. Students engage in class work and practicum experiences that culminate in the D.N.P. capstone project. Faculty members work directly with students to achieve their individual professional nursing goals. Graduates are prepared to lead and engage in practical, clinically focused scholarship and evidence-based practice research utilization.

### Admissions Requirements

Admission to the D.N.P. requires

- a master's degree in nursing or a related field from a regionally accredited or internationally accredited school (The M.S.N. degree nursing program must be accredited by the National League of Nursing Accrediting Commission [NLNAC] or the Commission on Collegiate Nursing Education [CCNE].)
- a minimum master's degree GPA of 3.0 on a 4.0 scale
- current U.S. registered nurse licensure with no restrictions
- two reference forms from individuals (other than relatives) such as academic advisers, professors, clinical or nonclinical supervisors, or community associates
- a writing sample (instructions on following page)
- a CV/resume

### Transfer Credits

No more than 6 graduate credits may be transferred into the D.N.P. program from other Ph.D. in nursing or D.N.P. programs. Courses will be evaluated by the program director and the associate dean on an individual basis for credit toward the D.N.P. 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 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 a program may be dismissed with the second failure.

### Application Procedures for Winter and Fall 2015 Entering Classes

Beginning October 15, 2014, the D.N.P. program will be participating in the centralized application service NursingCAS.

1. The NursingCAS application information may be obtained

- online at [www.nursingcas.org](http://www.nursingcas.org)
- by calling NursingCAS at (617) 612-2880

The deadline to complete and submit the NursingCAS application will be July 15 for fall admission and December 1 for winter admission.

2. Send supporting documents to NursingCAS.
  - a. All official college transcripts from undergraduate, graduate, and professional institutions attended must be sent to NursingCAS directly from the institutions attended.  
  
Send all transcripts to  
  
NursingCAS  
P.O. Box 9201  
Watertown, Massachusetts 02471
  - 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  
Bowling Green Station  
P.O. Box 5087  
New York, New York 10274-5087  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
(305) 273-1338 fax  
[www.jsilny.com](http://www.jsilny.com)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.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. Two evaluations/references must be completed by individuals other than relatives (suggested sources are professors, academic advisers, clinical or nonclinical supervisors, or community associates) and sent directly to NursingCAS.
- d. Submit a writing sample (use APA 6th edition formatting, including headings for each section) directly to NursingCAS. Include the following information in your statement:

#### Doctor of Nursing Practice

- Discuss the differences and similarities between the D.N.P. and other doctoral degrees available to nurses. What influenced you to select the D.N.P.? (Refer to the AACN Web site.)
- Discuss the importance of evidence-based interventions as part of the D.N.P. curriculum.

#### Goals

- Discuss your personal and professional goals related to the D.N.P.
- What is your area of clinical specialization? Discuss your academic and work experience related to this specialization.

#### Personal Qualities

- Discuss the personal attributes that qualify you as an exceptional candidate for our program.

- e. Submit a current curriculum vitae/resume.
3. Once the NursingCAS application is completed, applicant will need to complete an NSU supplemental application, which is available online. The deadline to complete and submit the supplemental application will be August 1 for fall admission and December 10 for winter admission. The Office of Admissions works on a rolling basis. Applications are accepted year-round.
4. Submit official documentation of all supervised, postbaccalaureate practice hours from a regionally accredited or internationally accredited school to

Nova Southeastern University  
D.N.P. Program Director  
11501 North Military Trail  
Palm Beach Gardens, Florida 33410-6507

Documentation must be from the program director of the previous postbaccalaureate program and include the following information on university letterhead:

- date
- applicant's full name
- university name and department
- contact information for follow up, if necessary
- program director's signature
- date and title of degree earned
- specialization earned and total number of preceptor-verified clinical experience hours

#### Tuition and Fees

Tuition for academic year 2014–2015 is \$850 per semester hour. The NSU service fee of \$1,050 per year applies and is pro-rated for part-time students. A Health Professions Division general access fee of \$145 is also required each year. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/dnp](http://www.nova.edu/nursing/dnp)).

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.

All tuition charges and fees are subject to change by the board of trustees without notice.

#### 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

## Doctor of Nursing Practice (D.N.P.) Curriculum Outline

Courses			Semester Hours
NSG	7120	Health Care Policy	3
NSG	7131	Epidemiology and Population Health	3
NSG	7135	Health Care Information Systems and Outcomes Management	3
NSG	7300	Roles, Collaboration, and Communication	3
NSG	7350	Leading in Complex Health Care Systems	3
NSG	7400	Nursing Science for Clinical Practice	3
NSG	7430	Capstone I: Mentored Scholarship*	3
NSG	7440	Capstone II: Project Plan*	3
NSG	7441	Capstone III: Implementation*	3
NSG	7450	Capstone IV: Evaluation*	3
NSG	7500	Translating Evidence for Clinical Practice	3
HPH	7300	Biostatistics	3
<b>Minimum Total Credits</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-emersion courses that help students become experts in a practice field while the capstone project is carried out. They require a minimum of 125 hours of practice emersion.

