



# 2011-2012 CATALOG

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# **Nova Southeastern University Health Professions Division**

**College of Osteopathic Medicine**

**College of Pharmacy**

**College of Optometry**

**College of Allied Health and Nursing**

**College of Medical Sciences**

**College of Dental Medicine**



## Table of Contents

Letter from the NSU President .....	1	<b>Academics .....</b>	<b>23</b>
Letter from the NSU Provost .....	2	Transfer of Credit .....	23
Letter from the HPD Chancellor.....	3	Advanced Placement .....	24
Administration .....	4	Course of Study .....	24
NSU Board of Trustees.....	4	<b>Curriculum Outline.....</b>	<b>25</b>
NSU Mission Statement.....	5	<b>College of Osteopathic Medicine Course Descriptions.....</b>	<b>30</b>
NSU Vision Statement .....	5	<b>Affiliated Hospitals.....</b>	<b>38</b>
NSU Core Values .....	5	<b>Special Academic Programs .....</b>	<b>39</b>
HPD Board of Governors.....	6	The Interdisciplinary Generalist	
HPD Mission Statement.....	6	Curriculum (IGC) Program .....	39
2011–2012 Academic Calendar.....	7	Osteopathic Principles and Practice Laboratories.....	39
University History .....	8	Area Health Education Center (AHEC) Program .....	40
Campus .....	8	Consortium for Excellence in Medical Education (CEME)....	40
Foreign Coursework.....	9	West Palm Beach	
Admissions Policy.....	9	Veterans Affairs Medical Center .....	40
Background Checks.....	9	Rural Medicine Program .....	40
Tuition Refund Policy—Voluntary Withdrawal.....	9	Preventive Medicine .....	41
Florida Residency .....	10	Geriatric Teaching Program .....	41
Enrollment and Student Services .....	10	M.B.A. Program.....	41
Financial Aid.....	10	M.P.H. Program .....	41
Payment .....	10	Master of Health Law.....	42
International Students .....	11	Master of Science in Education .....	42
ESS Contact Information .....	11	D.O. Program for Doctors of Podiatric Medicine (D.P.M.)....	42
Certificate of Physical Examination .....	11	D.O./D.M.D. Dual-Degree Program .....	42
Immunization Requirements.....	12	<b>Master of Public Health Program.....</b>	<b>43</b>
Student Housing.....	12	Program Mission .....	43
Dress Code.....	13	Course of Study .....	43
Identification Requirements and Fieldwork Prerequisites .....	14	Accreditation and Authorization .....	43
Student Insurance Requirement .....	14	Admission to the Master of Public Health Program.....	43
Veterans' Benefits .....	14	Graduate Certificate Programs.....	44
Service Units Learning Resources .....	15	Nondegree-Seeking Students.....	45
Health Care Centers .....	15	Tuition and Fees .....	45
Core Performance Standards for Admission and Progress .....	16	Financial Aid.....	45
		Transfer of Credits .....	46
		Graduation Requirements .....	46
		<b>Curriculum Outline.....</b>	<b>46</b>
		<b>Master of Public Health Program Courses .....</b>	<b>48</b>
		<b>Master of Science in Biomedical Informatics .....</b>	<b>52</b>
		Course of Study .....	52
		Admissions Requirements.....	53
		Application Procedures .....	53
		Nondegree-Seeking Students.....	54
		Graduate Certificates .....	54
		Tuition and Fees .....	54
<b>College of Osteopathic Medicine</b>			
Mission Statement.....	21		
An Osteopathic Physician .....	21		
Accreditation.....	21		
Administration .....	21		
<b>Admission to the College of Osteopathic Medicine.....</b>	<b>22</b>		
Admissions Requirements.....	22		
Application Procedure .....	22		
Tuition and Fees .....	23		
Schedule of Application for Admission Cycle .....	23		
Computer Requirements.....	23		

Transfer of Credits .....	54
Graduation Requirements .....	54
Curriculum Requirements .....	54
<b>Biomedical Informatics Program Curriculum Outline .....</b>	<b>55</b>
<b>Biomedical Informatics Core Courses .....</b>	<b>56</b>
Elective Courses .....	57
College of Osteopathic Medicine Departments .....	59

## College of Pharmacy

Mission Statement.....	65
Vision Statement.....	65
Values.....	65
Administration.....	65
Pharmacy.....	65
Accreditation.....	66
Facilities.....	66
Financial Aid.....	66
Transfer Credits .....	66
Class Cancellation Policy .....	66

<b>Entry-Level Program Doctor of Pharmacy Degree.....</b>	<b>67</b>
Admissions Requirements.....	67
Foreign Coursework.....	67
Application Procedures.....	68
Program Requirements.....	68
Computer Requirements.....	69
Computer Skills.....	69
Tuition and Fees .....	69
Undergraduate/Pharm.D. Dual Admission Program.....	69
Internship.....	70
Course of Study .....	70
Study Abroad.....	71
Graduation Requirements .....	71
<b>Entry-Level Curriculum Outline.....</b>	<b>71</b>

### International Pharmacy Graduates

<b>Doctor of Pharmacy Degree.....</b>	<b>74</b>
Admissions Requirements.....	74
Application Procedures.....	74
Requirements.....	75
Computer Requirements.....	75
Computer Skills.....	76
Tuition and Fees .....	76
Graduation Requirements .....	76
International/Immigration Information .....	76

### International Curriculum Outline.....

<b>Entry-Level and International Course Descriptions.....</b>	<b>79</b>
Basic Medical Sciences .....	79
Pharmacy—Required Courses.....	79

Elective Courses .....	85
------------------------	----

## Doctor of Philosophy in Pharmacy (Ph.D.) .....

Admissions Requirements.....	89
Application Procedures.....	89
Tuition and Fees .....	90

### Determinants of Drug Use (Social and Administrative Pharmacy Sequence).....

Program Description.....	90
Course of Study .....	90
Curriculum Outline.....	91

### Drug Development (Pharmaceutics) Sequence.....

Program Description.....	93
Course of Study .....	93
Curriculum Outline.....	93

### Drug Discovery Sequence.....

Program Description.....	96
Course of Study .....	96
Curriculum Outline.....	96

### Ph.D. in Pharmacy Course Descriptions .....

HPD Core Courses.....	99
Required Courses.....	99
Elective Courses .....	101

## Student Organizations.....

Student Government Association .....	103
Other Organizations .....	103

## College of Pharmacy Faculty.....

Biochemistry.....	103
Microbiology.....	103
Physiology.....	103
Pharmaceutical Sciences.....	103
Sociobehavioral and Administrative Pharmacy.....	103
Pharmacy Practice .....	103

## Experiential Sites.....

## College of Optometry

Mission Statement.....	113
Administration .....	113
Optometry.....	113
Accreditation.....	113
Admissions Requirements.....	113
Application Process .....	114
Tuition and Fees .....	115
Financial Aid.....	115
Undergraduate /O.D. Dual Admission Program .....	115
Transfer Students.....	115
Promotion, Suspension, Dismissal, and Readmission .....	116
Requirements for Graduation .....	116

Course of Study .....	116	Doctor of Philosophy (Ph.D.) .....	149
Extended (Five-Year) Doctor of Optometry Degree .....	116	Computer Requirements .....	150
Student Organizations .....	117	Nonmatriculating Students .....	150
Master of Science in Clinical Vision Research Graduate Program .....	117	<b>Occupational Therapy Course Descriptions .....</b>	<b>151</b>
<b>Traditional Four-Year Program Curriculum Outline .....</b>	<b>118</b>	<b>Physical Therapy Department</b>	
<b>Extended Program Curriculum Outline .....</b>	<b>121</b>	Physical Therapy Student Organizations .....	156
College of Optometry Course Descriptions .....	125	<b>Entry-Level Doctor of Physical Therapy (D.P.T.) .....</b>	<b>156</b>
Medical Sciences .....	125	Accreditation Status .....	156
Optometric Basic Sciences .....	125	Admissions Requirements .....	157
Optometry Clinical Education .....	129	Computer Requirements .....	157
		Application Procedures .....	157
		Undergraduate/Entry-Level	
		Doctor of Physical Therapy Dual Admission Program .....	158
		Requirements for Graduation .....	158
		<b>Full-Time Entry-Level Doctor of</b>	
		<b>Physical Therapy Curriculum Outline .....</b>	<b>159</b>
		<b>Tampa Hybrid Entry-Level Doctor of</b>	
		<b>Physical Therapy Curriculum Outline .....</b>	<b>161</b>
		<b>Entry-Level Doctor of Physical Therapy</b>	
		<b>Course Descriptions .....</b>	<b>164</b>
		<b>Postprofessional Doctoral Programs in</b>	
		<b>Physical Therapy .....</b>	<b>171</b>
		Transition Doctor of Physical Therapy Program (T-D.P.T.) ..	171
		Admissions Requirements .....	171
		Application Procedures .....	172
		Curriculum Overview .....	172
		<b>Transition D.P.T. Course Descriptions .....</b>	<b>174</b>
		Doctor of Philosophy in Physical Therapy (Ph.D.) .....	178
		Curriculum Overview .....	178
		Admissions Requirements .....	178
		Computer Requirements .....	178
		Application Procedures .....	179
		Doctoral Tuition and Fees .....	179
		Requirements for Graduation .....	179
		<b>Doctor of Philosophy in Physical Therapy</b>	
		<b>Course Descriptions .....</b>	<b>180</b>
		<b>Physician Assistant Department—Fort Lauderdale</b>	
		Accreditation .....	183
		Mission Statement .....	183
		Admissions Requirements .....	183
		Computer Requirements .....	184
		Application Procedures .....	184
		Tuition and Fees .....	185
		Requirements for Graduation .....	186
		Academic Dismissal in the Physician Assistant Program .....	186
		Readmission Policy in the Physician Assistant Program .....	186
		Course of Study .....	186
Course of Study .....	116		
Extended (Five-Year) Doctor of Optometry Degree .....	116		
Student Organizations .....	117		
Master of Science in Clinical Vision Research Graduate Program .....	117		
<b>Traditional Four-Year Program Curriculum Outline .....</b>	<b>118</b>		
<b>Extended Program Curriculum Outline .....</b>	<b>121</b>		
College of Optometry Course Descriptions .....	125		
Medical Sciences .....	125		
Optometric Basic Sciences .....	125		
Optometry Clinical Education .....	129		
<b>College of Allied Health and Nursing</b>			
Mission Statement .....	133		
Administration .....	133		
College of Allied Health and Nursing .....	134		
Expenses and Financial Aid .....	134		
Transfer Credits .....	134		
Promotion, Suspension, Dismissal, and Readmission .....	134		
<b>Audiology Department</b>			
Program Overview .....	135		
Accreditation .....	135		
Admissions Requirements .....	135		
Computer Requirements .....	136		
Application Procedures .....	136		
Personal Interviews .....	136		
Tuition and Fees .....	136		
Requirements for Graduation .....	137		
Course of Study: Postbachelor's Program .....	137		
<b>Curriculum Outline: Postbachelor's Program .....</b>	<b>138</b>		
<b>Curriculum Outline: UK Program .....</b>	<b>140</b>		
<b>Audiology Course Descriptions .....</b>	<b>140</b>		
<b>Occupational Therapy Department</b>			
Accreditation .....	143		
Master of Occupational Therapy Admissions Requirements .....	143		
Master of Occupational Therapy Application Procedures .....	144		
Undergraduate/Occupational Therapy Department Dual Admission Program .....	145		
Tuition and Fees .....	145		
Master of Occupational Therapy Course of Study .....	145		
Requirements for Graduation .....	146		
<b>Curriculum Outline for</b>			
<b>Master of Occupational Therapy Program .....</b>	<b>146</b>		
<b>Doctoral Programs in Occupational Therapy .....</b>	<b>148</b>		
Doctor of Occupational Therapy (Dr.OT) .....	148		

Curriculum Outline for the Master of Medical Science (M.M.S.) Physician Assistant Program—Fort Lauderdale .....	187	Requirements for Graduation .....	215
Physician Assistant—Fort Lauderdale Course Descriptions .....	189	Academic Dismissal in the Physician Assistant Program .....	216
<b>Physician Assistant Department—Southwest Florida</b>		Readmission Policy in the Physician Assistant Program .....	216
Accreditation.....	193	Course of Study .....	216
Mission Statement.....	193	<b>Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Jacksonville.....</b>	<b>217</b>
Admissions Requirements.....	193	<b>Physician Assistant—Jacksonville Course Descriptions...</b>	<b>219</b>
Computer Requirements .....	194	Sources of Additional Information.....	222
Application Procedures .....	194	<b>Department of Health Science</b>	
Undergraduate/Physician Assistant Dual Admission Program with Hodges University .....	195	Computer Requirements .....	223
Tuition and Fees .....	195	<b>Bachelor of Health Science Online Degree Completion Program .....</b>	<b>223</b>
Requirements for Graduation .....	195	Description of Curriculum .....	224
Academic Dismissal in the Physician Assistant Program .....	196	General Education .....	224
Readmission Policy in the Physician Assistant Program .....	196	Admissions Requirements .....	225
Course of Study .....	196	Transfer Credit Policy.....	226
<b>Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Southwest Florida.....</b>	<b>197</b>	Distance Education Support .....	227
Physician Assistant—Southwest Florida Course Descriptions .....	199	Technical Help .....	227
<b>Physician Assistant Department—Orlando</b>		Testing Services .....	227
Accreditation.....	202	Application Procedures .....	227
Mission Statement.....	202	Tuition and Fees .....	228
Admissions Requirements.....	202	Requirements for Graduation .....	228
Computer Requirements .....	203	Graduation with Honors.....	228
Application Procedures .....	203	Commencement .....	228
Tuition and Fees .....	204	Nondegree-Seeking Students .....	228
Requirements for Graduation .....	205	Computer Skills.....	229
Academic Dismissal in the Physician Assistant Program .....	205	Address and Name Changes .....	229
Readmission Policy in the Physician Assistant Program .....	205	<b>Bachelor of Health Science—Cardiovascular Sonography (On-Campus, Entry-Level, Tampa) .....</b>	<b>230</b>
Remediation Policy .....	205	Program Objectives .....	230
Course of Study .....	205	Curriculum Overview.....	230
<b>Curriculum Outline for the Master of Medical Science (M.M.S.) in Physician Assistant Program—Orlando.....</b>	<b>207</b>	Admissions Requirements.....	231
Physician Assistant—Orlando Course Descriptions .....	209	Application Procedures .....	231
<b>Physician Assistant Department—Jacksonville</b>		Distanced Education Support .....	232
Accreditation.....	213	Tuition and Fees .....	232
Mission Statement.....	213	Requirements for Graduation .....	232
Admissions Requirements.....	213	Graduation with Honors.....	233
Computer Requirements .....	214	Computer Skills.....	233
Application Procedures .....	214	Accreditation, National Examinations, and Registry .....	233
Undergraduate/Physician Assistant Dual Admission Program—Jacksonville.....	215	<b>Curriculum Outline Bachelor of Health Science—Cardiovascular Sonography .....</b>	<b>233</b>
Tuition and Fees .....	215	<b>Bachelor of Health Science—Vascular Sonography (On-Campus, Entry-Level) .....</b>	<b>235</b>
		Program Objectives .....	235
		Curriculum Overview.....	235
		Admissions Requirements .....	235
		Application Procedures .....	236

Distance Education Support .....	236	<b>Anesthesiologist Assistant—Tampa</b>	
Tuition and Fees .....	237	<b>Course Descriptions .....</b>	<b>271</b>
Requirements for Graduation .....	237	Sources of Additional Information.....	275
Graduation with Honors.....	237	<b>Master of Health Science—Cardiovascular Sonography</b>	
Computer Skills.....	237	<b>(On-Campus, Entry-Level, Tampa) .....</b>	<b>275</b>
Accreditation, National Examinations, and Registry.....	237	Program Objectives .....	275
<b>Curriculum Outline Bachelor of</b>		Curriculum Overview.....	275
<b>Health Science—Vascular Sonography.....</b>	<b>238</b>	Admissions Requirements.....	276
<b>Bachelor of Health Science Course Descriptions.....</b>	<b>239</b>	Application Procedures.....	276
<b>Master of Health Science Program for</b>		Personal Interviews.....	277
<b>Health Professionals .....</b>	<b>245</b>	Distanced Education Support .....	277
Admissions Requirements .....	245	Tuition and Fees .....	277
Tuition and Fees .....	246	Requirements for Graduation .....	278
Application Procedures.....	246	Graduation with Honors.....	278
Requirements for Graduation .....	247	Computer Skills.....	278
Course of Study .....	247	Accreditation, National Examinations, and Registry.....	278
<b>Curriculum Outline—Master of</b>		<b>Curriculum Outline Master of</b>	
<b>Health Science Program.....</b>	<b>248</b>	<b>Health Science—Cardiovascular Sonography .....</b>	<b>278</b>
Specialty Tracks in the Master of Health Science Program ..	249	<b>Master of Health Science—Cardiovascular</b>	
<b>Master of Health Science Course Descriptions.....</b>	<b>253</b>	<b>Sonography Course Descriptions .....</b>	<b>280</b>
Didactic Core Component Courses.....	253	<b>Master of Health Science—Vascular Sonography</b>	
Elective Courses .....	253	<b>(On-Campus, Entry-Level) .....</b>	<b>283</b>
Practical Components .....	256	Program Objectives .....	283
<b>M.H.Sc.—Anesthesiologist Assistant, Fort Lauderdale....</b>	<b>256</b>	Curriculum Overview.....	283
Accreditation.....	256	Accreditation, National Examinations, and Registry.....	284
Mission.....	256	Admissions Requirements.....	284
Vision.....	256	Application Procedures.....	284
Admissions Requirements.....	257	Personal Interviews.....	285
Computer Requirements.....	257	Distance Education Support .....	285
Application Procedures.....	258	Tuition and Fees .....	285
Personal Interviews.....	258	Requirements for Graduation .....	285
Tuition and Fees .....	258	Graduation with Honors.....	285
Requirements for Graduation .....	258	Computer Skills.....	285
<b>Anesthesiologist Assistant Curriculum—</b>		<b>Curriculum Outline Master of Health Science—</b>	
<b>Fort Lauderdale .....</b>	<b>259</b>	<b>Vascular Sonography .....</b>	<b>286</b>
<b>Anesthesiologist Assistant—Fort Lauderdale</b>		<b>Master of Health Science—Vascular Sonography</b>	
<b>Course Descriptions .....</b>	<b>262</b>	<b>Course Descriptions .....</b>	<b>287</b>
<b>M.H.Sc.—Anesthesiologist Assistant, Tampa.....</b>	<b>266</b>	<b>Accelerated Dual-Degree M.H.Sc./D.H.Sc. Program.....</b>	<b>289</b>
Accreditation.....	266	Admissions Requirements.....	289
Mission.....	266	Tuition and Fees .....	290
Vision.....	266	Application Procedures.....	290
Admissions Requirements.....	266	Computer Requirements.....	290
Computer Requirements.....	267	Requirements for Graduation .....	290
Application Procedures.....	267	Specific Requirements for Graduation .....	291
Personal Interviews.....	268	Course of Study .....	292
Tuition and Fees .....	268	<b>Course Descriptions .....</b>	<b>294</b>
Requirements for Graduation .....	268	Master of Health Science.....	294
<b>Anesthesiologist Assistant Curriculum—Tampa.....</b>	<b>269</b>	Doctor of Health Science .....	295
		<b>Doctor of Health Science (D.H.Sc.) Program .....</b>	<b>297</b>
		Admissions Requirements.....	297



Application Procedures .....	298
Tuition and Fees .....	298
Requirements for Graduation .....	298
<b>Curriculum Outline.....</b>	<b>299</b>
<b>Doctor of Health Science Course Descriptions .....</b>	<b>301</b>
Capstone Course (all) .....	304
<b>Doctor of Philosophy (Ph.D.) in Health Science Program .....</b>	<b>304</b>
Admissions Requirements .....	304
Application Procedures .....	305
Transfer of Credits .....	306
Tuition and Fees .....	306
Requirements for Graduation .....	306
Computer Requirements .....	306
<b>Curriculum Outline.....</b>	<b>307</b>
<b>Doctor of Philosophy in Health Science Course Descriptions .....</b>	<b>309</b>
<b>Nursing Department</b>	
Department Mission Statement .....	313
Accreditation.....	313
Undergraduate Courses of Study .....	313
B.S.N. Program Goals .....	313
Entry-Level B.S.N. Track Admissions Requirements .....	314
Entry-Level B.S.N. Application Procedures .....	314
<b>Curriculum Outline—Nursing Entry-Level Track.....</b>	<b>315</b>
Entry-Level Track Tuition and Fees.....	317
<b>Entry-Level Course Descriptions .....</b>	<b>318</b>
R.N. to B.S.N. Track Admissions Requirements .....	321
R.N. to B.S.N. Application Procedures.....	321
R.N. to B.S.N. Tuition and Fees.....	322
<b>Curriculum Outline—R.N. to B.S.N. Track.....</b>	<b>322</b>
<b>R.N. to B.S.N. Course Descriptions .....</b>	<b>324</b>
R.N. to M.S.N. Track Admissions Requirements .....	325
R.N. to M.S.N. Application Procedures .....	325
R.N. to M.S.N. Tuition and Fees.....	326
<b>Curriculum Outline—R.N. to M.S.N. Track .....</b>	<b>326</b>
<b>Graduate Nursing Program.....</b>	<b>328</b>
<b>Master of Science in Nursing (M.S.N.) .....</b>	<b>328</b>
Admissions Requirements .....	328
Application Procedures .....	328
Tuition and Fees .....	329
Academic Policies .....	329
Courses of Study .....	330
<b>Curriculum Outline—M.S.N. Program.....</b>	<b>330</b>
<b>Post-Master of Science in Nursing Certificate (Post-M.S.N. Certificate) .....</b>	<b>333</b>

Admissions Requirements .....	333
Application Procedures .....	333
Tuition and Fees .....	333
Academic Policies .....	333
Certificate Completion Requirements .....	334
Course of Study .....	334
<b>M.S.N. and Post-M.S.N. Course Descriptions .....</b>	<b>336</b>
<b>Doctor of Philosophy in Nursing Education (Ph.D.).....</b>	<b>339</b>
Admissions Requirements .....	339
Application Procedures .....	339
Tuition and Fees .....	339
<b>Curriculum Outline—P.h.D. Program.....</b>	<b>340</b>
<b>Ph.D. Program Course Descriptions .....</b>	<b>341</b>
<b>Doctor of Nursing Practice (D.N.P.) .....</b>	<b>343</b>
Admissions Requirements .....	343
Application Procedures .....	344
Tuition and Fees .....	344
Graduation Requirements .....	345
<b>Curriculum Outline—D.N.P. Program.....</b>	<b>345</b>
<b>D.N.P. Program Course Descriptions.....</b>	<b>346</b>
<b>College of Medical Sciences</b>	
Mission Statement.....	353
Administration .....	353
Degree Programs .....	353
Accreditation.....	353
Admissions Requirements .....	353
Application Procedures .....	353
Schedule of Application for Admission Cycle.....	354
Tuition and Fees .....	354
Transfer Credits .....	354
Dismissal and Suspension.....	354
Readmission Following Dismissal or Suspension .....	355
Graduation Requirements .....	355
Course of Study .....	355
Student Organization .....	355
<b>College of Medical Sciences Course Descriptions .....</b>	<b>356</b>
<b>College of Dental Medicine</b>	
Mission Statement.....	361
Administration .....	361
Dental Medicine.....	361
Accreditation.....	362
Facilities .....	362
<b>Predocctoral Program .....</b>	<b>362</b>

Admissions Requirements.....	362
Required Courses.....	362
Other Courses.....	362
Suggested Additional Preparation .....	362
Transfer of Credit Policy .....	362
Application Procedure .....	363
Tuition and Fees .....	363
<b>International Dental Graduate Program .....</b>	<b>364</b>
Admissions Requirements.....	364
Application Procedures .....	364
Tuition and Fees .....	365
Expenses and Financial Aid for All Predoctoral Programs....	365
Policies Related to Academic and Student Affairs.....	366
Graduation Requirements .....	366
Course of Study .....	366
<b>2011–2012 Curriculum Outline.....</b>	<b>367</b>
<b>College of Dental Medicine Course Descriptions.....</b>	<b>376</b>
Interdisciplinary Biomedical Sciences .....	376
Division of Primary Care.....	377
Division of Developmental Sciences .....	382
Division of Surgical Sciences.....	384
<b>Related Educational Programs.....</b>	<b>387</b>
<b>Research.....</b>	<b>387</b>
<b>Postdoctoral Programs .....</b>	<b>387</b>
Postdoctoral Core Courses .....	388
Postdoctoral Specialties.....	388
Anticipated Expenses.....	391
Admissions Requirements—Postdoctoral Programs .....	391
Application Procedures .....	391
Postdoctoral Tuition and Fees.....	392
<b>Master of Science in Dentistry.....</b>	<b>392</b>
Admissions Requirements.....	392
Application Procedures .....	393
Tuition and Fees .....	393
<b>Health Professions Division Faculty</b>	
Emeritus Faculty .....	397
Full-time Faculty.....	398
Adjunct/Clinical/Visiting Faculty.....	420

## Letter from the NSU President/CEO



Nova Southeastern University is the largest independent, not-for-profit university in the Southeast, and the eighth largest in the United States. As president of NSU, I invite you to become an ambassador of this extraordinary educational institution that is in its fourth decade of existence.