D.N.P. graduates are required to complete 1,000 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 capstone hours in order to meet the 1,000-hour requirement. Students may enroll in NSG 7442: Capstone Continuing Matriculation until required hours are completed. All but 125 of the required 1,000 clinical hours must be completed prior to starting NSG 7450.

Students will work with an adviser to plan their individual program of study.

## Doctor of Nursing Practice (D.N.P.) Course Descriptions

### NSG 7120—Health Care Policy

This course provides students with an understanding of health policy as it relates to health care delivery and nursing practice. Students will analyze public and health policy environments and processes at the local, state, national, and international levels. Students will explore the role of educational, political, and organizational health care leaders in the change process and in the formation of health care policy decisions. (3 semester hours)

### NSG 7131—Epidemiology and Population Health

This course provides the student with a foundation in clinical prevention and population health. Students will be introduced to culturally proficient care in response to societal needs for improved health outcomes of individuals and populations. This course integrates clinical prevention, screening, behavior change, self-care, disease management, genetics, geriatrics, 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. They 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—Roles, Collaboration, and Communication

This course focuses on key concepts related to the role of the Doctor of Nursing Practice in clinical and health care system settings. The nature and practice of biomedical, administrative, and population ethics, with an emphasis on the application of ethical and social justice frameworks

for analysis and decision making for patients, systems, and populations experiencing ethical conundrums, is also discussed. Students identify topics for capstone projects. (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 investigate and analyze theories related to organizational behavior. They will also evaluate and integrate evidence-based practice to effect improvements in the dynamics of systems to better the delivery of health care. Emphasis is placed on using research to analyze the environment and to improve systems at the micro-, meso-, and macro-systems levels. The three major constructs of transformational leadership (self transformation, patient-centered transformation, and health systems transformation) will be explored related to health outcomes. (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 Doctor of Nursing Practice. 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 also develop search strategies to answer questions related to a selected topic of interest. (3 semester hours)

### NSG 7430—Capstone 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. This course requires a minimum of 125 hours spent in clinical emersion. Clinical emersion objectives and activities are mutually developed by the student and faculty members and based on the standards and objectives provided by a professional nursing organization and certification exam, if available. (3 semester hours)

### NSG 7440—Capstone 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 the sponsoring facility. It requires a minimum of 125 hours spent in clinical emersion. Clinical emersion objectives and activities are mutually developed by the student and faculty members and based on the standards and objectives provided by a professional nursing organization and certification exam, if available. **Prerequisite:** NSG 7430 (3 semester hours)

### **NSG 7441—Capstone III: Implementation**

This capstone 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 emersion is required. Clinical emersion objectives and activities are mutually developed by the student and faculty members and based on the standards and objectives provided by a professional nursing organization and certification exam, if available. **Prerequisite:** NSG 7440 (3 semester hours)

### **NSG 7450—Capstone IV: Evaluation**

This is the final component of the capstone experience. All but 125 of the required 1,000 clinical hours must be completed prior to starting NSG 7450. The course content, as in the other capstone 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 a mentor and faculty members, 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 spent in clinical emersion is required. Clinical emersion objectives and activities are mutually developed by the student and faculty members and based on the standards and objectives provided by a professional nursing organization and certification exam, if available. **Prerequisite:** NSG 7441 (3 semester hours)

### **NSG 7442—Capstone Continuing Matriculation**

This course may be repeated up to four times, based on the number of hours needed to complete the required 1,000 hours. Clinical emersion objectives and activities are mutually developed by the student and faculty members and based on the standards and objectives provided by a professional nursing organization and certification exam, if available. (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**

This course focuses on inferential statistics for students interested in understanding quantitative research in the health sciences. It is designed to enable students to apply experimental-design models toward solving practical problems and improving the efficiency of formulating and providing health care services. This course will teach students to generate, interpret, and evaluate clinical, biomedical, and health care-services research. (3 semester hours)

## Doctor of Philosophy in Nursing Education (Ph.D.)

The Doctor of Philosophy (Ph.D.) in Nursing Education is an online degree program for graduates of accredited Master of Science programs who have a major in nursing and who hold 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 semester hours of core courses. Courses within the nursing department 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 Education degree is based on an interdisciplinary approach to education. The Health Professions Division of NSU provides seven courses that are offered in an interdisciplinary format with the College of Nursing and the departments of Occupational Therapy, Physical Therapy, and Health Science.

For further information, call the College of Nursing at (954) 262-1983 or 800-356-0026, ext. 21983.