When it began, NSU served 17 Ph.D. students from one building. Today, we have nearly 29,000 students and more than 5 million square feet of classroom space, libraries, and recreation areas. Our programs are offered throughout Florida and the United States, as well as in 12 countries. And with more than 136,000 alumni, our graduates reside in all 50 states and in more than 63 other countries.

The university continues to experience a sustained period of academic growth, due in large part to its exploration of alternative strategies in educating professionals and its commitment to excellence in academics, clinical training, community service, and well-rounded opportunities for all students. Collaboration at all levels with diverse partners is the essence of NSU.

The entire NSU community is dedicated to providing service and academic excellence to you as you continue on the road to success as you wish it to be defined. We look forward to a lifelong partnership with you, our student.

George L. Hanbury II, Ph.D.

NSU President/CEO

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



It is with great pleasure that I welcome you to Nova Southeastern University's Health Professions Division, and I congratulate you on your interest in some of the finest health education programs in the country. 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 health fields.

Our distinguished faculty members—many of whom are involved in cutting-edge research, and all of whom are outstanding educators and practitioners—are dedicated to equipping you with the skills and knowledge to begin, or advance, your career. Use them as a resource. They are here for you!

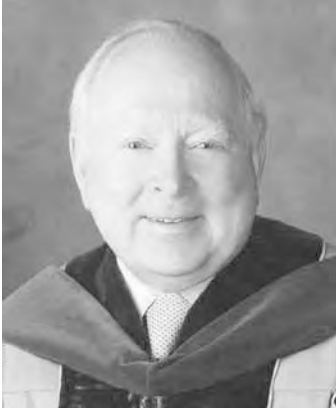
I wish you well in the pursuit of your health-related career.

Sincerely,

Frank DePiano, Ph.D.

Provost and Executive Vice President for Academic Affairs

## 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, Allied Health and Nursing, and Medical Sciences, 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

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*Executive Director of Intramural Health Affairs*

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## **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.

## **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.

## **Core Values**

Academic Excellence

Student Centered

Integrity

Innovation

Opportunity

Scholarship/Research

Diversity

Community

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

## Health Professions Division Board of Governors

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### **Emeriti**

Thomas F. Carney, D.O.

Mervin E. Meck, D.O.

Sidney J. Stern, O.D.

## Health Professions Division Mission Statement

The mission of Nova Southeastern University Health Professions Division is to train primary care 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 operated by the university.

Furthermore, the division aims to educate health care practitioners who will eventually increase the availability of health care in areas of Florida that suffer from health care shortages. The division aims to alleviate some of these shortages by exposing the entire student body to the needs, challenges, and rewards of rural, underserved urban, and geriatric care. Existing curricula require all students to attend ambulatory care clerkships in rural or urban areas, or both, making Nova Southeastern University strongly 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 primary care needs of the region's most medically underserved populations.



## 2011–2012 Academic Calendar

**Note:** Individual college schedules may be obtained from the college offices. All dates are subject to change by the administration.

Monday, May 9, 2011 .....	Classes begin, fourth-year optometry, third-year physician assistant (PA), students and third- and fourth-year Doctor of Dental Medicine (D.M.D.) students
Monday, May 16, 2011 .....	Classes begin, second-year PA, fourth-year pharmacy, and third-year international pharmacy students
Tuesday, May 31, 2011 .....	Classes begin, first-year PA, M.H.Sc.—Anesthesiologist Assistant, Master of Occupational Therapy, and Doctor of Physical Therapy students
Monday, July 4, 2011 .....	Independence Day, <b>university closed</b>
Tuesday, July 5, 2011 .....	Classes begin, B.H.Sc., M.H.Sc., D.H.Sc., M.H.Sc.—Vascular Sonography, clinical vision research, and dental postgraduate students
Monday, August 1, 2011 .....	Classes begin for first- and second-year D.M.D.; Master of Biomedical Sciences; first-, second-, and third-year Doctor of Optometry; and Doctor of Osteopathic Medicine students
Monday, August 22, 2011 .....	Classes begin for pharmacy, audiology, B.H.Sc.—Vascular Sonography, Ph.D. in Health Science, Doctor of Occupational Therapy, Doctor of Philosophy in Physical Therapy, Transition Doctor of Physical Therapy, nursing, Master of Science in Biomedical Informatics, Master of Public Health, and HPD core students
Saturday, August 27, 2011 .....	Senior Awards Dinner, College of Allied Health and Nursing
Sunday, August 28, 2011 .....	Commencement, College of Allied Health and Nursing
Monday, September 5, 2011 .....	Labor Day, <b>university closed</b>
Thursday–Friday, November 24–25, 2011 .....	Thanksgiving holiday, <b>university closed</b>
Monday, November 28, 2011 .....	Classes resume
Sunday, December 18, 2011 .....	Winter recess begins for students
Saturday, December 24, 2011–Monday, January 2, 2012 .....	Winter closure, <b>university closed</b>
Tuesday, January 3, 2012 .....	Classes resume, except for nursing and pharmacy students
Monday, January 9, 2012 .....	Classes resume for nursing and pharmacy students
Monday–Friday, March 12–16, 2012 .....	Spring recess, <b>no classes</b>
Monday, March 19, 2012 .....	Classes resume
Saturday, May 26, 2012 .....	Senior Awards Dinners, Colleges of Osteopathic Medicine, Optometry, Pharmacy, Medical Sciences, and Dental Medicine and College of Allied Health and Nursing Physical Therapy Department
Sunday, May 27, 2012 .....	Commencement, Colleges of Osteopathic Medicine, Optometry, Pharmacy, Medical Sciences, and Dental Medicine and College of Allied Health and Nursing Physical Therapy Department
Monday, May 28, 2012 .....	Memorial Day, <b>university closed</b>

## 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.

## Campus

Nova Southeastern University's Health Professions Division 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, 300-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 21 acres and encompasses

more than 1 million square feet of buildings. The division comprises the Colleges of Osteopathic Medicine, Pharmacy, Optometry, Allied Health and Nursing, Medical Sciences, and Dental Medicine.

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 1,600-space 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 affairs, 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, pediatric dentistry, periodontology, and prosthodontics, a 120-position simulation technique laboratory and support laboratories. Faculty and administration offices are on the third floor.

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

### Foreign Coursework

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence by one of the three services listed below. You should contact one of the following:

- World Education Services  
P.O. Box 5087  
Bowling Green Station  
New York, NY 10113-0745  
(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, and a complete course-by-course evaluation must be sent to the Office of Admissions.

### 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. 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 April 22, 2005. 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 Refund 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 refund of the tuition, according to the following formula:

- First three class days ..... 70 percent
- Fourth or fifth class day ..... 60 percent
- Sixth or seventh class day ..... 40 percent
- Eighth, ninth, or tenth class day ..... 20 percent
- After the tenth class day ..... 0 percent

- **No refunds will be made thereafter. (Students with questions should consult the program office.)**

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.

A refund due the student will be mailed to the student's permanent home address or deposited directly into his or her checking account as soon as the dean of the respective college has approved the withdrawal. The tuition refund policy is subject to change at the discretion of the university's board of trustees.

### **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, the University Call Center, Enrollment Processing Services, Transfer Evaluation Services, the Office of International Affairs, the Health Professions Division (HPD) Admissions and Financial Aid Services, and the Help Desk. Collectively, the ultimate goal of ESS is to effectively meet the information and service needs of all NSU students.

### **Financial Aid**

**The Office of Student Financial Assistance** administers federal, state, and institutional aid programs such as grants, scholarships, federal work-study funds, and loans. To be considered for these programs, students must complete the Free Application for Federal Student Aid (FAFSA) at [www.fafsa.gov](http://www.fafsa.gov). Florida residents pursuing their first bachelor's degree or graduate students who qualify for one semester of Florida Bright Futures eligibility will also be required to complete the NSU State Aid Application to apply for state aid funds.

In order to successfully complete the financial aid process, students should apply early, provide all necessary documents and information to the Office of Student Financial Assistance promptly, register for at least the minimum number of credits required per semester (half time in a degree-seeking program), and meet all required deadlines and eligibility requirements.

For more information regarding the financial aid process and sources of aid, visit the NSU financial aid Web site at [www.nova.edu/financialaid/](http://www.nova.edu/financialaid/). Students will be notified of missing information, notifications, and other financial aid-related information via NSU email and WebSTAR. Students may access their financial aid status in WebSTAR by logging into SharkLink at <https://sharklink.nova.edu/cp/home/displaylogin>, selecting the **Student** tab, and clicking on **My Financial Aid**.

### **Payment**

**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. The student is responsible for the full balance on the account plus any additional costs that may be incurred by the university in the collection of these debts.
- Payment is due in full at the time of registration. NSU eBills are sent the middle of each month. 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 and future registrations. It will remain on the student's account until the balance has been paid in full.

### **Method 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 be made through NSU eBill or WebSTAR. 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

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 fall and winter semesters combined only. For more information on payment options, including the Florida Prepaid College Plan and Employer Tuition Assistance Plans, visit the Bursar's Web site at [www.nova.edu/bursar/](http://www.nova.edu/bursar/).

## International Students

The Office of International Affairs (OIA) is committed to providing essential services and counseling expertise regarding U.S. government visa regulations and university life in the United States. The OIA acts as a liaison with federal agencies such as the United States Immigration and Citizenship Services (USCIS), the U.S. Department of State, and foreign government agencies, and provides the following services:

- F-1 and J-1 visa counseling
- transfer assistance
- reinstatement
- travel documentation
- on- and off-campus employment
- practical training
- extension of stay
- Social Security information
- tax information
- health insurance
- cross-cultural activities
- international student orientation

Visit [www.nova.edu/internationalstudents](http://www.nova.edu/internationalstudents) or call the OIA at (954) 262-7240 for more information.

## Enrollment and Student Services Contact Information

### University Call Center

The University Call Center is available seven days a week to answer financial aid, bursar, registrar, and academic computing help desk questions.

- University Bursar: (954) 262-5200 or 800-806-3680
- Office of Student Financial Assistance: (954) 262-3380 or 800-806-3680
- University Registrar: (954) 262-7200 or 800-806-3680

- HPD Admissions and Financial Aid Services: (954) 262-1101 or 877-640-0218
- Help Desk: (954) 262-HELP (4357)

### Hours of Operation

Monday–Friday: 24 hours a day  
Saturday–Sunday: 8:30 a.m. to 12:30 a.m.

### The One-Stop Shop (Terry and Horvitz Administration Buildings)

The One-Stop Shops are the central points of information and service for walk-in prospective, new, and continuing students. Staff members are cross-trained in financial aid, registration, and bursar functions. They are also able to provide other types of status information and services that students may require.

### 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

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

### Student Educational Centers (SECs)

The Office of Student Financial Assistance hours of operation at the Student Educational Centers (SEC) are as follows:

#### Jacksonville

Monday–Friday, 9:30 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)

#### Southwest Florida

Monday–Friday, 9:00 a.m.–5:30 p.m.  
(No Saturday or Sunday hours)

### 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 the 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 immunizations/vaccinations listed below 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)
- Measles
- Mumps
- Rubella

### Additional Immunizations/Vaccinations

#### • Tetanus-Diphtheria-Pertussis

All students are required to have had a Tetanus-Diphtheria (Td) booster within the 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 health care settings, the Advisory Committee on Immunization Practices highly recommends that health care workers receive a one-time Tdap (ask your health care provider), only if it has been more than two years since receiving a Td booster. Therefore, students are encouraged to receive a Tdap if it has been more than two years since receiving a Td booster.

#### • Hepatitis B Vaccine

Because every student at the Health Professions Division can be potentially exposed to this deadly virus, and since many rotation sites require it of personnel, we will require and administer hepatitis B vaccinations for all entering students during their first year, with a follow-up blood test showing the presence of the hepatitis B antibody.

Students with documented immunity to hepatitis B must provide such documentation upon matriculation, including a Hepatitis B Surface Antibody Titer.

#### • Tuberculosis

Because of the resurgence of tuberculosis and the possible exposure of students to TB, the Health Professions Division will require and provide a yearly tuberculosis test for every student.

### 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. The appointment, once made, becomes an obligation of the student and must be kept. For students at the SECs, the appointments may be scheduled with the NSU-designated physician for their area.

### Student Activities Fees

The student activity fees cover hepatitis B and TB screenings. All other immunizations and health care services are the responsibility of the student.

### Failure to Comply

The university is not required to provide alternate 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.**

### 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 325 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 single-, double-, or triple-occupancy and features a private bathroom, large closet space, and high ceilings. 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 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 by going to the NSU Campus Card Office in the University Center. 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

The Commons houses undergraduate students. The state-of-the-art living and learning community includes 525 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.

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 by going to the NSU Campus Card Office in the University Center. 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 will house approximately 50 upper-division, undergraduate residents each during the academic year. The oldest of NSU's residence halls, each building has recently undergone major renovations that included new doors, tile, paint, kitchens, and appliances. 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 upper division (juniors and seniors) undergraduate students during the academic year. Its unique balcony structure makes it a popular choice for returning undergraduate students. Each apartment is furnished and features one or two bedrooms, a kitchen with a full refrigerator and stove, 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 (seven-story and three-story building)
- Law Community (seven-story building)

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. In addition to the above attire, **students must wear their white clinical jackets.**

5. **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), 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 supplemental dress code policy.**

### **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 online program students, as well as the R.N. to B.S.N. and R.N. to M.S.N. students, are not required to submit proof of personal medical and hospitalization insurance). 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 through the HPD Admissions and Student Services Office, or by accessing the Web site at [www.nova.edu/smc](http://www.nova.edu/smc) 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.

### **Veterans' Benefits**

Department of Veterans Affairs educational benefits are designed to provide eligible individuals with an opportunity for educational and career growth. Eligible veterans and their dependents should contact the veterans benefit administrator by calling (954) 262-7236 or toll free at 800-541-6682, ext. 27236, Monday through Friday, between 8:30 a.m. and 5:00 p.m., or by visiting the veterans benefits Web page at [www.nova.edu/financialaid/veterans/](http://www.nova.edu/financialaid/veterans/). 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 for Veterans**

A student receiving veterans benefits must maintain satisfactory progress. Students will be considered to be making satisfactory progress as long as they meet the academic standards set by their school for retention in their degree programs.

A student who, at the end of any evaluation period, has not attained and maintained satisfactory progress will be certified, in a probationary status, for only one additional evaluation period. Should this student not attain and maintain satisfactory progress by the end of the probationary period (one evaluation period), the student's Department of Veterans Affairs (VA) educational benefits will be terminated for unsatisfactory progress.

A student whose VA educational benefits have been terminated for unsatisfactory progress may petition the school to be recertified after one evaluation period has elapsed. To initiate the petition process, students should contact the Office of Student Financial Assistance, Veterans Benefits administrator, at 800-541-6682, ext. 27236. The school may recertify the student for VA educational benefits only if there is a reasonable likelihood that the student will be able to attain and maintain satisfactory progress for the remainder of the program.

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 dean for that program.

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

Each student who has VA benefits will be provided with a grade/progress report at the end of every evaluation period



(e.g., term, semester). A copy of each report will be placed in the student's permanent file maintained by the school. The university periodically furnishes each student with a working transcript that shows current status of grades and earned semester hours for all courses completed and/or attempted, plus grades for courses in which the student is currently enrolled.

### **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 institutional 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 section of the *NSU Student Handbook*.

### **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 print collection consists of more than 23,300 volumes and active journal subscriptions. In addition, the Electronic Library is accessible 24/7 from any computer with an Internet connection. It provides access to more than 100 medical/health databases, including Medline, CINAHL, UptoDate, MD Consult, Micromedex, and Clinical Pharmacology, as well as interactive databases such as Procedures Consult, Mosby's Nursing Skills, and Doc.com. More than 300 medical textbooks are available full-text online, along with more than 7,053 medical, full-text electronic journals. Interlibrary loan and document delivery services provide access to journal articles and books not available locally. Professional reference assistance is available during most operating hours. Students have access and borrowing privileges to print collections at any NSU library and may access more than 300 electronic databases via the HPD library home page ([www.nova.edu/hpdlibrary](http://www.nova.edu/hpdlibrary)).

In addition, there are 48 individual/small group study rooms in the library and Assembly II Building. Rooms can be checked out for up to three hours. All rooms are equipped with white boards. A small teaching lab is available for group instruction and two 50-station computer labs are open when the library is open. Both buildings have full wireless connectivity.

Hours of operation for the HPD Library, study center, and adjoining computer labs are:

Monday–Thursday, 7:00 a.m. to midnight

Friday, 7:30 a.m. to 9:00 p.m.

Saturday–Sunday, 10:00 a.m. to midnight

During exam periods, the library is open until 1:00 a.m. each night.

For further assistance, please call (954) 262-3106.

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.

#### **• Student Medical Center**

The mission of the student medical center is to provide quality primary health care services to our collegiate population. The Student Medical Center is located on the first floor of the Sanford L. Ziff Health Care Center. It is staffed by board certified physicians and physician assistants who provide primary care services including physical exams, women's health care, immunizations, preventive care, general medical care, and minor surgical procedures. For more information or an appointment, call (954) 262-1262.

#### **• Henderson Student Counseling Services for NSU Students**

Henderson Student Counseling Services is committed to helping NSU students effectively manage the personal and social challenges of learning and changing in a university environment. All services are provided on the main campus at University Park Plaza, 3538 South University Drive. Services that are provided include individual counseling, couples counseling, group counseling, and psychiatric services. For more information or an appointment, call (954) 434-6915.

#### **• 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.

- **Sanford L. Ziff Health Care Center**

3200 South University Drive, Fort Lauderdale, Florida

A primary care facility that contains the following services: family medicine, pediatrics, internal medicine, nephrology and hypertension, geriatrics, obstetrics/gynecology, dermatology, sports medicine, osteopathic medicine, X-ray, occupational therapy, pharmacy, physical therapy, optometric clinic, optical dispensary, and cardiology and other specialty practices. 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.

- **Hearing and Balance Center**

3600 South University Drive, Davie, Florida

The Hearing and Balance 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. We also provide tinnitus evaluation and treatment services, as well as auditory processing evaluation and treatment. We offer 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, we offer newborn hearing screenings, hearing conservation services, and hearing protection device services. For more information or an appointment, call (954) 678-2273.

### **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. The standards reflect what the university believes are reasonable expectations required of health professions students and personnel in performing common functions.

The holders of health care degrees must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. In order to carry out the activities described below, candidates for Health Professions Division degrees must be able to integrate consistently, quickly, and accurately all information received, and they must have the ability to learn, integrate, analyze, and synthesize data.

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 should be able to interact with and observe patients in order to elicit information; perform examinations; describe changes in mood, activity, and

posture; and perceive nonverbal communications. 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 should have sufficient motor function to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required to some health care professionals are cardiopulmonary resuscitation (CPR), administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, and the ability to calibrate and use various pieces of equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium and functional use of the senses of touch and vision. Physical therapy and occupational therapy students must be able to position patients for treatment, as well as teaching 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 to emergency codes and to perform such maneuvers as CPR when required. They must have the physical ability to move sufficiently from room to room and to maneuver in small places. 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 should have sufficient auditory ability to monitor and assess health needs. They must be able to hear information given by the patient in answer to inquiries; to hear cries for help; to hear features in an examination, such as the auscultatory sounds; and to 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 and physician assistant students are required to have an enhanced ability to use their sensory skills. These enhanced tactile and proprioceptive sensory skills are essential for appropriate osteopathic evaluation and treatment of patients.

### **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 prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive, and effective relationship with 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  
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# College of Osteopathic Medicine



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

**Lawrence E. Jacobson**, D.O.  
Vice Dean

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

**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  
Associate Dean of Clinical Curriculum and  
Graduate Medical Education (GME)

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

**Albert W. Whitehead**, D.M.D., M.Ed., M.B.A.  
Assistant Dean for Clinical Services and Admissions

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

**Lynne Cawley**, M.Sc.  
Director, Student and Alumni Services

**John C. Pellosie, Jr.**, D.O., M.P.H., FAOCOPM  
Director of 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, Medical Informatics

## Admission to the College of Osteopathic Medicine

### Admissions Requirements for the 2012 Entering Class

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 the following with a grade of 2.0 or higher

- 8 semester hours of each of the following courses:
  - a. biological science (includes biology, embryology, genetics, microbiology, physiology, etc.)
  - b. physics
- 16 semester hours of chemistry (must include general chemistry and organic chemistry or biochemistry)
- 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 4,800 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 Procedure

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 should 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 2011–2012 (subject to change by the board of trustees without notice): \$38,675 for Florida residents and \$44,545 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 \$750 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.

### **Computer Requirements**

Students are required to own a laptop computer. 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

- WebCT Courses
- Computer-Assisted Instruction(case studies)
- Medical Spanish
- Course Evaluations
- EMS Accessibility
- Electronic Library
- Up-To-Date
- Kaplan Board Review
- Clinical Procedures Modules
- Integration Week Activities

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	5001	Patient-Centered Medicine I	3.0
COM	5121	OPP I	2.0
COM	5100	Medicine, Health, and Society (MHS)	3.0
SPAN	5000	Conversational Spanish for Health Care Professionals	1.0
COM	5004	Behavioral Medicine	1.0
COM	5800	Foundations and Applications of Clinical Reasoning I	2.0
COM	5080	Basic Life Support	1.0

**Total: 30.5**

### Winter Term

SPAN	5001	Medical Spanish for Health Care Professionals	1.0
COM	5062	Medical Physiology II	4.0
COM	5030	Medical Microbiology I	6.0
COM	5011	Medical Neuroanatomy	2.0
COM	5002	Patient-Centered Medicine II	3.0
COM	5122	OPP II	2.0
COM	5101	Medicine, Health, and Society II	2.0
COM	5801	Foundations and Applications of Clinical Reasoning II	2.0

**Total: 22**

### Summer Term

COM	5031	Microbiology II	1.5
COM	6040	Pathology	2.0
COM	6050	Pharmacology	2.0
COM	5102	Medicine, Health, and Society III	1.0
COM	5900	Principles of Radiology	1.0

**Total: 7.5**

### M2

Fall Term			Credit Hours
COM	6000	Principles of Clinical Medicine	2.0
COM	6100	Integumentary System	1.5

COM	6101	Hematopoietic and Lymphoreticular System	1.5
COM	6102	Respiratory System	2.0
COM	6103	Cardiovascular System	3.0
COM	6104	Gastrointestinal System	3.0
COM	6107	Musculoskeletal System	2.0
COM	6173	IGC Preceptorship	1.0
COM	6300	Foundations and Applications of Clinical Reasoning III	4.0
COM	6123	OPP III	2.0

**Total: 22**

#### Winter Term

COM	6001	Principles of Clinical Medicine II	2.0
COM	6111	Pediatrics	2.0
COM	6108	Nervous System and Psychiatry	4.0
COM	6110	Women's Health	3.5
COM	6124	OPP IV	2.0
COM	6002	Pre-Clerkship	0.5
COM	6109	Renal System	2.0
COM	6105	Endocrine System	2.0
COM	6090	Geriatrics	0.5
COM	6301	Foundations and Applications of Clinical Reasoning IV	4.0
COM	9501	Complex I Preparation	5.0

**Total: 27.5**

#### Summer Term

COM	6221	ACLS/BLS	1
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**Total: 1**

#### Predoctoral Fellows Curriculum

One Year Course of Study Each			Credit Hours
COM	9100	Osteopathic Principles and Practice Fellowship	48
COM	9200	Research Fellowship	48

**Total: 48**

#### Third Year Curriculum

Fall and Winter Terms—Core Clinical Rotations			Credit Hours
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:</b>			<b>96</b>

#### **Fourth Year Curriculum**

<b>Winter Term—Didactic Course</b>			<b>Credit Hours</b>
COM 8004	Senior Seminar		1.0
<b>Fall and Winter Terms—Core Clinical Rotations</b>			
COM 7095	Emergency Medicine		8.0
COM 7151	Rural Medicine I		8.0
COM 7152	Rural Medicine II		8.0
COM 7153	Rural Medicine III		8.0
<b>Total:</b>			<b>33</b>

#### **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	8.0

		<ul style="list-style-type: none"> <li>• Nephrology</li> <li>• Oncology</li> <li>• Pulmonary Disease</li> <li>• Pulmonary Disease and Critical Care Medicine</li> <li>• Rheumatology</li> <li>• Sports Medicine</li> </ul>	
COM	8021	Medical Genetics	8.0
COM	8024	Neurological Surgery <ul style="list-style-type: none"> <li>• Endovascular Surgical Neuroradiology</li> </ul>	8.0
COM	8023	Neurology <ul style="list-style-type: none"> <li>• Child Neurology</li> <li>• Clinical Neurophysiology</li> <li>• Neuromuscular Medicine</li> <li>• Pain Medicine</li> </ul>	8.0
COM	8022	Nuclear Medicine	8.0
COM	8025	Obstetrics and Gynecology <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>	8.0
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/Neurotology</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> </ul>	8.0

		<ul style="list-style-type: none"> <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>	
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 <ul style="list-style-type: none"> <li>•Medical Toxicology</li> </ul>	8.0
COM	8036	Psychiatry <ul style="list-style-type: none"> <li>•Addiction Psychiatry</li> <li>•Child and Adolescent Psychiatry</li> <li>•Forensic Psychiatry</li> <li>•Geriatric Psychiatry</li> <li>•Pain Medicine</li> </ul>	8.0
COM	8170	Public Health	8.0
COM	8020	Radiation Oncology	8.0
COM	8037	Radiology—Diagnostic <ul style="list-style-type: none"> <li>•Abdominal Radiology</li> <li>•Cardiothoracic Radiology</li> <li>•Endovascular Surgical Neuroradiology</li> <li>•Musculoskeletal Radiology</li> <li>•Neuroradiology</li> <li>•Nuclear Radiology</li> <li>•Pediatric Radiology</li> <li>•Vascular and Interventional Radiology</li> </ul>	8.0
COM	8040	Rural/International Medicine	8.0
COM	8014	Surgery—General <ul style="list-style-type: none"> <li>•Hand Surgery</li> <li>•Pediatric Surgery</li> <li>•Surgical Critical Care</li> <li>•Vascular Surgery</li> <li>•Vascular Surgery—Integrated</li> </ul>	8.0
COM	8042	Thoracic Surgery	8.0
COM	8044	Urology <ul style="list-style-type: none"> <li>•Pediatric Urology</li> </ul>	8.0

**Total: 240**

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 5001—Patient-Centered Medicine I

Students will learn the components of a patient history and physical examination and will develop effective interviewing techniques and skills.

**3.0 Credit Hours**

### SPAN 5000—Conversational Spanish for Health Care Professionals

This course is designed for students with little or no formal background in Spanish who are working or planning to work in health care. Focus is on basic grammar and specialized vocabulary needed to communicate effectively with Spanish-speaking patients and their families, as well as an introduction to Spanish and Latin American culture as related to health care. Class meets once per week; additional assignments and quizzes appear online. Course is open only to first-year College of Osteopathic Medicine students.

**1.0 Credit Hour**

### SPAN 5001—Medical Spanish for Health Care Professionals

This is the second course in a sequence designed for students in health care with little or no formal background in Spanish. Focus is on basic Spanish grammar, medical vocabulary, writing, and oral skills, as well as readings on Spanish and Latin American culture as related to health care. Class meets once per week; additional assignments and quizzes appear online. Course is open only to first-year College of Osteopathic Medicine students. Prerequisite: SPAN 5000

**1.0 Credit Hour**

### COM 5002—Patient-Centered Medicine II

This is the second semester of a two-semester course in which the student 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. There will also be a simulated patient experience in which each student will perform a complete history and physical examination from memory on a surrogate patient.

**3.0 Credit Hours**

### COM 5004—Behavioral Medicine

Behavioral Medicine is designed to introduce medical students to the behavioral sciences, particularly those aspects that influence, shape, and/or operate in medical practice. The course covers fundamental concepts

and research findings in the biological, intrapsychic, interpersonal, and sociocultural aspects of human behavior that permeate all areas of medical practice.

**1.0 Credit Hour**

### COM 5010—Gross Anatomy

Study of the structure of the human trunk, extremities, head and neck, including dissection by student teams.

**6.0 Credit Hours**

### COM 5011—Medical Neuroanatomy

Study of the gross structure of the brain and spinal cord and the functional relationship among their parts. Emphasizes major motor and sensory pathways and integrative mechanisms of the central nervous system.

**2.0 Credit Hours**

### COM 5020—Medical Histology

Study of cells, tissues, and organs of the body as seen through the light microscope, involving both lectures and laboratory work. Covers transmission and scanning electron micrographs.

**3.0 Credit Hours**

### COM 5021—Medical Biochemistry

Covers biochemical reactions and pathways of normal human health; nutrition from a biochemical viewpoint; and the biochemistry of the gastrointestinal, pulmonary, renal, musculoskeletal, endocrine, and other systems.

**6.0 Credit Hours**

### COM 5030—Medical Microbiology I

This course will be presented in lecture format to emphasize two important medical areas, immunology and microorganisms 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. Viruses, bacteria, fungi, and parasites commonly involved in human diseases, as well as new and reemerging pathogens, will be presented from a clinically relevant perspective. The sections on microorganisms will stress practical clinical skills by presenting case studies, visual illustrations of typical clinical symptoms, and the most common therapies.

**7.0 Credit Hours**



### **COM 5031—Medical Microbiology II**

This course will be presented in lecture format. Parasites and fungi commonly involved in infectious human diseases, as well as newly and re-emerging pathogens, will be presented from a clinically relevant perspective. 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**

Study of general physiology (cell function, membrane translocation, electrophysiology, muscle physiology), cardiovascular, renal, gastrointestinal, respiratory, endocrine, and neurophysiology.

#### **3.0 Credit Hours**

### **COM 5062—Medical Physiology II**

This is the second semester of a two-semester physiology course. As with the first semester, the material will be presented using an organ systems approach. This semester will include the study of the respiratory, renal, nervous, endocrine, reproductive, and gastrointestinal systems.

#### **4.0 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 5100, 5101, 5102—Medicine, Health, and Society I, II, and III**

This course covers three broad themes: (1) the doctor-patient relationship; (2) health promotion and disease prevention; and (3) law and health policy. The course links the humanities, social sciences, public health, and law to the practice of medicine.

#### **7.0 Credit Hours**

### **COM 5121—OPP I**

Introduces general principles and techniques of diagnosis of the axial skeleton and paraspinal regions. Introduces students to basic terminology and examination skills through lecture, demonstration, and hands-on performance.

#### **2.0 Credit Hours**

### **COM 5122—OPP II**

Covers principles and techniques on a regional basis. Stresses the neurophysiological aspects of muscle dysfunction and pain mechanisms. Treatment modalities

include counterstrain, myofascial release, indirect technique, and muscle energy techniques.

#### **2.0 Credit Hours**

### **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 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 varied patient presentations.

#### **2.0 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 WebCT throughout the duration of the course. It is the students' responsibility to visit the WebCT 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 6000, 6001—Principles of Clinical Medicine (PCM) I, II**

Principles of Clinical Medicine is a full-year course that prepares the student for clinical rotations by providing experience in evaluating standardized patients, performing common medical procedures, and documenting both.

#### **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 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, the role of genetics and immunity in contributing to disease, and general discussion of neoplasia.

#### **3.0 Credit Hours**

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

Basic pharmacological concepts and principles needed for the applied clinical science 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 15 hours of interactive instruction supplemented by audiovisuals; demonstration of required skills on Pediatric Advance Life Support Manikins; and practice using defibrillators, EKG monitors, and intubation equipment.

#### **1.0 Credit Hour**

### **COM 6090—Geriatrics**

This course of instruction provides an overview of selected clinical problems or syndromes affecting older adults, with an emphasis on differential diagnosis, systematic evaluation, and management utilizing an interdisciplinary approach. Concepts of physiological changes with aging, 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**

Clinical aspects of skin diseases, infections of the skin, skin pathology, pediatric dermatoses, neoplastic disorders of

the skin, burn management plastic surgery, skin disorders, and cutaneous manifestations of systemic disorders and diseases of the breast.

#### **2.0 Credit Hours**

### **COM 6101—Hematology and Lymph System**

This course covers the diagnosis and management of diseases of the hematopoietic and lymphoreticular system and will consist of 30 hours of lectures. The course begins with a discussion of disorders of red cells white cells, platelets and hemostasis. Myeloproliferative, lymphoproliferative, and immunoproliferative disorders will also be discussed. Discussion of cancer chemotherapy and principles of surgical oncology will be given in the latter part of the course. Indications for, and adverse reaction to, blood transfusion will also be addressed.

#### **2.0 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 discussed. Speakers are from the Departments of Internal Medicine, Family Medicine, Pediatrics, Pathology, Pharmacology, OPP, and Surgery including the Division of Otorhinolaryngology. There will be 47 hours of lecture, plus reading assignments and additional topics for independent learning.

#### **3.0 Credit Hours**

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

Pathophysiology, diagnosis, and management of common cardiovascular disorders. Teaches electrocardiography, and includes training in the use of "Harvey."

#### **5.0 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 the faculty from 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.

#### **1.5 Credit Hours**

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

Diseases and disorders of the musculoskeletal system. Addresses pathophysiology; diagnosis and management of rheumatologic disorders; orthopedics; aspects of physical medicine; and rehabilitation. Osteopathic manipulative medicine is in this system.

#### **2.0 Credit Hours**

##### **COM 6108—Nervous System and Psychiatry**

Pathology of the nervous system, neurologic dysfunctions, pathophysiologic mechanisms of neurologic diseases, pharmacotherapeutics, and rehabilitative aspects of nervous system dysfunctions. Introduces the major clinical concepts of psychiatry. Emphasizes the biophysical model as it relates to the assessment, diagnosis, and empathic and compassionate treatment of major psychiatric disorders, as listed in the DSM-IV. Addresses the application of osteopathic manipulative medicine to nervous system disorders.

#### **4.0 Credit Hours**

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

Renal pathophysiology, glomerular, tubulointerstitial diseases, renal failure, congenital disorders, metabolic disorders, neoplasms of the renal/urinary system, and urology.

#### **2.0 Credit Hours**

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

Pathophysiology, diagnosis, and treatment of common gynecologic and obstetric disorders. Special issues are discussed, such as domestic violence.

#### **3.0 Credit Hours**

##### **COM 6111—Pediatrics**

This course covers normal and abnormal growth and development in children. Preventive care and health interventions of newborns, growing children, and adolescents are also addressed.

#### **2.0 Credit Hours**

##### **COM 6123—OPP III**

Continues the study of osteopathic diagnosis and treatment and the development of skills learned in previous semesters. High velocity, low amplitude, techniques are included. Interdisciplinary clinical correlation is emphasized.

#### **2.0 Credit Hours**

##### **COM 6124—OPP IV**

Development of the osteopathic approach to systemic diseases, using skills learned in previous semesters. Cranial osteopathic technique is included. Interdisciplinary clinical correlation is emphasized.

#### **2.0 Credit Hours**

##### **COM 6173—IGC Preceptorship**

The Interdisciplinary Generalist Curriculum (IGC) Program has four components: (1) The IGC Physician Mentor Program; (2) The IGC Managed Care/Business of Medicine Program; (3) the College of Osteopathic Medicine in Community Service (COM Serve) Program; and (4) the Public Health Field 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 knowledge with actual patient encounters.

#### **2.0 Credit Hours**

##### **COM 6221—ACLS**

ACLS presents a systematic interactive approach to dealing with people experiencing a cardiopulmonary emergency 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 more. 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 15 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.

#### **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 weekly, two-hour session of board review.

#### **4.0 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 board review.

#### **4.0 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 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 continuation of the first practicum, this rotation builds on the Fellows' patient care responsibilities and stresses a more intense teaching load.

**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 introductory course will provide the medical student with the fundamentals needed to interview Spanish-speaking patients (history, disease presentation) and provide these patients with basic medical information with regards to diagnosis, treatment, and public health concerns.

**2.0 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 9501—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.

**5.0 Credit Hours**

### **COM 9502—Integration of Clinical Sciences and Diagnosis**

This course is designed to assess the osteopathic medical knowledge considered essential for osteopathic generalist physicians to practice medicine without supervision. Complex Level 1 represents the basic science examination component of the licensing process of osteopathic medicine.

#### **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**

## **Affiliated Hospitals**

**Aventura Hospital**  
North Miami Beach

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

**Bethesda Memorial Hospital**  
Boynton Beach  
D.M.E.: Myron Honell, D.O.

**Broward General Medical Center**  
Fort Lauderdale  
Associate Medical Education  
Director: Glenn R. Singer, M.D.  
D.M.E.: Gary Hill, D.O.

**Columbia Hospital**  
West Palm Beach  
D.M.E.: Bradley Feuer, D.O., J.D.

**Coral Springs Medical Center**  
Coral Springs  
D.M.E.: Gary Hill, D.O.

**Florida Hospital East Orlando**  
Orlando  
D.M.E.: Joseph Allgeier, D.O.

**Florida Medical Center**  
Fort Lauderdale  
D.M.E.: Lou Isaacson, D.O.

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

**Jackson Memorial Hospital North**  
North Miami Beach  
D.M.E.: Stanley Simpson, D.O.

**Kendall Regional Medical Center**  
Miami  
D.M.E.: Stanley Simpson, D.O.

**Lakeside Medical Center**  
Belle Glade  
D.M.E.: Daniel Kairys, M.D.

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

**Larkin Community Hospital**  
Miami-Dade  
Chief Academic Officer: J.D. Suarez  
D.M.E.: Ivan Rodriguez, D.O.

**Lee Memorial Hospital**  
Fort Myers  
DME: Dean Goldberg, D.O.

**Magnolia Regional Health Center**  
Corinth, Mississippi  
D.M.E.: David Pizzimenti, D.O., M.P.H.

**Memorial Regional Hospital**  
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  
D.M.E.: Gary Merlino, D.O.

**Naples Community Hospital**  
Naples  
D.M.E.: Dan Kaplan, D.O.

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

**Osteopathic Institute of the South**  
Atlanta  
President: Barry Doublestein

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

**Palms West Hospital**  
Loxahatchee  
D.M.E.: Bradley Feuer, D.O., J.D.



### **Southeast Alabama Medical Center**

Dothan, Alabama  
D.M.E.: Alan Purvis, M.D.

### **Southampton Hospital**

Southampton, New York  
D.M.E.: Shawn Cannon, D.O.

### **UM/Jackson Memorial Medical Center**

Miami  
Director of Emergency Care Center:  
Kathleen Schrank, M.D.

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

West Palm Beach  
Administrator: John Ribnikar  
D.M.E.: Shanta Loungani, M.D.

## **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 tricity 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 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 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 18 teaching hospitals and hospital systems spanning the state of Florida and includes ambulatory centers, county health departments, and social service agencies. Four additional affiliated programs are located in Georgia, Louisiana, and North Carolina.

The CEME, as a dynamic network 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 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.

The demand for public health professionals is increasing as a result of 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 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. 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. The Capstone 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. An on-site orientation session is available at the beginning of the program each semester. Graduating students have the opportunity to participate in a commencement exercise in May of each year. Each student must pass a written comprehensive examination to successfully complete the course of study.

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 Higher Education Coordinating Board (HECB) 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 the following degree programs: Master of Public Health and Doctor of Education. Authorization by the HECB 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 HECB at P.O. Box 43430, Olympia, WA 98504-3430.

### Admission to the Master of Public Health Program

#### 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 (EPS)  
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
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 for international students

5. two letters of evaluation, 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 applicant's file is, subsequently, reviewed by the committee on admissions, which submits a recommendation 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 (academic)

### 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 comprehensive examination 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 comprehensive examination. 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 6104 Health Service 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 is \$475 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 \$750 is also required annually.

#### **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.

### 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) 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)			Lecture	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 (required)			Lecture	Practice	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	5102	Foundations of Public Health	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	Bioterrorism and All-Hazards Preparedness	45	0	3
PUH	5115	Principles of Health Education	45	0	3
PUH	5210	Public Health Communications	15	60	3
PUH	5305	Advanced Biostatistics	15	60	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	30	30	3
PUH	6017	Special Studies in Public Health	0	90	3
PUH	6022	Community Health Project	0	90	3
PUH	6101	Health Care Organization and Administration	45	0	3
PUH	6104	Health Services 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	30	0	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

The course requires attendance at a minimum of 45 hours of public health special lectures arranged or preapproved by the course director. A written report is required for each lecture. The student may fulfill the total required hours of lectures over three semesters, starting from the semester of enrollment. (30-15-3)

### 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 5102—Foundations of Public Health

This course provides an introduction to the history, concepts, values, principles, and practice of public health. The course also suggests the sense of purpose that unites the myriad occupations and tasks in public health practice and provides an orientation to the place of each of the five traditional core disciplines of public health practice. It is intended to help students develop a well-rounded picture of public health with just enough examples and content in each area to provide a mental “seed” for detailed study in the other program courses. (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—Bioterrorism and All-Hazards Preparedness

An overview is provided regarding disasters that may result due to bioterrorism, other weapons of mass destruction, nonintentional man-made disasters, natural disasters (e.g., hurricanes, floods, tornadoes, wildfires, earthquakes), and pandemics. Major consideration is given to disaster prevention, response, mitigation, and recovery. The importance of a personal plan is stressed. (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 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, non-infectious, and chronic diseases of public health importance. **Prerequisites:** PUH 5430, PUH 5301 (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. 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 practice (e.g., evidence based practice, GIS). **Prerequisites:** PUH 5301, PUH 5430 (45-0-3)

### **PUH 5520—Legal and Ethical Issues in Public Health**

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 elective is a guided study course designed to address a specific area of public health interest to the student, which is not specifically or significantly addressed in other courses. The course director and faculty adviser will guide the student to define the objectives of the course and to fulfill the desired expectations. This course is didactic, not original research, or field experience. (0-90-3)

### **PUH 6022—Community Health Project**

This course is designed to give the student the opportunity to plan, implement, or evaluate a specific community health initiative. It is an applied experience in collaboration with a field-based site. The project is approved and monitored by the course director. (0-90-3)

### **PUH 6024—Advanced Biostatistics in Health/Clinical Research**

The purpose of this course is to provide public health students with advanced statistical skills that can be used in health or clinical research. A general linear approach will be used that will encompass multiple linear regression, logistical regression, and generalized estimating equation for repeated measures. **Prerequisites:** PUH 5301 AND 5430 (15-60-3)

### **PUH 6101—Health Care Organization and Administration**

This course provides students with an overview of health care management. Organizational behavior, marketing, operations, organization strategy, quality assurance, information systems, and financial management are addressed. The importance of the integration of these components is emphasized. **Prerequisite:** PUH 5512 (45-0-3)

### **PUH 6104—Health Services Planning and Evaluation**

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. **Prerequisites:** PUH 5430, PUH 5512 (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**

Focuses on the concepts and dynamics of leadership in health care organizations. 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. (0-30-0)

## Master of Science in Biomedical Informatics

Nova Southeastern University College of Osteopathic Medicine in collaboration with the NSU Graduate School of Computer and Information Sciences (GSCIS) has developed a course of study leading to the degree of Master of Science in Biomedical Informatics. It is designed to train future leaders in the development, dissemination, and evaluation of information technology as it relates to health care environments, such as hospitals, health systems, health information technology system vendors, eHealth companies, insurers, pharmaceutical companies, and academic institutions. This innovative distance program uses a completely **online format** to enable working professionals to earn a master's degree in biomedical informatics without career disruption.