### Admissions Requirements for Fall 2014 Entering Class

Prospective Ph.D. in Nursing students are selected for admission based on application content, academic record, professional nursing licensure, and evaluation forms.

Admission to the Ph.D. program requires

- current, active, unencumbered United States R.N. license (If applicant does not hold this license, the applicant's license must be approved by the department chair and the dean of the College of Nursing.)
- completion of an M.S. or M.A. program with a major in nursing or an M.S.N. degree from a regionally accredited college or university with a National League of Nursing Accrediting Commission (NLNAC) or Commission on Collegiate Nursing Education (CCNE) program of nursing
- overall GPA of 3.5 in the candidate's master's or post-master's degree program in nursing

Attendance is required at a mandatory, one-week summer institute that includes an orientation session. This summer institute is usually held the first week in June for all accepted students and students completing their first year.

### Transfer Credits

No more than 6 graduate credits may be transferred into the Ph.D. program from other Ph.D. in Nursing or D.N.P. 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.

### Application Procedures for Fall 2014 Entering Class

All applicants must

1. Complete an online application at [www.nova.edu/nursing](http://www.nova.edu/nursing). The application will include a nonrefundable, \$50 application fee.
2. Submit all documentation and fees by March 1 to be considered for admission.
3. Submit official college or diploma-based transcripts of all completed coursework and all recommendation forms to the NSU Enrollment Processing Services. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent to the address below. Applications will not be reviewed until official transcripts are received.  
  
Nova Southeastern University  
Enrollment Processing Services  
College of Nursing  
3301 College Avenue, P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905
4. Have two recommendation forms completed by individuals other than relatives (suggested sources are professors and academic advisers). Have accurate contact information for these individuals ready to be entered online during the application process.
5. 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 following services.

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

### Tuition and Fees

Tuition for academic year 2014–2015 is \$850 per credit hour. An NSU service fee of \$1,050 is required annually. A Health Professions Division general access fee of \$145 is also required each year. Tuition for 2015–2016 will subsequently be posted on our Web site ([www.nova.edu/nursing/phd](http://www.nova.edu/nursing/phd)). All tuition charges 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 Ph.D. in Nursing Education 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.

Deposit Fee is \$500. This is due July 1 for August admission and is nonrefundable in the event of a withdrawal.

### 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

## Doctor of Philosophy in Nursing Education (Ph.D.) Curriculum Outline

Core Courses			Semester Hours
HPH	7200	Bioethics and Ethical Issues in Health Care	3
HPH	7300	Biostatistics I	3
HPH	7310	Biostatistics II	3
<b>Total Core Credits</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 Credits</b>			<b>12</b>



<b>Research Nursing Courses</b>			Semester Hours
HPH	7400	Quantitative Research Design	3
HPH	7410	Qualitative Research	3
HPH	7600	Grant Writing and Publication	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

**Total Research Nursing Credits 15**

<b>Cognates</b>			Semester Hours
NSG	7140	Theories of Education	3
NSG	7150	Instructional Design and Curriculum Development	3
NSG	7220	Higher Education Leadership	3
NSG	7240	Tests and Measurements	3
NSG	7250	Scholarship and Applied Research	3

**Total Cognate Credits 15**

<b>Dissertation</b>			Semester Hours
NSG	7340	Dissertation	9 (minimum)

**Total Credits 60 (minimum)**

There is an annual, on-campus, one-week residency requirement.

## Doctor of Philosophy in Nursing Education (Ph.D.) 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 online 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 will be explored. Curricula will be analyzed within the context of accreditation standards and program evaluation process. 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 environments 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 online 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/professional nursing leadership development plan. (3 semester hours)

### NSG 7240—Tests and Measurements

This course is designed to enhance the student's knowledge and application of sound measurement principles and practices for assessing learning outcomes and evaluating and conducting research in nursing education. Students will analyze the relationship between research, practice, and psychometric issues. The course will provide a theoretical and practical foundation for choosing tests and measurements data available to applied researchers. (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 leading to a draft of chapter one of the proposal development. **(1 semester hour)**

### **NSG 7320—Doctoral Seminar II**

This course provides the student with a continuation of the dissertation process. The course focuses on structure and design of Ph.D. dissertation research that includes chairperson review and scholarly discourse leading to proposal development. **(1 semester hour)**

### **NSG 7330—Doctoral Seminar III**

This course provides an online comprehensive exams format and a continuation of the dissertation process. The course focuses on comprehensive exams and structure and design of Ph.D. dissertation research that includes chairperson review and scholarly discourse leading to proposal development. **(1 semester hour)**

### **NSG 7340—Dissertation**

This course provides the student with the dissertation process. The course focuses on structure and design of Ph.D. dissertation research that includes dissertation chairperson and committee review from proposal development until the final defended dissertation. **(minimum 9 semester hours)**