There has been an emergence of biomedical informatics as a discipline due to advances in computer and communications technology and an increasing awareness of the exponential growth of biomedical knowledge. This has been accompanied by clinical information that has become unmanageable by traditional, paper-based methods and the growing realization that the process involved in knowledge retrieval and decision making are important to modern biomedicine and clinical decision making.

Biomedical informatics is an interdisciplinary field that incorporates computer and information sciences, cognitive and decision sciences, epidemiology, telecommunications, and other fields. Researchers in this evolving field discover new methods and techniques to enhance health care, biomedical research, and education through information technology. Those in this discipline study and encourage the use of appropriate information to support clinical care, research, teaching, and health services information.

Biomedical informatics allows physicians and other health professionals to integrate advanced information system capabilities and highly trained individuals with a clinical outlook and approach. The methods, tools, and resources developed through biomedical informatics often help physicians and other health professionals accomplish tasks that they were already doing, but in a more efficient, perhaps more accurate, or even entirely new manner. It also allows for the performance of tasks that were not previously possible. Informational technology now provides physicians and other health professionals with the potential to access large databases. As a result, they can now begin to think like epidemiologists, in addition to being providers of patient care.

Specific areas of added value provided by biomedical informatics include

- analyzing information to develop new knowledge and information

- developing action plans to use the new knowledge and to maintain a continuous quality-improvement cycle
- using information and feedback to create an impact on organizational performance
- improving the quality of an academic health center's computing and information technology environment to profoundly influence its ability to compete in education and research
- improving the ability to collaborate with other health organizations including hospitals, health departments, medical societies, and clinicians in rural and remote areas

Those who are part of the biomedical informatics community have the potential to seriously confront many issues that need to be addressed in health care. These issues include

- predicting who will become sick
- preventing health complications or problems in individuals
- making effective interventions in large populations
- reducing adverse complications in health care
- overcoming physician resistance to intricate systems and information technology
- maximizing constrained resources

The Master of Science in Biomedical Informatics is a participating program of the Southern Regional Education Board's Electronic Campus program. 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 M.S.B.I. Program is designed to prepare students for careers in information management, teaching, and research in academic health centers, other health care institutions and organizations, and the health care computing industry. It has become almost axiomatic that the organization and retrieval of information is essential for the development of new knowledge. The quality of a medical school's computing and information technology environment will profoundly affect its ability to compete in both education and research. In addition, the quality of the biomedical informatics program will influence a school's opportunities to collaborate with health organizations such as hospitals, health departments, medical societies, and physicians in remote areas. The major areas included in the M.S.B.I. education 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 a master's degree that will lead to the

- use of information science to enhance clinical performance
- use of information science to improve patient safety (e.g., reduce medical errors)
- acquisition of a position in medical informatics in a health care environment

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

- layout and design an information system
- understand the fundamentals of a telecommunication network design and the Internet
- have in-depth knowledge of data-base systems and structures
- evaluate medical information technology to determine what should be integrated into clinical medicine
- employ the knowledge, skills, and concepts of biomedical informatics in evidence-based medicine
- understand documentation requirements for medical records, including risk management and patient safety
- have knowledge in information security and policy formation
- be current about existing and emerging technology in biomedical informatics and related areas
- have a basic understanding of biostatistics and epidemiology and their application to biomedical informatics
- use and apply interface design principles to biomedical informatics systems

### Admissions Requirements

The M.S.B.I. 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 institution of higher education
- 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 from supervisors or co-workers who are familiar with applicants' character, scholastic aptitude, and work ethic
- submit official transcripts

Please mail all supplemental admissions material to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Osteopathic Medicine  
M.S.B.I. 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 [msmi@nova.edu](mailto:msmi@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 M.S.B.I. program, but does not intend to pursue the master's degree at the time of application. The nondegree-seeking student must provide the following admission requirements in order to take classes in the M.S.B.I. program:

- completed online application form
- official transcripts
- 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.

## Graduate Certificates

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 (WebCT) 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.

## Tuition and Fees

Tuition is \$535 per credit hour at the College of Osteopathic Medicine. Students are subject to tuition based on whether a course is being offered at NSU-COM or other colleges. An NSU student services fee of \$750 and a Health Professions Division student access fee of \$145 are required annually. Tuition and fees are subject to change without notice.

## Transfer of Credits

Applicants or enrollees of the NSU-COM Master of Science in Biomedical Informatics Program may petition for a transfer of credit hours toward their degree from an accredited institution. To be considered for transfer of credit, courses must have been completed prior to admission to the M.S.B.I. program and less than five years prior to the beginning of the student's first semester in the M.S.B.I. 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, 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
- satisfactorily meet all NSU 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 WebCT or some similar format. Students will be required to complete a practicum within the environment in which it is being conducted. Each practicum will require the submission of a completed project or report.



## Biomedical Informatics Program Curriculum Outline

Required Courses			Credits
MI	5120	Management Information Systems in Health Care	3
MI	5130	Database Systems in Health Care	3
MI	5152	Information Security in Health Care	3
MI	5153	Telecommunications and Computer Networking in Health Care	3
MI	5160	System Analysis and Design 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	Medical Informatics Project/Practicum	4
<b>Subtotal</b>			<b>31</b>

Elective Courses (12 credits required)			Credits
MI	5121	Information Systems Project Management in Health Care	3
MI	5180	Human-Computer Interaction in Health Care Settings	3
MI	5203	Medical Informatics Applications to Health Services	3
MI	6400	Outcome Research	3
MI	6401	Biostatistics	3
MI	6403	Epidemiology	3
MI	6404	Special Topics in Health Informatics	3
MI	6405	Public Health Informatics	3
MI	6406	Information Technology Applications in Management Decisions	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
<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 online, interactive 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 facilities, and management's role in major IT initiatives. (3 credits)

### **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. Besides, 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 credits)

### **MI 5152—Information Security in Health Care**

The course will cover concepts and applications of health care system and data security. Topics include risks and vulnerabilities, policy formation, controls and protection methods, database security, encryption, authentication technologies, host-based and network-based security issues, personnel and physical security issues, and issues of law and privacy. Areas of particular focus include secure health care system and network design, implementation and transition issues, and techniques for responding to security breaches. (3 credits)

### **MI 5153—Telecommunications and Computer Networking in Health Care**

The understanding of telecommunications and networking is imperative for adequate functioning of health care organizations. This is due to the convergence of computing, data management, telecommunications, and the growing applications of information technology in the health care arena and medical facilities. The knowledge of these key areas of information systems also becomes essential for competitive advantage. This course combines the basic technical concepts of data communications, telecommunications, and networking with the health care IT management aspects and practical applications. (3 credits)

### **MI 5160—Systems 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 providing 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 and mobile technologies, as well as 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 using 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) have evolved to become important 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 proceeds to review 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. 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 Evaluations 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 and qualitative evaluation methods, overview of some descriptive and inferential statistical methods, barriers and facilitators to project implementation, and both internal and external stakeholders of 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—Biomedical Informatics Project/Practicum**

This is a required course for all M.S.B.I. students. The project/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. A comprehensive written report and an oral presentation will be required upon completion of the project/practicum. (4 credits)

Please refer to [www.scis.nova.edu/Masters/Director/course\\_descriptions/mmis.html](http://www.scis.nova.edu/Masters/Director/course_descriptions/mmis.html) for additional listings of courses offered by the Graduate School of Computer and Information Sciences in the M.S. in Management Information Systems Program.

#### **Elective Courses**

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

This course introduces the fundamental principles of project management from an information technology

perspective, but with an emphasis on health care industry applications. Fundamental aspects of project management are covered, including project integration and 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 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 5203—Medical Informatics Applications to Health Services**

This online course builds on the knowledge acquired through MI 5200 Survey of Medical Informatics. This course explores the practical aspects of health information technology and seeks to apply the information learned in previous courses to the health care arena. Students will learn to integrate the needs of health care institutions and providers with the use of information technology applications through practical task assignments. Topics will include the role of IT in patient safety, computer security, use, health outcomes, and HIPAA; public health informatics; telemedicine; budget consideration in HIT; economic impact; and access to care, as well as the current state of patient-focused HIT, federal governmental HIT involvement, DOQ-IT initiative, provider needs, and EMR system evaluation for providers. Topics will be discussed from a practical stand-point, from the health care provider's perspective. (3 credits)

#### **MI 6400—Outcome Research**

This course 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. (3 credits)

#### **MI 6401—Biostatistics**

This course focuses on the principles and reasoning underlying modern biostatistics and on inferential techniques commonly used in public health research. At course completion, students will be able to apply basic inferential methods in research endeavors and improve their abilities to understand the data analysis of health-related research articles. (3 credits)

### **MI 6403—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. (3 credits)

### **MI 6404—Special Topics in Health Informatics**

MI 6404 is an elective course designed to be student/self-directed. 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, 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 apply the skills of some informatics tools in public health practices. (3 credits)

### **MI 6406—Information Technology Applications in Management Decisions**

Students enter MIS courses with varied levels of knowledge and understanding. Effective managers know what information systems are, how they affect the organization and its employees, and how IT can make businesses more competitive. This course will help students learn to design and develop computer applications that use common end-user software packages to solve problems facing managers today. (3 credits)

### **MI 6407—Grant Writing**

The purpose of this course is to introduce students to grant development and preparation so that 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 principles and logic involved in health policy, planning, and management; addresses historical, political, and environmental contexts; and incorporates them into population research. (3 credits)

### **MI 6409—Health Service Planning and Evaluation**

This course is an in-depth review of basic planning and evaluation techniques for the implementation of community

health care programs. The course is designed, and will be taught, employing comparative methodology. The material will be taught using multiple international examples and experiences. The course covers the interdependence of policy, planning, and management. It will consist of policy analysis techniques as well as the conceptual framework for the planning and management of health care programs. The course also reviews essential methods for effective planning and evaluation, considering the economic, political, epidemiological, demographic, and other components that contribute to the assessment of health needs and resource allocation. **Prerequisites:** PUH 5430, PUH 5512 (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 patient 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 uses a case-study/team-learning format to immerse the students in the technical, business, cultural, and organizational dynamics typically encountered during the Health Care Information Technology systems selection and contract negotiation processes. 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 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 style. (3 credits)

Please refer to other college/school catalogs for descriptions of other offered elective courses.

## College of Osteopathic Medicine Departments

### ANATOMY

Chair and Professor: **G. R. Conover** | Professors: **L. Dribin, A. Mariassy, K. Tu, R. K. Yip** | Associate Professors: **N. Lufti, S. Purvis** | Assistant Professor: **P. Greenman** | Instructor: **D. McNally**

### BIOCHEMISTRY

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

### MICROBIOLOGY

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

### PATHOLOGY

Chair and Professor: **W. Gibson** | Professors: **K. Khin, M. A. Khin** | Assistant Professors: **B. C. Jones, A. B. Trif** | Professor Emeritus: **D. C. Bergman**

### PHARMACOLOGY

Chair and Associate Professor: **C. E. Reigel, Jr.** | Professor: **M. Parker** | Associate Professors: **T. Panavelil, C. Powell**

### PHYSIOLOGY

Chair and Professor: **W. Schreier** | Professors: **H. Mayrovitz, S. Taraskevich** | Associate Professor: **Y. Zagvazdin** | Assistant Professors: **L. Lyons, B. Ramos**

### PSYCHIATRY AND BEHAVIORAL MEDICINE

Professors: **S. Cohen, R. Ownby** | 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: **M. Howell, S. Simpson, P. Anderson-Worts**

| 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** | Professors: **G. S. Bowen, 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** | Professors Emeritus: **M. Greenhouse, A. Snyder**

### 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, H. Lane, G. Merlino**

#### DIVISION OF CARDIOVASCULAR MEDICINE

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

#### DIVISION OF DERMATOLOGY

Chair, Clinical Professor, and Residency Program Director: **H. Schwartzberg** | Assistant Professor: **T. Favreau** | 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. Lenex**

#### 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** | Professor: **L. Jacobson** | 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** | Professors: **C. Blavo, B. Peters** | Clinical Professor: **D. Mulligan-Smith** | Associate Professor: **H. DeGaetano** | Assistant Professors: **R. Faillace, M. Gabay**

#### SURGERY

Chair and Professor: **D. Thomas** | Professor Emeritus: **S. Kaye**

#### DIVISION OF ANESTHESIOLOGY

Chair and Clinical Associate Professor: **R. H. Sculthorpe**

#### 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 Professor: **A. Rana**







# **College of Pharmacy**



# College of Pharmacy



Andrés Malavé,  
B.S., M.S., 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

**Andrés Malavé**, B.S., M.S., Ph.D.  
Dean

**Lisa Deziel-Evans**, B.S., Pharm.D., Ph.D.  
Executive Associate Dean, Professional Program

**Hugh M. McLean**, B.S., M.S., Pharm.D., Ph.D.  
Associate Dean, Research and Graduate Education

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

**Carsten Evans**, B.S., M.S., Ph.D.  
Assistant Dean, Continuing Pharmacy Education and  
Professional Affairs

**Mark L. Glover**, B.S., Pharm.D.  
Assistant Dean, Academic Policy and Management

**Manuel J. Carvajal**, B.A., M.S.A., Ph.D.  
Chair, Sociobehavioral and Administrative Pharmacy

**William Wolowich**, B.Sc. (Pharm), Pharm.D.  
Chair, Pharmacy Practice

**Michelle Clark**, B.A., M.S., Ph.D.  
Chair, Pharmaceutical Sciences

**Nile M. Khanfar**, B.S., M.B.A., Ph.D.  
Interim Director, Palm Beach Program

**John Reyes**, B.S.  
Administrative Director, Puerto Rico Program

**Goar Alvarez**, B.S., Pharm.D.  
Director, Pharmacy Services

**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 2,700 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. However, pharmacists are not only knowledgeable about drugs, they must also be people-oriented. 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. The shortage of pharmacists has become so critical that colleges of pharmacy would have to double their enrollments to meet the projected needs of the health care system.

### **Accreditation**

The Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109, (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. The College of Pharmacy is a member of the American Association of Colleges of Pharmacy.

### **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 West Palm Beach program. A new facility has been constructed in Palm Beach at the intersection of Interstate 95 and Military Trail in Palm Beach Gardens. Classes will be held in the new building starting in the fall of 2011. 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 only distinction between the Fort Lauderdale campus-based degree and the distance degree is geography. Each location has a program director, 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, and texts are used. Communication through telephone, fax, and texts are used. Communication through telephone, fax, and texts are used. Communication through telephone, fax, and texts are used. 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. The College of Pharmacy's Drug Information Center meets a pressing demand among health care professionals for accurate, up-to-date information on medications, their adverse effects, incompatibilities, potential for interactions, and related legal issues.

### **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 executive associate dean. 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 executive associate dean. 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 16 credit hours of didactic coursework and a minimum of five advanced pharmacy practice experiences must be completed at Nova Southeastern University.

### **Class Cancellation Policy**

The university reserves the right to cancel any class. If a class is cancelled and a replacement is not offered, students will receive a full refund of tuition paid for the cancelled class. If the student registered for only one class, then other fees will be refunded as well.

## Entry-Level Program Doctor of Pharmacy Degree

### Admissions Requirements

The College of Pharmacy selects students based on pre-pharmacy academic performance, Pharmacy College Admission Test (PCAT) scores, personal interviews, written applications, and letters of evaluation.

### Pre-Pharmacy Studies

1. Prior to matriculation, College of Pharmacy applicants must complete a minimum of 76 semester hours of coursework at a regionally accredited college or university, including the following required courses:

- general biology (including laboratory)—  
8 semester hours
- advanced biology (cellular or molecular biology, microbiology, or genetics)—3 semester hours
- anatomy and physiology (including laboratory)—  
8 semester hours
- general chemistry (including laboratory)—  
8 semester hours
- organic chemistry (including laboratory)—  
8 semester hours
- general physics (including laboratory)—  
8 semester hours
- English—6 semester hours
- calculus—3 semester hours
- speech—3 semester hours
- statistics—3 semester hours
- macroeconomics or microeconomics—  
3 semester hours
- humanities and social/behavioral sciences—  
15 semester hours
  - social/behavioral sciences—3 semester hours
  - humanities—3 semester hours
  - ethics—3 semester hours
  - social/behavioral sciences or humanities—  
6 semester hours

Note: These are minimum academic requirements for admission. Students are encouraged to take additional courses such as molecular or cellular biology, genetics, biochemistry, microbiology, physiology, and physical chemistry.

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 five years of the time of interview. Applicants should take the PCAT no later than October or 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 June, August, October, and January at locations throughout the United States and Canada. Application brochures for the PCAT may be available at your college. You can also receive the brochure from the Office of Admissions, NSU College of Pharmacy, by visiting [www.pcatweb.info](http://www.pcatweb.info), or by forwarding a written request to

Pharmacy College Admission Test  
The Psychological Corporation  
555 Academic Court  
San Antonio, Texas 78204  
800-622-3231

### Foreign Coursework

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence. Foreign coursework must be evaluated by one of the three services listed below. When possible, an equivalent GPA should be requested as part of evaluation.

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
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 foreign coursework evaluated, and an official course-by-course evaluation must be sent to the Office of Admissions directly from the evaluating service.

## Application Procedures

### Primary Application Process

The college participates in the Pharmacy College Application Service (PharmCAS) for the receipt and processing of all applications. PharmCAS takes no part in the selection of students.

Applicants may submit applications electronically through PharmCAS Online, an interactive Web-based application that can be accessed through *www.PharmCAS.org*. Applicants choosing to submit a paper application may contact PharmCAS directly for an application packet at

PharmCAS  
19 Main Street  
Watertown, Massachusetts 02472  
(617) 612-2050

Listed below are the steps necessary to complete the primary 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 evaluation 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 takes four to six weeks.

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

Applicants for the Ponce, Puerto Rico, site must contact the Office of Student Affairs in Ponce, Puerto Rico, for application information by calling (787) 841-2000, ext. 2431, or via email to *prphss@nova.edu*.

### Secondary Application Process

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

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

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

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

The deadline date for submitting the secondary 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 (EPS)  
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. Nova Southeastern University will provide access to email, online databases, and library resources.

Students must also provide their own transportation to experiential sites. Puerto Rico students should anticipate completion of experiential education at sites outside of the commonwealth of Puerto Rico. During the final month, all students—including those studying in Puerto Rico and Palm Beach—return to their respective sites for updates on new and changing drug therapy, presentations, and board exam preparation.

## Computer Requirements

Throughout the curriculum, students are required to access instructional materials and information from the university's course management system and from the Internet. All students are required to have a computer with the following minimum specifications:

- CD/DVD
- sound capability and speakers
- Internet connection with private Internet service provider (ISP) for access from home to the Internet (If a laptop computer is utilized, a wireless modem will allow access to NSU's campus-wide wireless network.)
- Windows XP, Vista, or 7
- Microsoft Office 2007 with PowerPoint, Word, and Excel
- convenient access to a printer

NOTE: A laptop PC is the preferred format.

## 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 Microcomputer Laboratory or other training facilities.

## Tuition and Fees

- Tuition—Fort Lauderdale and Palm Beach, Florida

Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$25,175 for Florida residents and \$29,300 for non-Florida and non-Puerto Rico residents.

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—Ponce, Puerto Rico

Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$25,175 (U.S.) for Florida and Puerto Rico residents and \$29,300 (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 \$750 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 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. Students may avail themselves of the hospitalization insurance plan obtainable through the university.

## 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, Pontificia Universidad Catolica de Puerto Rico, and International College in Naples, Florida, 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
- Office of Admissions  
International College  
2655 Northbrooke Drive  
Naples, Florida 34119

## Internship

An internship is a requirement for licensure. The internship must be completed within the guidelines of the Florida Board of Pharmacy as set forth in the Rule, Chapter 64B16-26.400(4), or by the Board of Pharmacy in the state in which the student plans to fulfill the requirements for internship. A Social Security number is necessary in order to obtain an intern license from the state of Florida. 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 by phone at (954) 262-7241 or 800-541-6682, extension 27241, or by email at [intl@nsu.nova.edu](mailto:intl@nsu.nova.edu). The college's director of experiential programs provides assistance and guidance to students regarding internships.

## 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 four 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 Pharmacy Leadership course that covers topics such as ethics and professionalism.

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 pharmacoeconomics and outcomes research and biomedical literature evaluation. All students must complete a minimum of 6 semester hours of elective credit.

Unique aspects of the first three years 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 a pharmacy 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, four in core practice areas and five 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. The majority of a student's APPEs must be in direct patient care practices. 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 Professional Development Capstone course that offers student-initiated review and update of calculations and case-based drug therapy evaluations. During the last month of the curriculum, student pharmacists return to campus for updates on law, medication therapy, and preparation for the national board examination.

Note: The advanced pharmacy practice experiences are full-time commitments for the students (a minimum of 40



hours per week). Students are assigned to approved off-campus facilities and must arrange their own transportation. Experiences may be taken in any sequence, however students may not enroll in advanced practice experiences until all didactic work has been satisfactorily completed. There are currently few advanced pharmacy practice sites in Puerto Rico for the entry-level students. Students must expect to use Florida sites for most experiences. 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 seven years from the date of matriculation.

### Study Abroad

Opportunities for study abroad programs may be provided during the summer.