### **NSG 7600—Grant Writing 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 4080—Basic Biostatistics**

This course is a primer for basic statistical methods that students may need before taking the degree program course HPH 7300 Biostatistics I. It is also recommended for Ph.D. students who find that they are not adequately prepared for Biostatistics I. The course focuses on the fundamentals of the use, interpretation, and presentation of numerical information. Statistical topics include the use of frequency distributions, measures of central tendency and variability, statistical graphs and charts, correlation and regression, hypothesis testing, t-tests, ANOVA, and conclusions that can be drawn from each type of analysis. **(3 semester hours)**

### **HPH 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 to promote ethical awareness and enable students to derive better health care decisions, reducing the 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 semester hours)**

### **HPH 7300—Biostatistics**

First of a two-course sequence focusing on inferential statistics for students interested in understanding quantitative research in the health sciences. It is designed to enable students to apply experimental-design models toward solving practical problems and improving the efficiency of formulating and providing health care services. The prerequisite is an introductory-level statistics course taken recently. After successful completion, students will be able to match empirical research questions to statistical methods; apply hypothesis-testing models to experimental and quasi-experimental research questions; use appropriate probability distributions, including z, t, and F; estimate parameters with adequate confidence intervals; test hypotheses using a wide variety of statistical models; and use different versions of analysis of variance as applied to the health sciences. **(3 semester hours)**

### **HPH 7310—Biostatistics II**

This is the second of a two-course sequence focusing on inferential statistics for students interested in conducting quantitative research in the health professions. It is designed to enable students to gather data and apply experimental-design models toward solving practical problems and improving the efficiency of formulating and providing health care services. The focus in this second course is to train students to generate; interpret; and evaluate clinical, biomedical, and health care services regression models. Prerequisite is successful completion of Biostatistics I (HPH 7300). After successful completion of this course, students will be able to conduct empirical research using statistical methods; apply bivariate and multivariate regression hypothesis-testing models to experimental and quasi-experimental research questions; evaluate the assumptions of regression models; estimate and assess the impact of regressors in functional relationships; estimate parameters with adequate confidence intervals; transform variables in ordinary least squares from linear to quadratic, cubic, logarithmic, and other expressions; and measure the effect of nonquantitative variables. (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 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 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 semester hours)

### **HPH 7410—Qualitative Research**

This course will focus primarily on the knowledge and skill competencies you will need to conduct nursing education qualitative research successfully. In this pursuit, students will be immersed in the epistemological, theoretical, ethical, methodological, and procedural understanding of qualitative research, apply this knowledge to the conceptualization and conduct of nursing education 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 the student will have demonstrated that he or she has mastered the basic competencies needed to create, plan, and complete a nursing education qualitative research dissertation. (3 semester hours)

### **HPH 7500—Philosophy of Science**

This online course covers schools of thought in philosophy of science. To address the need of laying the foundation for the generation and expansion of new professional knowledge that will guide evidence-based practice for the health professions, this course also covers topics on the acceptance of theories in the scientific community and epistemology of applied scientific inquiry. This course is designed to allow Ph.D. students in the health professions to gain appreciation for the philosophical underpinnings of unity in science, to be able to apply philosophical frameworks and epistemological paradigms in their future research, and to, eventually, become creative researchers in their areas of practice. (3 semester hours)

# Health Professions Division Faculty





# Health Professions Division Faculty

## Emeritus Faculty

### Reba L. Anderson

*Emeritus Professor, Occupational Therapy*  
B.S., Richmond Professional Institute, 1959  
M.A., University of Florida, 1970  
Ph.D., University of Florida, 1982  
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M.D., University of Kansas, 1943  
M.P.H., University of Michigan, 1948  
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*Dean Emeritus, College of Health Care Sciences*  
*Professor, Public Health*  
S.B., Yale University, 1961  
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M.P.H., Yale University, 1963  
Dr.P.H., University of Michigan, 1968  
Ph.D., Honoris Causa in Health,  
Universidad Central del Este, 2000

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B.S. (Pharm.), University of Wyoming, 1954  
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Ph.D., University of Arizona, 1973

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D.O., Philadelphia College of Osteopathic Medicine, 1946  
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D.D.S., University of Pennsylvania College of  
Dental Medicine, 1953  
Certificate—University of Pennsylvania, 1955  
Fellow, American Association of Endodontics  
Fellow, American College of Dentists  
Fellow, International College of Dentists  
Fellow, American Association of Advancement of Sciences  
Fellow, Royal Society of Health (British)  
Fellow, International Association Dental Research  
Fellow, Philadelphia College of Surgeons

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*Adjunct Professor, Biomedical Informatics*  
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D.D.S., University of Minnesota School of Dentistry, 1947  
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Fellow, American College of Dentists  
Fellow, American Academy of Periodontology

## Full-time Faculty

### **Mariem Abdou**

B.A., University of Delaware, 2009  
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