### 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 seven 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 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
- 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 complete all professional development capstone requirements
- 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	0
PHRC	4110	Pharmaceutics I	3
PHRC	4200	Pharmacy Calculations	1
PHRC	4210	Pharmacodynamics I	3
PHRC	4300	Pharmacy Health Care Systems	2
PHRC	4410	Physiology and Pathophysiology I	4
PHRC	4580	Pharmacy Leadership I	1
PHRC	4700	Biochemistry	4
<b>Total</b>			<b>18</b>

<b>First Year—Winter Semester</b>			<b>Credits</b>
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	Drug Information Resources	2
PHRC	4680	Pharmacy Leadership II	1
<b>Total</b>			<b>17</b>

<b>Second Year—Fall Semester</b>			<b>Credits</b>
PHRC	5000	Physical Assessment *	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>			<b>Credits</b>
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
PHRC	5710	Patient Care Management Theory I	1
PHRL	5710	Patient Care Management Lab I	0
<b>Total</b>			<b>18.5</b>

<b>Third Year—Fall Semester</b>			<b>Credits</b>
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
PHRC	6720	Patient Care Management Theory II	1
PHRL	6720	Patient Care Management Lab II	0
PHRE		Elective 1	2
<b>Total</b>			<b>19</b>

<b>Third Year—Winter Semester</b>			Credits
PHRC	6380	Public Health	2
PHRC	6440	Pharmacotherapy IV	6
PHRC	6540	Pharmacy Practice Seminar	1
PHRC	6680	IPPE: Pharmacy Service	2
PHRC	6730	Patient Care Management Theory III	1
PHRL	6730	Patient Care Management Lab III	0
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	Professional Development Capstone I	0
PHRC	7802	Professional Development Capstone II	0
PHRC	7803	Professional Development Capstone III	0
<b>Total</b>			<b>36</b>

\* PHRC 5000 is taught as an institute, schedule to be announced.

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 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 International Pharmacy Graduate curriculum 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. Pharmacodynamics and Nonprescription Therapies courses provide a strong understanding of the principles of drug therapy. The business, human relation, communication, marketing, 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 scores (if applicable), GRE or PCAT scores, written applications, and letters of evaluation.

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) is required of all applicants whose native language is not English. The TOEFL, administered worldwide, measures the ability of non-native speakers to understand and use North American English. Preference will be given to students with scores of at least 213 on the computer-based exam or 79–80 on the Internet-based exam. TOEFL 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 is currently required for admission:

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

### 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 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. 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 (EPS), 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 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**

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence. Foreign coursework must be evaluated by one of the services listed below.

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
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, and an official evaluation must be sent to Nova Southeastern University, Enrollment Processing Services (EPS), College of Pharmacy, Office of Admissions, 3301 College Avenue, P.O. Box 299000, Fort Lauderdale, Florida 33329-9905.

### **TOEFL**

Applicants must request to have official TOEFL scores sent if English is not their native language. Scores must come directly to the Office of Admissions, College of Pharmacy from the testing center—photocopies and facsimiles will not be accepted.

Extensive experience in an English-speaking environment may be evaluated for substitution of this requirement.

### **Graduate Record Examination or Pharmacy College Admission Test**

For 2011 entering class and later, 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.

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)

### **Requirements**

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

This curriculum requires a student's full effort. Students are responsible for their own transportation to the experiential sites.

### **Computer Requirements**

Throughout the curriculum, students are required to access instructional materials and information from the university's course management system and from the Internet. All students are required to have a computer with the following minimum specifications:

- CD/DVD
- sound capability and speakers

- Internet connection with private Internet service provider (ISP) for access from home to the Internet (If a laptop computer is utilized, a wireless modem will allow access to NSU's campus-wide wireless network.)
- Windows XP, Vista, or 7
- Microsoft Office 2007 with PowerPoint, Word, and Excel
- convenient access to a printer

NOTE: A laptop PC is the preferred format.

### 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 Microcomputer Laboratory or other training facilities.

### Tuition and Fees

The board of trustees has established the following tuition and fees for 2011–2012, which are subject to change at any time at the board's discretion:

- Tuition is \$32,820 (U.S.) with an NSU College of Pharmacy contract and \$36,255 (U.S.) for noncontract students, regardless of credit-hour load. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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 of International Pharmacy Graduates are the same as the Entry-level Pharm.D. Program, except international students must complete a minimum of 108 credit hours of coursework at the College of Pharmacy within six years.

### International/Immigration Information

It is the responsibility of the applicant to contact the Office of International Students for information on immigration regulations and student visa requirements. Inquiries can be directed to

Nova Southeastern University  
 Attention: Office of  
 International Students  
 3301 College Avenue  
 Fort Lauderdale, Florida  
 33314-7796

(954) 262-7241  
 800-541-6682, ext. 27241  
 Fax: (954) 262-7265  
 Email: [intl@nsu.nova.edu](mailto:intl@nsu.nova.edu)  
[www.nova.edu/cwis/registrar/iss](http://www.nova.edu/cwis/registrar/iss)

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. A Social Security number is mandatory in order to receive an intern license, which 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.

## International Curriculum Outline

First Year—Fall Semester			Credits
PHRC	4000	Medical Terminology (online)	0
PHRC	4200	Pharmacy Calculations (online)	1
PHRC	4230	Clinical Pharmacology	4
PHRC	4300	Pharmacy Health Care Systems	2
PHRC	4580	Pharmacy 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

**Total 19.5**

First Year—Winter Semester			Credits
PHRC	4550	Drug Information Resources	2
PHRC	4680	Pharmacy 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
PHRC	5710	Patient Care Management Theory I	1
PHRL	5710	Patient Care Management Lab I	0
PHRE		Elective 1	2

**Total 17.5**

Second Year—Fall Semester			Credits
PHRC	5000	Physical Assessment (two-day institute)*	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
PHRC	6720	Patient Care Management Theory II	1
PHRL	6720	Patient Care Management Lab II	0

**Total 19**

<b>Second Year—Winter Semester</b>			Credits
PHRC	5570	Biomedical Literature Evaluation	2
PHRC	6380	Public Health	2
PHRC	6440	Pharmacotherapy IV	6
PHRC	6540	Pharmacy Practice Seminar	1
PHRC	6680	IPPE: Pharmacy Service	2
PHRC	6730	Patient Care Management Theory III	1
PHRL	6730	Patient Care Management Lab III	0
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	Professional Development Capstone I	0
PHRC	7802	Professional Development Capstone II	0
PHRC	7803	Professional Development Capstone III	0
<b>Total</b>			<b>36</b>

\* PHRC 5000 is taught as an institute, schedule to be announced.

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 International 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

Covers the structures, functions, and metabolism of lipids, proteins, carbohydrates, nucleic acids, and body systems. Includes pharmaceutical application of material. (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. (0-0-0)

#### 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)

#### PHRC 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. **Prerequisites:** PHRC 4110 and 4200 **Corequisite:** PHRC 4120 (0-48-1)

#### 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 Health Care Systems**

This course covers concepts related to the structure and functioning of the United States health care system. Emphasis is placed on the analysis of issues associated with personnel; the organization, financing, 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—Drug Information Resources**

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. (32-0-2)

#### **PHRC 4580—Pharmacy Leadership in the Evolving Health Care Environment I**

Through active participation, students will achieve a basic understanding of leadership issues and the role of the pharmacist in caring for patients in all patient care settings (community, acute, assisted, and long-term care health systems). Part I of this course will introduce the student pharmacist to the profession of pharmacy in social and cultural awareness with active citizenship, leadership, and service. Student pharmacists will learn and understand licensure requirements involved in the practice of student pharmacist internship. This course will also provide an introduction to, and overview of, organized pharmacy on a local, state, and national level. It will explore the development of, and changes in, pharmacy practice acts as well as implementation of grass roots advocacy for pharmacy. The course will be driven by discussion, self direction, presentation, and analysis of social topics in pharmacy. (16-0-1)

#### **PHRC 4680—Pharmacy Leadership in the Evolving Health Care Environment II**

Through active participation, students will achieve a basic understanding of leadership, meeting procedures, presentations of policy issues on the role of the pharmacist, and caring for patients in all patient care settings (community, acute, assisted, and long-term care health systems). Part II of this course is designed to present an introduction for the student pharmacist to ethical and legal issues and patient communication. Students will learn from a combination of lectures, skills assessments, and self

direction; interacting directly with pharmacists, consumers, and association involvement; and the resources, tools, and technologies discussed. The student will learn to be a team member, improving his or her listening, observation skills, and involvement to enhance professional demeanor. The course will be driven by discussion, presentation, and analysis of ethical and social topics of pharmacy and will include a group poster presentation of therapeutic controversy. (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 will be 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. **Prerequisite:** PHRC 4300 (32-0-2)

#### **PHRC 5410—Pharmacotherapy I**

The pharmacotherapy curricular components are divided into four courses. Pharmacotherapy I is the prerequisite for the remainder of the pharmacotherapy sequence. Pharmacotherapy I combines rational pharmacotherapy with clinical pharmacokinetics. Courses are divided into disease-state modules and focus on the therapeutic decision-making process. Concepts include pharmacotherapy management based on the assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. Application of previous course materials, including pharmacodynamics and pharmacokinetics, is required. The concepts and techniques of biopharmaceutics and pharmacokinetics are also applied to the practical design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions. Disease categories presented in this course may serve as the foundation for the remainder of the pharmacotherapy course sequence. **Prerequisites:** PHRC 4200, 4210, 4220, 4250, 4410, and 4420 (48-0-3)

#### **PHRC 5420—Pharmacotherapy II**

This is the second of four courses in pharmacotherapy. Pharmacotherapy II combines rational pharmacotherapy

with clinical pharmacokinetics. Courses are divided into disease-state modules and focus on the therapeutic decision-making process. Concepts include pharmacotherapy management based on the assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. The concepts and techniques of biopharmaceutics and pharmacokinetics are also applied to the practical design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions. Application of previous course materials, including pharmacodynamics and pharmacokinetics is required. Disease categories presented in this course may build upon the previous pharmacotherapy course. **Prerequisites:** PHRC 4550, 4350, and 5410 **Corequisite:** PHRC 5570 (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. **Prerequisite:** PHRC 5380 (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. **Prerequisite:** PHRC 5380 (8-60-1.5)

#### **PHRC 5710—Patient Care Management Theory I**

This is the first course in the patient care management laboratory series. In this first laboratory, activities will include demonstrations and ability to use and teach health monitoring and other devices for patients. It uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication,

and social behavioral issues. This course also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and their skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this laboratory. **Corequisites:** PHRC 5330 and PHRL 5710 (16-0-1)

#### **PHRL 5710—Patient Care Management Laboratory I**

This is the first laboratory in the patient care management sequence of laboratories. Students must be registered for Patient Care Management Theory I. In this first laboratory, activities will include demonstrations and ability to use and teach about health monitoring and other devices for patients. This laboratory covers the following specific topics: communication skills and Medication Therapy Management, women's and men's sexual health, metabolic monitoring tools, durable medical equipment and wound care, and health screening devices. Students will also be involved in evidence-based complementary and alternative medicine and patient safety projects. The laboratory uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, and social behavioral issues. This course also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this laboratory. **Corequisite:** PHRC 5710 (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 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 focuses on theories and methodologies of pharmacoeconomics and outcomes research. Applications to clinical practice, the pharmaceutical industry, and formulary decision making are explored. **Prerequisite:** PHRC 5350 (32-0-2)

#### **PHRC 6380—Public Health and Pharmacy Practice**

This course covers public health foundations, concepts, and tools as they apply to pharmacy practice. Social determinants of health, health disparities, and cultural competencies, as well as their impact on population health, are emphasized. Skills related to epidemiology, pharmacoepidemiology, surveillance, and risk assessment are discussed. The course also explores models of pharmacy-run public health programs. **Prerequisites:** PHRC 4300 and 5300 (32-0-2)

#### **PHRC 6430—Pharmacotherapy III**

This is the third of four courses in pharmacotherapy. Pharmacotherapy III combines rational pharmacotherapy with clinical pharmacokinetics. Courses are divided into disease-state modules and focus on the therapeutic decision-making process. Concepts include pharmacotherapy management based on the assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. The concepts and techniques of biopharmaceutics and pharmacokinetics are also applied to the practical design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions. Application of previous course materials, including pharmacodynamics and pharmacokinetics, is required. Disease categories presented in this course may build upon previous pharmacotherapy courses. **Prerequisite:** PHRC 5410 (96-0-6)

#### **PHRC 6440—Pharmacotherapy IV**

This is the fourth of four courses in pharmacotherapy. Pharmacotherapy IV combines rational pharmacotherapy with clinical pharmacokinetics. Courses are divided into disease-state modules and focus on the therapeutic decision-making process. Concepts include pharmacotherapy management based on the assessment of physical findings, laboratory values, adverse drug effects, drug interactions, and patient education. The concepts and techniques of biopharmaceutics and pharmacokinetics are also applied to the practical design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions. Application of previous course materials, including pharmacodynamics and pharmacokinetics, is required. Disease categories presented in this course may build upon previous pharmacotherapy courses. **Prerequisites:** PHRC 5410 and 5700 (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 6430 (0-120-2)

#### **PHRC 6720—Patient Care Management Theory II**

The second in the patient care management sequence of classes, this course covers the following specific disease states: genitourinary conditions, arthritis, diseases affecting special populations such as pediatric and geriatric patients, asthma and COPD, endocrine disorders, and mental health. Pain management is also addressed. The course uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, and social behavioral issues. This course also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and their skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this class. **Corequisite:** PHRL 6720 (16-0-1)

#### **PHRL 6720—Patient Care Management Laboratory II**

This is the second laboratory in the patient care management sequence of laboratories. Student must be simultaneously registered for Patient Care Management Theory II. This laboratory covers the following specific disease states: genitourinary conditions, arthritis, diseases affecting special populations such as pediatric and geriatric patients, asthma and COPD, endocrine disorders, and mental health. Pain management is also addressed. The laboratory uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, and social behavioral issues. This laboratory also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and their skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this laboratory. **Corequisite:** PHRC 6720 (0-28-0)

#### **PHRC 6730—Patient Care Management Theory III**

The third in the patient care management sequence of classes, this course covers the following specific disease states: cardiovascular diseases, ophthalmologic conditions, gastroenterological conditions, infectious diseases, and cancer. The course uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, and social behavioral issues. This course also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this class. **Corequisite:** PHRL 6730 (16-0-1)

#### **PHRL 6730—Patient Care Management Laboratory III**

This third laboratory in the patient care management sequence is a continuation of Patient Care Management II laboratory. It covers the following specific disease states: cardiovascular diseases, ophthalmologic conditions, gastroenterological conditions, infectious diseases, and cancer. The laboratory uses real-life, integrated patient cases that allow students to draw upon knowledge acquired from all other courses in the curriculum. Cases encompass therapeutic, communication, and social behavioral issues. This laboratory also emphasizes decision-making processes that allow pharmacy students to integrate their knowledge and their skills in an interactive learning environment. Components of Medication Therapy Management will also be implemented in this laboratory. **Corequisite:** PHRC 6730 (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**

In this advanced practice experience, students will refine skills in therapeutics, pharmacokinetics, drug information retrieval and evaluation, verbal and written communication, patient monitoring, and case presentations. Students will apply knowledge, develop competency in pharmacy practice, and enhance knowledge of therapeutic management of common diseases such as hypertension, congestive heart failure, diabetes, and renal failure. **Prerequisite:** Successful completion of all didactic coursework (0-160-4)

### **PHRC 7620—APPE: Ambulatory Care**

In this advanced practice experience, students will participate in matters pertaining to drug therapy as members of a health care team in an ambulatory care setting. This will be done through extensive patient monitoring and obtaining medical and drug information directly from patients during interviews. Students will apply and synthesize didactic information to the activities of a pharmacist as they develop their professional maturity and judgment skills. **Prerequisite:** Successful completion of all didactic coursework (0-160-4)

### **PHRC 7630—APPE: Community Patient Care I**

In this advanced practice experience, students will develop and apply didactic knowledge in outpatient settings. Students will select one specialty from multiple offerings to complete this requirement. Students will be exposed to the role of a clinically oriented pharmacist in a community setting. 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**

In this advanced practice experience, students will develop and apply didactic knowledge in outpatient settings. Students will select one specialty from multiple offerings to complete this requirement. Students will be exposed to the role of a clinically oriented pharmacist in a community setting. 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**

In this advanced practice experience, students will develop skills and apply didactic knowledge in hospital settings. Students 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**

In this advanced practice experience, students will develop skills and apply didactic knowledge in hospital settings. Students 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**

Three supervised elective experiences that each consist of a four-week, full-time (40 hours per week), off-campus experience in a pharmacy practice specialty area that will allow students to obtain broader experiences. Elective experiences include, but are not limited to, administration, cardiology, critical care, drug information, geriatrics, immunology, infectious diseases, medical mission, neonatology, nutritional support, pediatrics, pharmacokinetics, psychiatry, and research. **Prerequisite:** Successful completion of all didactic coursework (0-160-4)

### **PHA 7790—Research Project**

Students are required to complete a research project that integrates principles learned in such courses as Research Design and Statistics, Drug Literature Evaluation, and Pharmacoeconomics. Limited lectures may be provided to guide the students as a group. Each student will work with a faculty member who will serve as the primary mentor for the project. All projects must be accepted for publication or presented at a peer-reviewed session of a state or national professional meeting. **Prerequisites:** Research Design and Statistics and Drug Literature Evaluation (16-96-4)

### **PHA 7790C—Research Project Continuation**

Students who are unable to complete their research project (PHA 7790) in one semester must register for PHA 7790C in each successive semester until successfully completing the research project. This registration ensures continued academic support and access to library resources. A student must achieve a *Progress* in PHA 7790 before registering for PHA 7790C. **Prerequisite:** PHA 7790 (0-48-1)

### **PHRC 7801—Professional Development Capstone I**

The primary goal for the professional development capstone course series is to assess and strengthen student knowledge and skills developed during the four-year pharmacy curriculum. In Capstone I, students review and assess their knowledge and skills in pharmacy calculations through problem sets and patient-based case studies. **Prerequisite:** PHRC 6440 (16-0-0)

### **PHRC 7802—Professional Development Capstone II**

Students demonstrate the application of medication therapy management knowledge as applied to selected disease states. The course focuses on demonstration of clinical application of pharmacotherapeutic knowledge associated with disease states commonly seen in adult internal medicine patients. **Prerequisite:** PHRC 6440 (16-0-0)

### **PHRC 7803—Professional Development Capstone III**

Students review and assess their knowledge of over-the-counter medication therapies, federal and state pharmacy law, pharmacokinetics, and disease management through the use of patient-based case studies and legal cases. **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—Consultant 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. **Prerequisites:** PHRC 4300, 5410, and 5420 (32-0-2)

### 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 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. The course has two components: an online component that contains 20–23 hours of didactic work and a laboratory experience that contains four-hour laboratory exercises. Note: A special fee is required. Taught at the P\*Ceutics Institute in Houston, Texas. **Prerequisite:** PHRC 4110 (24-60-2) Transfer credit

### PHRE 5219—Veterinary Pharmacotherapy

This course is designed to equip pharmacy students with an appropriate knowledge base and skill level to facilitate competence in practicing veterinary compounding pharmacy. The course has two components: an online component that contains 10 modules of 20–25 hours of didactic work and two modules that contain 16 contact hours on compounding veterinary dosage forms. Note: A special fee is required. Taught at the P\*Ceutics Institute in Houston, Texas. **Prerequisite:** PHRC 4110 (24-16-2) Transfer credit

### 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 5310—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 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 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 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. (16-0-1)

## Ph.D. Program Doctor of Philosophy Degree

### 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, 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 (EPS)  
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 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

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence. Applicants should contact one of the three services listed below for evaluation of their transcripts.

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
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 foreign coursework evaluated. A complete course-by-course evaluation must be sent to the Office of Admissions directly from the evaluating service to the EPS.

### 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 2011-2012 (subject to change by the board of trustees without notice) is \$24,645 for all students. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 is also required annually.

## Determinants of Drug Use (Social and Administrative Pharmacy) Sequence

### Program Description

Nova Southeastern University College of Pharmacy (COP) offers a program of graduate study and research in Determinants of Drug Use (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, pharmacoconomics, 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 Determinants of Drug Use core courses, elective courses, written comprehensive and oral qualifying examinations, and research in a Determinants of Drug Use 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	7003	Graduate Research in Population, Health, and Public Policy	2
PHRP	7002	Graduate Seminar	1
<b>Total</b>			<b>12</b>

First Year—Winter Semester			Credits
PHRP	7012	Clinical Drug Development and Marketing	3
HPH	7400	Research Design*	3
HPH	7310	Biostatistics II*	3
HPH	7610	Scientific Writing*	1
PHRP	7008	Graduate Seminar	1
<b>Total</b>			<b>11</b>

First Year—Summer Semester			Credits
PHRP	Research/Internships		3
<b>Total</b>			<b>3</b>

Second Year—Fall Semester			Credits
PHRP	Social Measurement and Techniques		3
PHRP	Advanced Quantitative Methods		3
PHRP	Elective		3
PHRP	Graduate Research		2
PHRP	Graduate Seminar		1
<b>Total</b>			<b>12</b>

Second Year—Winter Semester			Credits
PHRP	Pharmacoeconomics		3
PHRP	Theories of Health-Seeking Behavior		3
PHRP	Elective		3
PHRP	Graduate Research in Grant Writing		1
PHRP	Graduate Seminar		1
<b>Total</b>			<b>11</b>

<b>Second Year—Summer Semester</b>		Credits
PHRP	Elective	3
HPH	Research Funding and Proposal Development*	1
PHRP	Written Comprehensive and Oral Qualifying Exams**	0
<b>Total</b>		<b>4</b>

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

<b>Third Year—Winter Semester</b>		Credits
PHRP	Dissertation Research	8
PHRP	Graduate Seminar	1
<b>Total</b>		<b>9</b>

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

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

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

\*core course

\*\*to be administered after the winter semester, but before the summer semester begins

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>

First Year—Winter Semester			Credits
PHRP	7012	Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics	3

PHRP	7010	Graduate Research	2
HPH	7310	Biostatistics II*	3
HPH	7610	Scientific Writing*	1
PHRP	7008	Graduate Seminar	1
<b>Total</b>			<b>10</b>

<b>First Year—Summer Semester</b>			Credits
PHRP	Research/Internships		3
<b>Total</b>			<b>3</b>

<b>Second Year—Fall Semester</b>			Credits
PHRP	Research Techniques and Instrumentation		3
PHRP	Pharmaceutical Formulations and Product Development		3
PHRP	Elective		3
PHRP	Graduate Research		2
PHRP	Graduate Seminar		1
<b>Total</b>			<b>12</b>

<b>Second Year—Winter Semester</b>			Credits
PHRP	Industrial Pharmacy and Pharmaceutical Technology		3
PHRP	Advances in Drug Delivery		3
PHRP	Elective		3
PHRP	Graduate Research		2
PHRP	Graduate Seminar		1
<b>Total</b>			<b>12</b>

<b>Second Year—Summer Semester</b>			Credits
HPH	Research Funding and Proposal Development*		1
HPH	Research Design*		3
PHRP	Written Comprehensive and Oral Qualifying Exams**		0
<b>Total</b>			<b>4</b>

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



<b>Third Year—Winter Semester</b>		Credits
PHRP	Dissertation Research	8
PHRP	Graduate Seminar	1
<b>Total</b>		<b>9</b>

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

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

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

\*core course

\*\*to be administered after the winter semester, but before the summer semester begins

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 Discovery Sequence

### Program Description

Nova Southeastern University College of Pharmacy (COP) offers a program of graduate study and research in Drug Discovery, 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 Drug Discovery core courses, elective courses, written comprehensive and oral qualifying examinations, and research in a Drug Discovery 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>
First Year—Winter Semester			Credits
PHRP	7012	Clinical Drug Development: Advanced Pharmacokinetics and Biopharmaceutics	3

PHRP	Molecular and Cellular Pharmacodynamics	3
PHRP	7010 Graduate Research	2
HPH	7310 Biostatistics II*	3
HPH	7610 Scientific Writing*	1
PHRP	7008 Graduate Seminar	1

**Total 13**

**First Year—Summer Semester**

Credits

PHRP	Research/Internships	3
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**Total 3**

**Second Year—Fall Semester**

Credits

PHRP	Research Techniques and Instrumentation	3
PHRP	Advanced Pharmacogenomics and Molecular Medicine	3
PHRP	Graduate Research	2
PHRP	Graduate Seminar	1

**Total 9**

**Second Year—Winter Semester**

Credits

PHRP	Applied Pharmacology	3
PHRP	Elective	3
PHRP	Graduate Research	2
PHRP	Graduate Seminar	1

**Total 9**

**Second Year—Summer Semester**

Credits

HPH	Research Funding and Proposal Development*	1
HPH	Research Design*	3
PHRP	Written Comprehensive and Oral Qualifying Exams***	0

**Total 4**

**Third Year—Fall Semester**

Credits

PHRP	Dissertation Research	8
PHRP	Graduate Seminar	1

**Total 9**

<b>Third Year—Winter Semester</b>		Credits
PHRP	Dissertation Research	8
PHRP	Graduate Seminar	1
<b>Total</b>		<b>9</b>

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

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

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

\*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.

\*\*\*to be administered after the winter semester, but before the summer semester begins

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—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—Advances in Drug Delivery

This course deals with current information on the science and technology of novel drug delivery systems. It emphasizes the development of controlled release formulations based on the physiochemical properties of the therapeutic agent, polymer, and biomaterials and the mathematical relationships of drug disposition. Development of advanced delivery systems will be presented and discussed. Coverage includes material on the advantages, disadvantages, and limitations of advanced drug delivery over traditional methods.

#### 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—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—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 7005—Clinical Drug Development (Marketing)**

In-depth coverage of the process of conducting clinical trials from Phase I through Phase IV, and the FDA requirements for IND and NDA status, primarily from a marketing perspective, will be discussed.

#### **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: Pharmacodynamics Principles and Cardiovascular Pharmacology**

This course will apply the principles of organic chemistry, biochemistry, physiology, and pathophysiology to understand drug actions at the receptor, cellular, and systems levels under physiological and pathological conditions. Special emphasis will be placed on students' understanding of determinants of drug absorption, distribution, physiological receptors, drug-receptor interaction, drug metabolism, and elimination. This course will also focus on the drugs that act on the autonomic nervous system, cardiovascular system, and blood components as well. The rationale for the use of these therapeutic agents; their effects on cells, tissues, organ systems, and patients; the mechanisms underlying these effects; the therapeutic value of specific drug effects; and the adverse effects of the drugs will be addressed as well.

#### **PHRP—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—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—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—Industrial Pharmacy (Pharmaceutical Technology)**

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—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—Pharmaceutical Formulation and Product Development**

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. It emphasizes the utilization of pharmaceutical principles and variables, such as physicochemical and pharmacokinetic properties of drugs, for the design and formulation of conventional pharmaceutical dosage forms such as powders, tablets, capsules, creams, ointments, suppositories, solutions, suspensions, emulsions, sterile products, and biological products that meet the requirements of therapeutic efficacy, stability, and safety.

### **PHRP—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—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—Advanced Pharmacogenomics and Molecular Medicines**

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—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—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.

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

### **PHRP—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—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—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—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—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—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—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—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—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—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—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—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—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
- Alpha Zeta Omega
- American Association of Pharmaceutical Scientists
- American Pharmacists Association—Academy of Student Pharmacists
- American Society of Consultant Pharmacists
- Christian Pharmacists Fellowship International
- College of Psychiatric and Neurologic Pharmacists
- Florida Society of Health-System Pharmacists—Student Chapter
- International Pharmacy Student Association
- Kappa Psi
- National Community Pharmacists Association—Student Chapter
- Phi Delta Chi
- Phi Lambda Sigma
- Rho Chi
- Student National Pharmaceutical Association

## 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** | Associate Professor: **Y. Zagvazdin** | Assistant Professor: **L. Lyons**

### Pharmaceutical Sciences

Chair and Associate Professor: **M. Clark** | Professors: **L. Cubeddu, W. D. Hardigan, A. Malavé, R. Speth** | Associate Professors: **A.M. Castejon, J. Latimer, H. McLean, A. Rathinavelu, J. Rey** | Assistant Professors: **R. Ansari, L. Arce-Malavé, A. Lymperopoulos, E. Nieves, H. Omidian, M. Rawas-Qalaji, E. Santini, A. Torres-Reverón** | Clinical Assistant Professors: **R. Finkel, D. M. Gazze** | Academic Facilitators/Instructors: **J. Marin, F. Sircar-Ramsewak, L. Torres Flores, J.Varela**

### Sociobehavioral and Administrative Pharmacy

Chair and Professor: **M.J. Carvajal** | Professor: **L. Lai** | Associate Professors: **C. Harrington, S. Rabionet** | Assistant Professors: **G. Alvarez, G. Armayor, N. Khanfar, S. Leonard, I. Popvici, A. Perez Rivera, N. Sangasubana, B. Soto-Torres** | Instructor: **D. Vacca**

### Pharmacy Practice

Chair and Assistant Professor: **W. Wolowich** | Associate Professors: **K. Clauson, L. Deziel-Evans, M. L. Glover, M. Seamon, A. Zapantis** | Assistant Professors: **H. Anderson, K. Ayala, S. Ballard, S. Benavides, J. Caballero, S. Elrod, E. Frenzel-Shepherd, A. S. Garcia, T. Gauthier, B.J. Harris, N. Hart, J. Marino, J. McLaughlin-Middlekauff, B. Ortiz, E. Sherman, D. Singh-Franco, J. Steinberg, W. Wolowich** | Clinical Professor: **A. Silvagni** | Clinical Assistant Professors: **F. Colón Pratts, J. Fass, M. Metzner, E. Rice**

### Experiential Sites

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

- A.G. Holley State Hospital  
Lantana, Florida
- All-Med Infusion Services  
Miami Lakes, Florida
- American Lung Association  
Fort Lauderdale, Florida
- American Pharmaceutical Services  
Longwood, Florida
- American Pharmacists Association  
Washington, D.C.
- 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
- Aventura Hospital and Medical Center  
Aventura, Florida
- Baptist Hospital  
Miami, Florida
- Bascom Palmer Eye Institute  
Miami, Florida
- Bay Medical Center  
Panama City, Florida
- Bay Pines VAMC  
Bay Pines, Florida
- Bayamon Medical Plaza  
Bayamon, Puerto Rico
- Bethesda Memorial Hospital  
Boynton Beach, Florida
- Bioscrip  
Fort Lauderdale, Florida
- Boca Pharmacy & Home Health Center  
Boca Raton, Florida
- Boca Raton Community Hospital  
Boca Raton, Florida
- Broward County Health Department  
Fort Lauderdale, Florida
- Broward County Public Schools  
Youth Mentoring Programs  
Fort Lauderdale, Florida
- Broward General Medical Center  
Fort Lauderdale, Florida
- Cape Coral Hospital  
Cape Coral, Florida
- Cardinal Health  
Fort Myers, Florida
- Centers for Disease Control  
Atlanta, Georgia
- Cedars Medical Center  
Miami, Florida
- Center Pharmacy  
Cape Coral, Florida
- Central Florida Family Health Center—Alfaya  
Orlando, Florida
- Central Florida Family Health Center  
Sanford, Florida
- Central Florida Family Health Center—Hoffner  
Orlando, Florida
- Centro de Cuidado Diurno y  
Desarrollo Pediatrico San Miguel  
Ponce, Puerto Rico
- Centro de Envejeciente Cruz Espada  
Ponce, Puerto Rico
- Centro Esperanza Para la Vejez Cruz Espada  
Ponce, Puerto Rico
- Children's Diagnostic & Treatment Center  
Fort Lauderdale, Florida
- Circles of Care  
Melbourne, Florida
- City Diplomat Pharmacy  
Fort Lauderdale, Florida
- Cleveland Clinic Hospital  
Fort Lauderdale, Florida
- Cleveland Clinic Outpatient Pharmacy  
Weston, Florida
- Clinical Pharmacology Services  
Tampa, Florida
- Columbia Hospital  
West Palm Beach, Florida
- Commcare Pharmacy  
Fort Lauderdale, Florida
- Compounding Docs, Inc.  
Boca Raton, Florida
- Consejo de Salud de la Comunidad  
de la Playa de Ponce, Inc.  
Ponce, Puerto Rico
- Consultant Pharmacy Services, Inc.  
St. Petersburg, Florida
- Cooperative Feeding Program  
Fort Lauderdale, Florida
- Coral Gables Hospital  
Coral Gables, Florida
- Coral Springs Medical Center  
Coral Springs, Florida
- Covenant Hospice, Inc.  
Pensacola, Florida

- CuraScript Pharmacy  
Orlando, Florida
- CVS  
Florida
- Delray Medical Center  
Delray Beach, Florida
- Doctors Hospital  
Coral Gables, Florida
- Express RX  
Greenacres, Florida
- Family Health Center East  
Orlando, Florida
- Family Health Center  
of Southwest Florida  
Fort Myers, Florida
- Farmacia El Apotecario  
Ponce, Puerto Rico
- Farmacia El Tuque  
Ponce, Puerto Rico
- Farmacia La Aurora  
Yauco, Puerto Rico
- Farmacia La Concepcion  
Yauco, Puerto Rico
- Farmacia La Fe #2  
Ponce, Puerto Rico
- Farmacia La Fe #3  
Santa Isabel, Puerto Rico
- Farmacia Lorraine  
Ponce, Puerto Rico
- Farmacia Lourdes  
Ponce, Puerto Rico
- First Call for Help of Broward Inc.  
Fort Lauderdale, Florida
- Florida Hospital—Celebration Health  
Celebration, Florida
- Florida Hospital Outpatient Clinic  
Orlando, Florida
- Florida Hospital—East Campus  
Orlando, Florida
- Florida Hospital—South Campus  
Orlando, Florida
- Florida Hospital—Waterman  
Tavares, 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—Office of  
Information Management  
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 Myers VA Outpatient Clinic  
Fort Myers, Florida
- FSHP  
Tallahassee, Florida
- Gainesville VAMC  
Gainesville, Florida
- Gardens Drugs  
Palm Beach Gardens, Florida
- H. Lee Moffitt Cancer Center  
Tampa, Florida
- Health Care District of Palm Beach County  
West Palm Beach, Florida
- Health Care District of Palm Beach County—Delray  
Delray Beach, Florida
- Health Care District of Palm Beach County—  
Riviera Beach  
Riviera Beach, Florida
- Health First Infusion  
Riviera, Florida
- Health Park Medical Center  
Fort Myers, Florida
- Health Script Pharmacy  
Orlando, Florida
- Health South Doctors Hospital  
Coral Gables, Florida
- Health South Rehabilitation Hospital  
Miami, Florida

- Health South/Sunrise Rehabilitation Center  
Sunrise, Florida
- Helios Pain and Psychiatry Center  
Tampa, Florida
- Hialeah Hospital  
Hialeah, Florida
- HIMA  
Caguas, Puerto Rico
- Hogar San Miguel  
Ponce, Puerto Rico
- Holy Cross Hospital  
Fort Lauderdale, Florida
- Hospital Andres Grillasco  
Ponce, Puerto Rico
- Hospital Auxilio Mutuo  
San Juan, Puerto Rico
- Hospital Damas  
Ponce, Puerto Rico
- Hospital Dr. Pila  
Ponce, Puerto Rico
- Hospital Episcopal Cristo Redentor  
Guayama, Puerto Rico
- Hospital Interamericano de Medicina Avanzada  
Caguas, Puerto Rico
- Hospital Metropolitano  
Arecibo, Puerto Rico
- Hospital Oncologico  
San Juan, Puerto Rico
- Hospital Ramon  
Emeterio Betances  
Mayaguez, Puerto Rico
- Hospital San Cristobal  
Ponce, Puerto Rico
- Hospital San Francisco  
San Juan, Puerto Rico
- Hospital San Lucas II  
Ponce, Puerto Rico
- Hospital San Pablo  
Bayamon, Puerto Rico
- Hospital Universitario  
San Juan, Puerto Rico
- Humana Inc.  
Miramar, Florida
- Humana Health Plan  
Ponce, Puerto Rico
- Human Resource Health Center  
Miami, Florida
- Imperial Point Medical Center  
Fort Lauderdale, Florida
- Indian Health Service—Acomita  
San Fidel, New Mexico
- Indian Health Service  
Cherokee, North Carolina
- Indian Health Service  
Fort Thompson, South Dakota
- Indian River Memorial Hospital  
Vero Beach, Florida
- InfuPharma  
Hollywood, Florida
- JFK Medical Center  
Atlantis, Florida
- Jackson Memorial Hospital  
Miami, Florida
- Jackson Memorial  
Long Term Care Center  
Miami, Florida
- Jackson South Community Hospital  
Miami, Florida
- James Haley VAMC Tampa  
Tampa, Florida
- Jupiter Medical Center  
Jupiter, Florida
- Kendall Regional Medical Center  
Miami, Florida
- Kindred Healthcare—Boca Raton  
Boca Raton, Florida
- Kindred Hospital—Coral Gables  
Coral Gables, Florida
- Kindred Hospital—Fort Lauderdale  
Fort Lauderdale, Florida
- Kindred Hospital—Hollywood  
Hollywood, Florida
- Kings Drugstore  
Okeechobee, Florida
- Kmart Pharmacy  
Puerto Rico
- KOS Pharmaceutical  
Weston, 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
- Lower Brule Health Center  
Pharmacy—Indian Health Service  
Lower Brule, South Dakota
- Malcolm Randall Gainesville VA Medical Center  
Gainesville, Florida
- Mallinckrodt/Tyco Healthcare  
Fort Lauderdale, Florida
- Mallinckrodt/Tyco Healthcare  
Miami, Florida
- Manatee Memorial Hospital  
Bradenton, Florida
- Martin Memorial Medical Center  
Stuart, Florida
- Mayaguez VA  
Mayaguez, Puerto Rico
- Mease Dunedin Hospital  
Dunedin, Florida
- Medic Pharmacy and Surgical  
Fort Lauderdale, Florida
- Medical Card Systems  
San Juan, Puerto Rico
- Medicap Pharmacies, Inc.  
Palm Springs, Florida
- Medicine Shoppe  
Dunedin, Florida
- Medicine Shoppe—Tampa  
Tampa, Florida
- Medicine Shoppe/Kings Drug Store  
Okeechobee, 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 Regional Hospital  
Hollywood, Florida
- Memorial South Center  
Hollywood, Florida
- Mercy Hospital  
Miami, Florida
- 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
- Morales Pharmacy  
Miami, Florida
- Morton Plant Hospital  
Clearwater, Florida
- Mount Sinai Medical Center  
Miami Beach, Florida
- NACDS  
Alexandria, Virginia
- Naples Community Hospital  
Naples, Florida
- Naval Hospital  
Jacksonville, Florida
- Navarro's  
Florida
- NeighborCare Pharmacies  
Deerfield Beach, Florida
- Neighborhood Drugs  
Tamarac, Florida
- North Broward Medical Center  
Pompano Beach, Florida
- North Florida Regional Medical Center  
Gainesville, Florida
- North Ridge Medical Center  
Fort Lauderdale, Florida
- North Shore Medical Center  
Miami, Florida

- Northside Medical Center Pharmacy  
Miami, Florida
- Northwest Medical Center  
Margate, Florida
- Nova Infusion & Compounding  
Pharmacy, Corp.  
Bayamon, Puerto Rico
- NSU Clinic Pharmacy  
Fort Lauderdale, Florida
- NSU—College of Pharmacy  
Fort Lauderdale, Florida
- NSU—Ponce, Puerto Rico  
Ponce, Puerto Rico
- NSU—WPB  
Palm Beach Gardens, Florida
- Oakwood Center of the Palm Beaches  
West Palm Beach, Florida
- Optima Infusion Pharmacy  
Dorado, Puerto Rico
- Option Care—Miami  
Miramar, Florida
- Option Care—Fort Myers  
Fort Myers, Florida
- Orange County Medical Clinic  
Orlando, Florida
- Orange Park Medical Center  
Orange Park, Florida
- Orlando Regional Medical Center  
Orlando, Florida
- Orlando Regional South Seminole Hospital  
Longwood, Florida
- Orlando Regional St. Cloud Hospital  
St. Cloud, Florida
- Orlando VA Outpatient Clinic  
Orlando, Florida
- Osceola Regional Medical Center  
Kissimmee, Florida
- Palm Beach Gardens Medical Center  
Palm Beach Gardens, Florida
- Palmetto General Hospital—Pharmacy  
Hialeah, Florida
- Park Shore Pharmacy  
Miami Shores, Florida
- Parkway Regional Medical Center  
North Miami Beach, Florida
- Petmed Express, Inc.  
Pompano Beach, Florida
- Pfizer  
Coral Springs, Florida
- Pharmacy Insurance  
Corporation of America  
San Juan, Puerto Rico
- PharMerica  
Pompano Beach, 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
- Premier Compounding  
Palm Beach Gardens, Florida
- Procure Pharmacy  
Miramar, Florida
- Public Health Services  
Rockville, Maryland
- Publix  
Florida
- Raulerson Hospital  
Okeechobee, Florida
- Romano's Pharmacy  
Coral Springs, Florida
- Royal Palm Compounding Pharmacy  
Wellington, Florida
- Ryder Memorial Hospital  
Humacao, Puerto Rico
- San Jorge Children's Hospital  
Santurce, Puerto Rico
- San Juan VA Medical Center  
Bayamon, Puerto Rico
- San Lucas Hospital  
Ponce, Puerto Rico
- San Luis Pharmacy  
San Lorenzo, Puerto Rico

- San Pablo del Este (Fajardo)  
Fajardo, 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
- Skip's Pharmacy  
Boca Raton, Florida
- SkyeMed Pharmacy  
Pompano Beach, Florida
- South Florida State Hospital  
Pembroke Pines, Florida
- South Miami Hospital  
South Miami, Florida
- South Miami Pharmacy  
Miami, Florida
- South West Florida Medical Center  
Fort Myers, Florida
- Southern Medical Center  
Yauco, Puerto Rico
- Special Care Pharmacy Services  
San Juan, Puerto Rico
- Specialty Care Center  
Fort Lauderdale, Florida
- Specialty Pharmacy Services  
Caguas, Puerto Rico
- St. Joseph's Hospital  
Tampa, Florida
- St. Lucie Medical Center  
Port St. Lucie, Florida
- St. Luke's Hospital  
Ponce, Puerto Rico
- St. Luke's Memorial Hospital  
Jacksonville, Florida
- St. Luke's Memorial Hospital I  
Ponce, Puerto Rico
- St. Mary's Medical Center  
West Palm Beach, Florida
- St. Vincent's Medical Center  
Jacksonville, Florida
- Sunshine State Health Plan  
Sunrise, Florida
- Super Farmacia Juana Diaz  
Juana Diaz, Puerto Rico
- Super Farmacia Nelia  
Sabana Grande, Puerto Rico
- Super Farmacia Rina  
Guayama, Puerto Rico
- SW Florida Regional Medical Center  
Fort Myers, Florida
- Tampa General Healthcare  
Tampa, Florida
- Target  
Florida
- Tequesta Drugs  
Tequesta, Florida
- Thomas E. Langley Medical Center  
Sumterville, Florida
- Treasure Coast Hospice  
Stuart, Florida
- Tripler Army Medical Center  
Honolulu, Hawaii
- Ulti-Med Pharmacy Services  
Miami, Florida
- United Healthcare  
Sunrise, Florida
- United States Naval Hospital—Jacksonville  
Jacksonville, Florida
- United States Public Health Services  
Rockville, Maryland
- Universal Arts Pharmacy  
Hialeah, Florida
- University Community Hospital  
Tampa, Florida
- University of Miami  
Miami, Florida
- USCG Air Station Miami Clinic  
Opa-Locka, Florida
- VA Caribbean Healthcare System  
San Juan, Puerto Rico
- VA Central Office Pharmacy  
Benefits Management SHG  
Washington, D.C.
- VH Pharmacy  
Miami, Florida

- Vista Health Plan  
Sunrise, Florida
- Walgreens  
Florida
- Wal-Mart  
Florida
- Wal-Mart  
Puerto Rico
- Wellington Regional Medical Center  
West Palm Beach, Florida
- West Boca Medical Center  
Boca Raton, Florida
- West Palm Beach Veterans Affairs Medical Center  
West Palm Beach, Florida
- Westchester General Hospital  
Miami, Florida
- Westside Regional Medical Center  
Plantation, Florida
- Winn-Dixie  
Florida
- Winships Prescription Center  
North Palm Beach, 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  
Chief Operations Officer, The Eye Institute

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 preprofessional academic performance, Optometry Admission Test (OAT) scores, a personal interview, a written application and letters of evaluation. 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 of specified coursework at a regionally accredited college or university with a minimum 2.8 cumulative grade point average (GPA) on a four-point scale. At least 30 of these semester hour credits must be taken at a four-year institution of higher education. It is strongly recommended that these include the upper-level science courses.

### 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).

Preference will be given to students with a cumulative GPA of 3.0 or higher. Special consideration will be given to students with a baccalaureate degree or who have completed at least 90 semester credit hours at a four-year university or college. 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.

### 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 15 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. It should be sent to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Optometry  
Office of Admissions  
3301 College Avenue  
PO Box 299000  
Fort Lauderdale, Florida 33329-9905.

### Optometry Admission Test

All applicants are required to take the Optometry Admission Test. This online examination evaluates an applicant's knowledge of biology, general and organic chemistry, reading comprehension, quantitative reasoning, and physics. 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/foat/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—Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$23,725 for Florida residents and \$28,680 for out-of-state residents. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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. make a formal 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 clinical 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 (EPS)  
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, 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: The College of Optometry awards a baccalaureate degree to those who do not possess a baccalaureate degree and who complete 90 credit hours of undergraduate work, plus two years of optometric study at NSU.

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 2011–2012 (subject to change by the board of trustees) is \$19,545 for Florida residents and \$23,610 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 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 (EPS)  
College of Optometry  
Graduate Program Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$410 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
OPT	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	3533	Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management	54	0	3.0
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: 22.5**

<b>Second Year—Winter Term</b>			Lecture	Laboratory	Semester Hours
OPTC	4022	General Pharmacology II	27	0	1.5
OPT	4122	Ocular Pharmacology	27	0	2.5
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	4633	Glaucoma and Vitreoretinal Disease: Diagnosis and Pharmacological Management	54	0	3.0
OPT	4951B	Community Outreach II	18	0	1.0

**Total Semester Hours: 19.5**

<b>Second Year—Summer Term</b>			Lecture	Laboratory	Semester Hours
OPT	1612	Health Systems, Economics, Policy, and Ethics	18	0	1.0
OPTL	5322	Physical Diagnosis Laboratory: Testing, Pharmacologic Aspects, and Injection Techniques	0	18	0.5
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	9997	Special Care Clinic Elective*	0	8	1.0
OPT	7162	Seminars in Laser and Surgical Ophthalmic Care	36	0	2.0

**Total Semester Hours: 8.5/9.5\***

<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	5233	Ocular and Systemic Eye Disease: Diagnostic, Medical, and Pharmacological Management	54	0	3.0
OPT	5322	Clinical Medicine: Diagnostic and Pharmacologic Management of Systemic Diseases	36	0	2.0
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	Special Care Clinic Elective*	0	8	1.0

**Total Semester Hours: 18.0/19.0\***

<b>Third Year—Winter Term</b>			Lecture	Laboratory	Semester Hours
OPT	6122	Contact Lens II	36	0	2.0
OPTL	6122	Contact Lenses II Laboratory	0	36	1.0
OPT	6233	Neuro-Eye Disease: Diagnostic, Medical, and Pharmacological Management	54	0	3.0
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	Special Care Clinic Elective*	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	Business Management Certificate Elective	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>

\*\* 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>			<b>Semester Hours</b>
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>			<b>Semester Hours</b>
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>			<b>Semester Hours</b>
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>			<b>Semester Hours</b>
OPT	3624	Optometric Theory and Methods III	2.0
OPTL	3624	Optometric Theory and Methods III Lab	1.5
OPT	3533	Ocular Disease of the Anterior Segment: Diagnosis and Pharmacological Management	3.0
OPT	3434	Ophthalmic Optics I	3.0
OPTL	3434	Ophthalmic Optics I Lab	1.0
OPT	3344B	Psychophysics/Monocular Sensory Processes II	2.0
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	4633	Glaucoma and Vitreoretinal Disease: Diagnosis and Pharmacological Management	3.0
<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
OPTL	5322	Physical Diagnosis Laboratory: Testing, Pharmacological Aspects, and Injection Techniques	0.5
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
<b>Total Semester Hours:</b>			<b>18.5</b>

<b>Fourth Year—Winter Term</b>			Semester Hours
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
<b>Total Semester Hours:</b>			<b>14.5</b>

<b>Fourth Year—Summer Term</b>			Semester Hours
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>			Semester Hours
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>

\*Offered to part of the class each semester.

## 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

Lecture and laboratory study of gross structures of the brain and spinal cord and the functional relationships among their parts. Emphasizes the major motor and sensory pathways and integrative mechanisms of the central nervous system. (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

Covers drug action, examines classes of drugs used in clinical practice. Emphasizes structure and activity, mode of action, side effects, and toxicity of drug interactions. Stresses pharmacological intervention of pathophysiological processes and standard clinical application 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

Principles of geometric optics, examples, and optometric applications. Linear propagation, reflection, refraction, prisms, thin lenses, and thick lens systems. (54-0-3)

#### OPTL 1443—Theoretical Optics I Lab

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, including demonstrations and exercises performed by the students. The fundamentals of signal detection and Fourier analysis are introduced in terms of their application to the clinical practice of optometry. (18-0-1)

**OPT 1612—Health Systems, Economics, Policy, and Ethics**

This course discusses the organization of clinical and public health systems; public health responsibilities for optometrists; health services financing; the health workforce; health policy; licensing and regulation of optometry; ethical issues in optometry; disaster preparedness; abuse reporting and infectious disease control; and current issues in public health optometry. (18-0-1)

**OPT 1724—Optometric Theory and Methods I**

Concepts of refractive disorders, binocularity, and ocular diseases. Performing an eye examination, patient histories, use of terminology, and data collection. (36-0-2)

**OPTL 1724—Optometric Theory and Methods I Lab**

Application and skills necessary to perform ocular examinations stressed in OPT 1724. (0-72-2)

**OPT 1831—Current Issues in Optometry**

Introduces students to optometry's past, so they can better understand the present and future of the optometric profession. History, professional ethics, current practice modes, and professional organizations will be covered. (18-0-1)

**OPT 2223—Theoretical Optics II**

Continuation of Theoretical Optics I: Advanced Topics in Geometrical Optics and Physical Optics including lens aberrations, ophthalmic instruments, and stops and pupils. Physical Optics will include wave and quantum optics, applications, principles, examples, wave equations, interference, diffraction, coherence, polarization, dispersion, photometry, spectroscopy, lasers and holograms. (54-0-3)

**OPTL 2223—Theoretical Optics II Lab**

Applications and demonstration of concepts and material presented in the Theoretical Optics II lecture OPT 2223. (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 ocular motor systems and the laws relating to them are detailed in terms of normal neurophysiology and neuroanatomy. The aim of this course is to provide a strong theoretical competence in normal eye movement physiology and the ability to differentiate it from pathology in order to lead the student to adept and confident clinical performance. (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**

A survey of spatial and temporal aspects of monocular visual performance, including theories of brightness perception, color vision, contrast sensitivity, spatial and temporal resolution, recognition of pattern and form, and the perception of flicker and motion. Normal development and perceptual phenomena, testing techniques, and frequently encountered abnormalities are discussed in the context of common experience and optometric practice. (36-0-2)

**OPT 3344B—Psychophysics/Monocular Sensory  
Processes II**

Continuation of the principles of Psychophysics/Monocular Sensory Processes I. (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 fundus biomicroscopy and binocular indirect ophthalmoscopy, examination sequence, gonioscopy, exophthalmometry, punctal plugs, dilation and irrigation, pressure patching, foreign body removal, presbyopia, case analysis, and prescribing for refractive errors. (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**

Absorptive lenses and lens tints/coatings, anisometropia and aniseikonia, corrections for high refractive errors and aphakia, the use and optical design of low vision aids, and the optical and physical characteristics of contact lenses will be discussed. Pertinent topics relating to environmental vision will also be covered. (54-0-3)

**OPTL 4234—Ophthalmic Optics II Lab**

Hands-on training and experience in the selection, fabrication, fitting, adjustment, neutralization, and dispensing of spectacles; specification and neutralization of progressive addition multifocal lenses. (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**

Covers the diagnosis and management of accommodative, heterophoric, and eye-movement disorders. The topics discussed include vision development, accommodation, ocular motility, and accommodative-convergence mechanisms. Also presented is a logical approach to the treatment of certain non-strabismic disorders including lens prescribing and visual training. (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**

Advanced testing procedures, indications for their application: three-mirror fundus evaluation, ultrasound techniques, four-mirror gonioscopy, automated visual field theory, posterior segment photography, and procedure and diagnostic coding. (36-0-2)

**OPTL 4524—Optometric Theory and Methods IV Lab**

Practical experience with advanced optometric testing procedures and indications for their application. Procedures stressed include advanced case history, three-mirror fundus lens evaluation, scleral indentation, alternative tonometry techniques (Perkins and tonopen), blood pressure measurement, cycloplegic refraction, trial-frame refraction, A/B-scan ultrasonography, automated visual fields, patient management problems, and anterior and posterior segment photography. (0-54-1.5)

**OPT 4633—Glaucoma and Vitreoretinal Disease: Diagnosis and Pharmacological Management**

This course examines current technologies involved in the diagnosis and management of patients with glaucoma and vitreoretinal disease. Complete pharmacological management of these conditions is covered in detail, including mechanism of drug action, indications, contraindications, adverse effects, and dosing. (54-0-3)

**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; 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**

Introduces contact lenses; explores historical, technical, and clinical aspects of lens materials; terminology; care systems; lens design; fitting; and problem solving. (36-0-2)

**OPTL 5122—Contact Lenses I Lab**

Application of concepts and materials presented in Contact Lenses I lecture OPT 5122. (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 manifestations. Laboratory and imaging evaluation, physical presentation, spectrum of treatment modalities (including both ocular and systemic pharmacologic treatment), and interdisciplinary management are detailed. (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**

This laboratory covers the clinical examination of conditions typically seen in a primary care setting including the physical and neurological examination, laboratory and imaging studies, systemic and ocular injection techniques, and pharmacological management of anaphylaxis. (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**

Application and demonstration of concepts and material presented in Contact Lenses II lecture. (0-36-1)

**OPT 6233—Neuro-Eye Disease: Diagnostic, Medical, and Pharmacological Management**

This course covers the clinical diagnosis, management, and treatment of ocular abnormalities seen in patients with neurological disease. Clinical diagnostic processes—including nuclear magnetic imaging, computerized tomography, and vascular ultrasonography—are presented for both ocular and CNS neuropathology. Surgical indications, ocular management, 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**

Employment opportunities; third-party billing; competing for managed care contracts; and selecting a lawyer, accountant, and financial adviser. Analyze balance sheets, negotiate bank loans, and calculate capitation fees. (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 Learning-Related Vision Problems Lab**

Provides hands-on experience in examination and testing techniques of young children and vision perceptual testing. (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**  
Continuation of Primary Care Clinic II. (0-144-2.5)

**OPT 7146—Primary Care Clinical Externship**  
Student clinicians provide eye care in multidisciplinary setting under supervision. Emphasizes evaluations, diagnosis, and management of vision diseases and disorders. (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 service. The purpose of the student's presence in the optical service 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 Services Rotation II**  
Continued application of the principles and procedures of ophthalmic dispensing integrated into practice in the optical service. (0-36-0.5)

**OPT 7171—Optical Services Rotation III**  
Enhancement and expansion of the principles and procedures learned in Rotations I and II. (0-16-0.5)

**OPT 7214—Cornea and Contact Lens Externship**  
Exposure to various contact lens modalities and associated anterior segment diseases to enhance cognitive and clinical skills. Specialty lens design and therapeutic management of corneal complications. (0-240-4)

**OPT 7224—Pediatric and Binocular Vision Externship**  
Exposure to various binocular vision disorders and pediatric anomalies. Students develop treatment plans for functional vision disorders and carry out therapy methodologies to enhance cognitive and clinical skills. (0-240-4)

**OPT 7233—Vision Rehabilitation and Geriatrics Externship**  
Low vision rehabilitation and geriatric vision care in traditional and elderly care settings. 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)



A black and white photograph of a medical drip chamber. The chamber is cylindrical with a graduated scale on its side, showing markings from 0 to 1000. Below the chamber is a drip chamber with a black plastic stopcock. The background is a light, neutral color.

# **College of Allied Health and Nursing**



# College of Allied Health and Nursing



Richard E. Davis,  
PA-C, Ed.D.  
Dean

## Mission Statement

In the spirit of improving and maintaining optimum health conditions in the community, the College of Allied Health and Nursing prepares professionals with essential skills. These skills are necessary for the diagnosis, treatment, and prevention of diseases; for the support of the populace in maintaining proper health and safety; for the management of rehabilitative processes; and for the education of the community. The College of Allied Health and Nursing endeavors to train both graduate and undergraduate professionals in the arts of improving the quality of life in the community.

## Administration

**Richard E. Davis**, PA-C, Ed.D.  
Dean

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

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

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

**Marcella Rutherford**, M.B.A., M.S.N., Ph.D.  
Interim Associate Dean, Nursing Programs  
Associate Chair, Academic Affairs—Nursing Department

**Stanley Wilson**, PT, Ed.D., CEAS  
Associate Dean, Academic Affairs

**Beth Harman**, M.B.A., M.S.  
Director of Finance and Administrative Operations

**Glenn E. Bigsby III**, D.O., FACOPP  
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

**Sandee Dunbar**, D.P.A., OTR/L, FAOTA  
Chair, Occupational Therapy 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

**Deborah Gerbert**, M.S., PA-C  
Chair, Physician Assistant Department—Jacksonville

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

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

**Cynthia Fletcher**, M.S.N., Ph.D.  
Interim Associate Chair, Entry-Level Nursing Programs

**Linda Strommen**, R.N., M.S.N., Ed.D.  
Associate Chair/Director, R.N. to B.S.N. Programs

**Diane Whitehead**, R.N., M.S.N., Ed.D.  
Interim Associate Chair, Graduate Nursing Programs  
Director, D.N.P. Program—Fort Lauderdale

**Dawn Brown-Cross**, PT, M.B.A., Ed.D.  
Director, Entry-Level Physical Therapy Program

**Patricia Dittman**, M.S.N, Ph.D.  
Director, M.S.N. and Ph.D. Programs

**Rachelle Dorne**, Ed.D., OTR  
Director, Master's in Occupational Therapy Program

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

**Jorge Han**, M.D., RVT, RDCS  
Director, Bachelor/Master of Health Science—  
Vascular Sonography Specialization, Fort Lauderdale

**Kimberly Hogan**, M.S.N., R.N.  
Director, Entry-Level Nursing Program—Fort Myers

**Max Ito**, Ph.D., OTR/L  
Director, Occupational Therapy  
Doctor of Philosophy Program

**Patricia E. Kelly**, PA-C, Ed.D.  
Director, Doctor of Health Science Program

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

**JoAnn Kleier**, M.S.N., Ed.D., Ph.D., A.R.N.P.  
Director, FNP Program—Palm Beach

**Bini Litwin**, Ph.D., PT  
Director, Transition Doctor of Physical Therapy Program

**Christopher Mitchell**, B.A., M.S.  
Director, Bachelor of Health Science Program

**William Orr**, M.M.Sc., AA-C  
Director, Master of Health Science—Anesthesiologist  
Assistant Specialization, Tampa

**Cathy Peirce**, Ph.D., OTR  
Director, Occupational Therapy  
Dr.OT Program

**Robert S. Wagner**, M.M.Sc., AA-C  
Associate Chair/Director, Master of Health Science—  
Anesthesiologist Assistant Specialization, Fort Lauderdale

**Sally Weiss**, M.S.N., Ed.D.  
Director, Entry-Level Nursing Program—Kendall

**Mark Wyatt**, M.S.N., D.N.P.  
Director, R.N. to B.S.N. Nursing Program—Orlando

**Samuel Yoders**, M.H.Sc., RVT  
Director, Bachelor/Master of Health Science—  
Cardiovascular Sonography Specialization, Tampa

## College of Allied Health and Nursing

The College of Allied Health and Nursing is committed to providing the highest quality education to students in a variety of health care disciplines. The College of Allied Health and Nursing offers the following programs and degree options:

### Audiology

- Audiology Assistant Program
- Doctor of Audiology

### Health Science

- Bachelor of Health Science
- Bachelor of Health Science—Cardiovascular Sonography
- Bachelor of Health Science—Vascular Sonography
- Master of Health Science
- Master of Health Science—Anesthesiologist Assistant
- Master of Health Science—Cardiovascular Sonography
- Master of Health Science—Vascular Sonography
- Accelerated Dual Degree M.H.Sc./D.H.Sc.
- Doctor of Health Science
- Doctor of Philosophy in Health Science

### Nursing

- Entry-Level Bachelor of Science in Nursing (B.S.N.)
- Bachelor of Science in Nursing for R.N.s
- Master of Science in Nursing (M.S.N.)
- Master of Science in Nursing for R.N.s
- Post-M.S.N. Certificate—Family Nurse Practitioner
- Post-M.S.N. Certificate—Nursing Education
- Doctor of Philosophy in Nursing (Ph.D.)

### Occupational Therapy

- Master of Occupational Therapy
- Doctor of Occupational Therapy (Dr.OT)
- Doctor of Philosophy in Occupational Therapy

### 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

## 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 Allied Health and Nursing program must provide the following:

- official transcripts from all colleges or universities previously attended, sent directly to Nova Southeastern University College of Allied Health and Nursing 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 Allied Health and Nursing Student Handbook*, which is revised, updated, and distributed annually to all students.



## Audiology Department

### 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 multidisciplinary 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
- applicants are encouraged to complete the following courses prior to enrollment, which are required prerequisites for doctoral courses in audiology:
  - neuroanatomy
  - normal language development
- 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.)

The university reserves the right to modify any requirements on an individual basis as deemed necessary by the dean of the College of Allied Health and Nursing. 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 (EPS)  
Audiology Department Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

4. Graduate Record Examination (GRE) scores no older than five years

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 2011–2012 postbachelor's on-campus Doctor of Audiology program is \$20,250 (subject to change by the board of trustees without notice).

Tuition for the United Kingdom Au.D. program is \$550 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 \$750 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
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 Audiology of the Auditory and Vestibular Mechanisms	3
AUD	5301	Diagnostics I: Audiological Diagnosis Across the Life Span	3

<b>YEAR 1—Semester 2: Winter</b>			<b>Credit Hours</b>
AUD	6402	Diagnostics II: Site of Lesion	3
AUD	5405	Overview of Amplification I	3
AUD	5070	Research Methods I: Introduction	3
AUD	5405L	Amplification I Lab	1
AUD	5602	Intensive Clinic Lab	3

<b>YEAR 1—Semester 3: Spring</b>			<b>Credit Hours</b>
AUD	6404	Auditory and Vestibular Pathologies	3
AUD	5403	Introduction to Electrophysiology	4
AUD	5403L	Introduction to Electrophysiology Lab	1
AUD	5303	Psychoacoustics and Speech Perception	3
AUD	5603	Clinic II	3

<b>YEAR 2—Semester 1: Fall</b>			<b>Credit Hours</b>
AUD	6406	Overview of Amplification II	3
AUD	6406L	Amplification II Lab	1
AUD	7130	Pediatric Audiology	3
AUD	6504	Implantable Hearing Technologies	2
AUD	6604	Clinic III	3

<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	3
AUD	6605	Clinic IV	3

<b>YEAR 2—Semester 3: Spring</b>			Credit Hours
AUD	7075	Counseling in Audiology	3
AUD	7100	Advanced Seminar in Amplification	3
AUD	7160	Electrophysiology: Vestibular	3
AUD	6606	Clinic V	3

<b>YEAR 3—Semester 1: Fall</b>			Credit Hours
AUD	7071	Biochemistry and Pharmacology for Audiology	2
AUD	7080	Business Management and Leadership	3
AUD	7180	Diagnostics III: Integration of Audiologic Test Results	3
AUD	7607	Internship I	3

<b>YEAR 3—Semester 2: Winter</b>			Credit Hours
AUD	6310	Auditory Intervention	3
AUD	6310L	Auditory Intervention Lab	1
AUD	7050	Audiologic Research Methods II: Applications	3
AUD	7608	Internship II	3

<b>YEAR 3—Semester 3: Spring</b>			Credit Hours
AUD	7060	Genetics for Audiologists	2
AUD	7609	Case Studies in Audiology	2
AUD	7030	Aging and the Auditory/Vestibular System	2

<b>YEAR 4—Semester 1: Fall</b>			Credit Hours
AUD	7610	Externship I	6

<b>YEAR 4—Semester 2: Winter</b>			Credit Hours
AUD	7611	Externship II	6

<b>YEAR 4—Semester 3: Spring</b>			Credit Hours
AUD	7612	Externship III	6

**Postbachelor's Program Total Credit Hours: 119**

## Curriculum Outline: UK Program

Typical Plan of Study for UK Degree Program

AUD	7050	Research Methods II: Applications
AUD	7071	Pharmacology for Audiologists
AUD	7030	Aging and the Auditory/Vestibular System
AUD	7075	Counseling in Audiology
AUD	7161	Genetics for Hearing Impairment
AUD	7100	Advanced Seminar in Amplification
AUD	7130	Pediatric Audiology
AUD	7121	Advanced Auditory Electrophysiology
AUD	7160	Electrophysiology: Vestibular
AUD	7180	Diagnostics III: Integration of Audiologic Test Results
AUD	7080	Business Management and Leadership
AUD	6504	Implantable Hearing Technologies

### Audiology Course Descriptions

#### **AUD 5070—Research Methods I: Introduction**

This course will provide students the opportunity to learn about and discuss the critical importance of outcomes measurement and clinical research in audiology. Students locate information and 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—Auditory Intervention**

This course focuses on intervention and remediation strategies for people with auditory communication handicaps. (3 credits)

#### **AUD 6310L—Auditory Intervention Lab**

This lab supplements AUD 6310, providing students with practical assignments. (1 credit)

#### **AUD 5301—Diagnostics I: Audiologic Diagnosis Across the Life Span**

Students will study 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, 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. **(4 credits)**

**AUD 6402—Diagnostics II: Site of Lesion**

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. **(3 credits)**

**AUD 5403—Introduction to Electrophysiology**

Basic procedures for acquiring and interpreting auditory electrophysiologic tests are discussed. The student will have knowledge of the use of auditory brain stem evoked response testing for threshold and neurootologic diagnosis. Students are familiarized with procedures and interpretation for basic vestibular assessment, including electronystagmography, rotational chair, computerized posturography, and behavioral evaluations. **(3 credits)**

**AUD 5403L—Introduction to Electrophysiology Lab**

This lab supplements AUD 5403, 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. **(3 credits)**

**AUD 5405—Overview of Amplification I**

This course is designed to provide an introduction to amplification. The content of this course includes historical perspectives on amplification; functions and features of amplification systems and their components; and methods of fitting, verification, and analyses of these systems. The course also includes basic concepts in counseling. **(3 credits)**

**AUD 5405L—Amplification I Lab**

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 II Lab**

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 5602—Intensive Clinical Labs**

Participation in supervised, basic audiological evaluations of patients and other clinical activities as assigned. Weekly meetings with supervisors and/or report writing required. **(3 credits)**

**AUD 5603—Clinic II**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. **(3 credits)**

**AUD 6604—Clinic III**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. **(3 credits)**

**AUD 6605—Clinic IV**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. **(3 credits)**

**AUD 6606—Clinic V**

Participation in supervised auditory and vestibular evaluation, management, and treatment. Weekly meetings with supervisors and/or report writing required. **(3 credits)**

**AUD 7607—Internship I**

Off-campus placement in hospital, agency, or private practice setting(s). Students must meet the schedule required by the facility to which they are assigned. Supervisory meetings are scheduled periodically. **(3 credits)**

**AUD 7608—Internship II**

Off-campus placement in hospital, agency, or private practice setting(s). Students must meet the schedule required by the facility to which they are assigned. Supervisory meetings are scheduled periodically. **(3 credits)**

**AUD 7609—Case Studies in Audiology**

Students critically analyze and present cases that require integration of information from throughout the curriculum. **(2 credits)**

**AUD 7610—Externship I**

Full-time placement in an audiology externship position. (6 credits)

**AUD 7611—Externship II**

Full-time placement in an audiology externship position. (6 credits)

**AUD 7612—Externship III**

Full-time placement in an audiology externship position. (6 credits)

**AUD 7030—Aging and the Auditory/  
Vestibular System**

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. (2 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 7060—Genetics for Audiologists**

The purpose of this course is to review the present knowledge of genetics of hearing impairment and to discuss the potential for gene-based approaches to treatment. (2 credits)

**AUD 7071—Biochemistry and Pharmacology  
for Audiology**

Many drugs are taken by individuals under the care of audiologists, and many of these drugs interact with auditory and vestibular systems. 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 people with auditory and vestibular disorders. Different approaches for interacting with patients and their families, individually and in groups, will be addressed. (3 credits)

**AUD 7080—Business Management and Leadership**

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. (3 credits)

**AUD 7100—Advanced Seminar in Amplification**

This course is designed to provide advanced information on the theoretical and practical concepts of fitting, verification, and analyses of amplification systems. Counseling techniques are discussed. (3 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. (3 credits)

**AUD 7130—Pediatric Audiology**

This course is designed to provide a review of normal and abnormal auditory development in children. Audiologic assessment, management, and treatment of neonates, infants, and young children will be discussed. Evaluation procedures for the difficult-to-test patient will be explored. (3 credits)

**AUD 7160—Electrophysiology: Vestibular**

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)



## Occupational Therapy Department

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, recovery from illness, and adjustment to disability.

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 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.

### 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, P.O. Box 31220, Bethesda, Maryland 20824-1220. 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 Certified Occupational Therapy Assistant (COTA) 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 GPA of 2.75 or better on a 4.0 scale for each of the last two years of undergraduate study
- have a prerequisite social science GPA of 2.75 or better
- have a prerequisite humanities GPA of 2.75 or better

Preference will be given to applicants with a natural science GPA of 2.75 or better.

COTA applicants completing 60 upper-division credits in the NSU online Bachelor of Health Science program must

- earn an average of 2.75 or better in the Bachelor of Health Science upper-division courses

All applicants, including COTA 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 900 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
Other humanities (e.g., art, communications, literature, foreign language, history, philosophy, logic, or humanities).....	9

### Math

Statistics.....	3
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### Other

Medical terminology (college) .....	1 (minimum)
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Applicants must demonstrate computer and wordprocessing 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 June.

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 April 1, 2012. Applications are processed on a rolling or periodic basis. It is in the best interest of prospective students to complete their applications early because of the limited number of positions in the class. Applications received after the deadline date will be considered subject to space availability in the entering class.

Details and fees associated with OTCAS are available on the OTCAS website at [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 by May 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 Master of Occupational Therapy forms from individuals 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 Certified 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. Forms for submission will be available 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 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—sent

directly from the institution. All final transcripts, covering all of the applicants work, must be forwarded to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Allied Health and Nursing  
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. This allows candidates to receive their master's degree in occupational therapy in five and a half years.

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 Allied Health and Nursing. 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.

Certified Occupational Therapy Assistants are eligible to apply to the Master of Occupational Therapy (M.O.T.) program after completing 60 upper-division credits 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 2011–2012 (subject to change by the board of trustees without notice) for Florida residents and out-of-state students is \$26,000.

A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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 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 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 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 rehearsal and commencement program in the year that the diploma will be conferred

## Curriculum Outline for Master of Occupational Therapy Program

First Year—Summer Semester			Credits
OCT	5014	Introduction to Occupation	1
ANA	5420	Anatomy	5
<b>Total Credits</b>			<b>6</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	Historical and Theoretical Foundations of Occupational Therapy Practice	3
OCT	5013	Occupational Analysis	2
OCT	5121	Impact of Human Conditions on Occupational Performance I	4
<b>Total Credits</b>			<b>14</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	5963	Fieldwork Issues I	1
OCT	5015	Impact of Environment on Occupational Performance	3
OCT	5174	Evidence-Based Practice	3
<b>Total Credits</b>			<b>16</b>

<b>Second Year—Summer Semester</b>			Credits
OCT	6106	Occupational Therapy Practice I	6
<b>Total Credits</b>			<b>6</b>

<b>Fall Semester</b>			Credits
OCT	6107	Occupational Therapy Practice II or III	12
OCT	6175	Research	3
<b>Total Credits</b>			<b>15</b>

<b>Second Year—Winter Semester</b>			Credits
OCT	6108	Occupational Therapy Practice II or III	12
OCT	6176	Research Practicum	2
OCT	6150	Professionalism and Management	3
OCT	6980	Fieldwork Issues II	1
<b>Total Credits</b>			<b>18</b>

<b>Second Year—Spring Semester</b>			Credits
OCT	6350	Professionalism and Leadership	2
<b>Total Credits</b>			<b>2</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>

**Total Hours 101**

## 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 for an occupational therapy practice license in the state of Florida. 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 societal needs.

Students are required to complete 39 credits of coursework.

#### Admission Requirements

1. Applicants must have bachelor's or master's degrees in occupational therapy from regionally accredited universities or colleges and be eligible for a Florida occupational therapy license. If applicant's bachelor's degree is in occupational therapy, applicant's master's degree may be in any field.

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. Admission requirements include a GPA of 3.0 on a 4.0 scale and combined verbal and quantitative GRE scores of 800. (Preference will be given to applicants with a GRE analytical writing score of 4.0 or better.)

3. Foreign applicants must also take the Test of English as a Foreign Language (TOEFL) and obtain a score of 550 or higher.

The dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

All applicants must be certified occupational therapists or pass the NBCOT Exam within one year of starting the program.

The following courses are required to complete the program:

- OCT 7002—Introduction to Research Methods (3 credits)
- OCT 7003—Capstone Residency (3 credits)
- OCT 7005—Evidence-Based Practice and Critical Thinking in OT (3 credits)
- OCT 7007—Evidence and Outcomes (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—Creative Leadership (3 credits)
- electives—selected with doctoral program director approval to complement student's practice focus

### Doctoral Tuition and Fees (Dr.OT)

1. Tuition for academic year 2011–2012 (subject to change by the board of trustees without notice) is \$550 per credit hour.
2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 is also required annually.
3. Acceptance fee is \$100. This fee is required to reserve the accepted applicant's place in the entering class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in case of a withdrawal. It is payable within two weeks of an applicant's acceptance.

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 33 credits
- have satisfactorily completed the program of study with a minimum overall GPA of 80 percent, and a minimum grade of 80 percent 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.

Admission requirements include a GPA of 3.5 on a 4.0 scale and a combined verbal and quantitative GRE score of 900. Preference will be given to applicants with GRE analytical writing scores of 4.5 or better. All applicants must have taken graduate-level research methods and introductory statistics 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—Creative Leadership (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 nine years of beginning the program
- complete the program of study required for the degree with a minimum overall GPA of 80 percent, and a minimum grade of 80 percent 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
- complete dissertation
- successfully defend the dissertation, in person or by face-to-face technology, within five 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
- satisfactorily meet all financial and library obligations

### **Application Procedure**

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. official GRE scores from all three areas less than five years old; international students must also submit TOEFL scores, if appropriate
5. official college transcripts from all undergraduate and graduate institutions attended, sent directly to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Allied Health and Nursing  
Occupational Therapy Department  
Office of 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 2011–2012 (subject to change by the board of trustees without notice) is \$550 per credit hour.
2. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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.

### **Computer Requirements**

All students must have updated and relevant computer program skills and equipment to successfully participate in the curriculum.

### **Nonmatriculating Students**

Nonmatriculating students may take up to two courses (6 credits). An application for nonmatriculating students and relevant transcripts are required as well as approval by an occupational therapy doctoral program director.



## 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 5533—Neuroanatomy

Anatomy of central and peripheral nervous systems. Laboratory activities consist of student teams studying prosected cadavers, sections, radiographs, and models. (3 credits)

### OCT 5011—Occupational Performance and Participation Throughout the Life Span

This course focuses on the spectrum of occupations that influence health and independence of individuals from infancy to end of life through observation, communication, analytical, and reflective skills. It involves exploration of the impact of culture, environment, sex, and age upon human behavior. (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. (3 credits)

### OCT 5014—Introduction to Occupation

This course introduces concepts of human occupation and the framework for practice in occupational therapy. (1 credit)

### OCT 5015—Impact of Environment on Occupational Performance

This course focuses on the impact of various environments—such as social and economic systems, culture, physical environment, and technology—on occupational performance. (2 credits)

### OCT 5101—Historical and Theoretical Foundations of Occupational Therapy Practice

This course is an examination of the history of occupational therapy's evolution as well as its philosophical and theoretical underpinnings. Emphasis is on understanding various theories, models and frames of reference and how social, political, and economic factors continually influence practice and thinking. (3 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—Evidence-Based Practice

This is the first course in a three-course series on research. It provides students with fundamental knowledge 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. It covers both quantitative and qualitative research. (3 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 6106—Occupational Therapy Practice I

This course introduces the process of evaluation and intervention from a PEOB perspective with an emphasis on wellness, prevention, and community-based occupational therapy practice. (6 credits)

### OCT 6107—Occupational Therapy Practice II

This course will address evaluation and treatment from a PEOB perspective by clustering topics related to children

and youth. Barriers and supports for participation in occupations will be addressed for multiple conditions within the context of diverse environments. (12 credits)

#### **OCT 6108—Occupational Therapy Practice III**

This course is the final occupational therapy practice course. It addresses evaluation and intervention of adult and older adult occupational performance in various environments. (12 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, supervisor, and entrepreneur. Students will develop the ability to recognize and respond to ethical and legal issues related to occupational therapy practice. (3 credits)

#### **OCT 6175—Research Methods**

This course builds on the evidence-based practice course from last semester. You will learn about quantitative and qualitative research designs, methodologies, research processes, and products and apply your knowledge in the development of a research proposal. The course will be taught sequentially with the knowledge and content needed in developing a basic research study, to include an introduction to quantitative and qualitative data analysis. (3 credits)

#### **OCT 6176—Research Practicum**

The third and final MOT research course culminates in implementing an approved study or gaining research experiences in faculty research projects or simulated research. The course will include practical experiences in disseminating research information through written research reports and presentation of 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)

#### **OCT 6350—Professionalism and Leadership**

This course will expose the student to professional involvement in advocacy, role-emerging and nontraditional practice areas, and other professional arenas. It includes a two-week Level I fieldwork with opportunity for exposure to varied professional 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—Introduction to Research Methods**

This course introduces research methods applicable to evidence-based practice. It presents an overview of quantitative and qualitative research methodologies and their application to occupational therapy practice. Philosophical perspectives, designs, data gathering techniques, data storage/retrieval and analysis, ethics, and interpretation and presentation of data are addressed. (3 credits)

#### **OCT 7003—Capstone Residency**

A 90-hour requirement in clinical or community experiences to expose students to advanced practice and/or policy. This residency may include experiences in basic research and/or program development. This residency is related to the OCT 7007 Evidence and Outcomes course and supports the capstone project. (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 7007—Evidence and Outcomes**

This is a culminating required course for students in the Dr.OT program. Students integrate and apply knowledge in evidence-based practice and outcomes research. A research residency of a minimum of 90 hours is also required as part of the course. (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**

Examination of the academic role from the perspectives of the individual, the institution, and professional organizations. (3 credits) Elective

**OCT 7103—Occupation-Centered Practice**

This course introduces exploration and further development of the student's knowledge and practice with core concepts of meaningful occupations and health and well-being as they relate to practice. Students will examine meaningful occupation and health and well-being from historical roots through present day works in occupational therapy and occupational science literature. (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 7130—Genetics: Issues for Occupational Therapy**

This course will address the principles and practice of genetics. It will then examine the ethical, legal, and social implications of genetics in occupational therapy practice. (3 credits) Elective

**OCT 7133—Advanced Policy Issues**

In this course students will look at occupational therapists as key players in policy making. Students may be required to participate in a class trip to Washington, D.C., to lobby on Capital Hill and meet with AOTA's Policy and Government Affairs Department. The course focus will be on the theory and hands on practice of policy making and its impact on occupational therapy. (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 7331—Cognition and Occupation**

Course presents a multidimensional perspective of cognitive rehabilitation necessary to provide effective occupational therapy intervention. Emphasizes enhancing functional capabilities and community adaptation in addition to a more traditional approach that focuses on

ameliorating cognitive deficits. Students will analyze different theoretical models for their application to various clinical populations. (3 credits) Elective

#### **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 7789—Small Business Practice for Occupational Therapists**

This course gives students an introduction for developing and operating a business (e.g., private 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—Creative Leadership**

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 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 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**

Students will only enroll in this course following completion of 9 credits of OCT 8970 Dissertation, if more time is required to complete all dissertation requirements. Students taking this noncredit course will be charged a fee equivalent to 3 credits tuition for each term that the student is enrolled in OCT 8971. This course fulfills the requirement for continuous enrollment while the student is working on the dissertation. (0 credit)

#### **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 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 Fundamentals of Biostatistics course. As such, a prerequisite for enrolling in this course is Fundamentals of Biostatistics. The goals of this course are threefold: (1) introduce the basic concepts of probability and methods for calculating the probability of an event, (2) assist students in developing an understanding of probability theory and sampling distributions, and (3) familiarize students about inferences involving one or two populations, ANOVA, regression analysis, and chi-square tests. (3 credits)

#### **HPH 7400—Research Design**

This course will provide students with a basic understanding of the methods and approaches used in health-related research. A major emphasis of the course will be on the conceptualization and design of research studies. The course will cover ethics, formulation of research questions, study design, reliability, validity, sampling, measurement, and interpretation of research findings. It will prepare students to critically evaluate published literature and to design sound research studies. The course will be both theoretical and applied. Students will be challenged to apply the theoretical concepts presented in the classroom and in the readings to design a study to address a health-related issue of their choice. (3 credits)

#### **HPH 7500—Philosophy of Science**

Surveys various approaches to scientific thought. Discusses the nature of science; empiricism; epistemology; history; and concepts of scientific thought and method, reasoning, and the application of logic. Examines the concepts of scientific method; scientific laws; causality; and prediction, confirmation, and induction. (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. (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 may 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 Physical Therapy Department is to prepare and advance physical therapists as primary care providers who stand beside other health care providers, in any setting, in the prevention, diagnosis, and treatment of movement-related dysfunction. In addition, the Physical Therapy Department fosters critical inquiry, research, lifelong learning, and service to the profession and the community.

### 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

### 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 traditional, lecture-based learning with interactive teaching, clinical lab skills training, and clinical education
2. Tampa: Hybrid design, using a combination of interactive and structured online instruction and four days of on-campus institutes that meet once per month (Friday through Monday)

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.

Students may elect to enter the Doctor of Philosophy in Physical Therapy (Ph.D.) Degree Program in the year following completion of the entry-level D.P.T. program.

#### Accreditation Status

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 Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097, Telephone number: 404-679-4501) to award associate's, bachelor's, master's, educational specialist, and doctoral degrees.

## 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 prior to admission:

- 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

All students are **required** to have and provide the department or program office with the address to an active email account.

All students are **required** to have a computer with the following minimum specifications:

- Pentium III
- 800MHz minimum processor
- 512 MB RAM minimum

- video capable of 800 x 600 screen display or better
- DVD and CD-ROM capability
- full duplex sound card and speakers
- 56.6 baud modem
- Internet connection with private Internet service provider (ISP) for access from home to the Internet. (DSL or cable Internet access is recommended.)
- Windows XP or Vista
- Microsoft Office 2003 or newer with PowerPoint, Word, and Excel minimum
- surge suppressor electrical outlet
- suggested option: laptop computer with wireless Internet capability for use on campus

The cost of meeting this requirement shall be borne by the student and may be included in financial aid considerations.

The college advises all students to verify minimum configuration before purchasing any hardware or software.

## Application Procedures

The entry-level Doctor of Physical Therapy Program 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.

1. Candidates for admission must complete the online PTCAS application between July 15 and January 15. All applicants to the entry-level D.P.T. program should apply online at [www.ptcas.org](http://www.ptcas.org)
  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.

4. Official Graduate Record Exam (GRE) scores (less than five years old) must be submitted with the supplemental application. Both should be sent directly to

Nova Southeastern University Enrollment Processing Services (EPS) College of Allied Health and Nursing  
Physical Therapy Department Admissions  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The NSU code number is 5522.

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 2011–2012 is \$26,000 per year.
- For Tampa students, tuition for 2011–2012 is \$19,500 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 \$750 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 Tier I and Tier II clinical internships
- successfully complete and present the findings of a critical inquiry research project
- 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 Allied Health and Nursing, 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



## 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	3
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 for Physical Therapists	2
<b>Total</b>			<b>14</b>

First Year—Winter Semester			Credits
PHT	6720	Clinical Skills II	3
PHT	6725	Cardiovascular and Pulmonary PT	3
PHT	6722	Integumentary PT	2
PHT	6701	Professional Development: Communication and Cultural Competence	2
ANA	5423	Neuroanatomy	3
PHT	6706	Tier IA Clinical Education	2
PHT	6700	Research: Introduction to Research Methods and Data Analysis	3
<b>Total</b>			<b>18</b>

Second Year—Summer Semester			Credits
PHT	6810	Musculoskeletal I	2
PHT	6810L	Musculoskeletal I Lab	2
PHT	6815	Physical Agents	3
PHT	6822	Health Promotion, Disease Prevention, and Wellness	2
PHT	6811	Tier IB Clinical Education	2
<b>Total</b>			<b>11</b>

<b>Second Year—Fall Semester</b>			Credits
PHT	6820	Musculoskeletal II	3
PHT	6820L	Musculoskeletal II Lab	2
PHT	6831	Tier IC Clinical Education	1
PHT	6841	Tier ID Clinical Education	2
PHT	6816	Neuroscience	3
PHT	6817	Pediatrics	3
PHT	6802	Evidence-Based Practice	3
<b>Total</b>			<b>17</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 Diagnostics for Physical Therapists	3
PHT	6813	Gender-Specific Issues in PT	2
<b>Total</b>			<b>14</b>

<b>Third Year—Summer Semester</b>			Credits
PHT	6823	Professional Development: 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	6904	Research Capstone Project	3
<b>Total</b>			<b>17</b>

<b>Third Year—Fall Semester</b>			Credits
PHT	6911	Tier IIA Clinical Education Internship	4
PHT	6921	Tier IIB Clinical Education Internship	4
<b>Total</b>			<b>8</b>

<b>Third Year—Winter Semester</b>			Credits
PHT	6931	Tier IIC Clinical Education Internship	4
PHT	6941	Tier IID Clinical Education Internship	4
PHT	6930	Wrap-up	2
<b>Total</b>			<b>10</b>

Elective			Credits
PHT	6910	Independent Study	1–6

## Tampa Hybrid Entry-Level Doctor of Physical Therapy Curriculum Outline

### Tampa Distance Hybrid Entry-Level D.P.T. Curriculum

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
HPTT	6705	Essentials of Exercise Physiology	2
HPTT	6714	Pharmacology	3
HPTT	5610	Clinical Application of Anatomy for Physical Therapists	1
HPTT	5611	Introduction to Physical Therapy	3
<b>Total</b>			<b>9</b>

First Year—Winter Semester (16 weeks)			Credits
HPTT	6700	Introduction to Research Methods and Data Analysis	3
HPTT	6715	Essentials of Biomechanics and Kinesiology	3
HPTT	6716	Medical Pathology for PTs	3
HPTT	6802	Evidence-Based Practice	3
HPTT	6811	Introduction to Clinical Education	0
HPTT	6900	Research Capstone: Introduction	0
<b>Total</b>			<b>12</b>

Second Year—Summer Semester (12 weeks)			Credits
HPTT	6710	Clinical Skills I*	3
HPTT	6720	Clinical Skills II*	3
HPTT	6701	Communication and Cultural Competence	2
<b>Total</b>			<b>8</b>

\*Includes integrated patient experiences

Second Year—Fall Semester (16 weeks)			Credits
HPTT	6722	Integumentary PT	2
HPTT	6915	Prosthetics and Orthotics*	3

HPTT	6815	Physical Agents*	3
HPTT	6901	Research Capstone: Literature Review	0
<b>Total</b>			<b>8</b>

*\*Includes integrated patient experiences*

<b>Second Year—Winter Semester (16 weeks)</b>			<b>Credits</b>
ANA	5423	Neuroanatomy	3
HPTT	6823	The Business of Physical Therapy	3
HPTT	6725	Cardiovascular and Pulmonary PT*	3
HPTT	6822	Health Promotion, Disease Prevention, and Wellness	2
HPTT	6902	Research Capstone: Methodology	0
<b>Total</b>			<b>11</b>

*\*Includes integrated patient experiences*

<b>Third Year—Summer Semester (12 weeks)</b>			<b>Credits</b>
HPTT	6816	Neuroscience	3
HPTT	6810	Musculoskeletal I	2
HPTT	6810L	Musculoskeletal I Lab*	2
HPTT	6813	Gender-Specific Health Issues in Physical Therapy	2
HPTT	6903	Research Capstone: Institutional Review Board	0
<b>Total</b>			<b>9</b>

*\*Includes integrated patient experiences*

<b>Third Year—Fall Semester (10 academic and 6 clinical education weeks)</b>			<b>Credits</b>
HPTT	6820	Musculoskeletal II	3
HPTT	6820L	Musculoskeletal II Lab	2
HPTT	6835	Medical Diagnostics for Physical Therapists	3
HPTT	6812	Topics in Clinical Education	2
<b>Total</b>			<b>10</b>

<b>Third Year—Winter Semester (16 weeks)</b>			<b>Credits</b>
HPTT	6821	Musculoskeletal III	2
HPTT	6821L	Musculoskeletal III Lab*	2
HPTT	6830	Neuromuscular I	3
HPTT	6830L	Neuromuscular I Lab*	2
HPTT	6817	Pediatrics	3
<b>Total</b>			<b>12</b>

*\*Includes integrated patient experiences*

<b>Fourth Year—Summer Semester (12 weeks)</b>			Credits
HPTT	6904	Research Capstone: Project	3
HPTT	6914	Neuromuscular II	2
HPTT	6914L	Neuromuscular II Lab*	2
HPTT	6920	Applied Clinical Decision Making	4

**Total 11**

*\*Includes integrated patient experiences*

<b>Fourth Year—Fall Semester (16 weeks) and Winter Semester (18 weeks)</b>			Credits
HPTT	6911	Tier IIA Clinical Education Internship (12 weeks)	6
HPTT	6921	Tier IIB Clinical Education Internship (12 weeks)	6
HPTT	6931	Tier IIC Clinical Education Internship (12 weeks)	6
HPTT	6930	Wrap Up and Review	2

**Total 20**

**Total Credits for Program 118**

<b>Elective</b>			Credits
HPTT	6910	Independent Study	1–6

## 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 Allied Health and Nursing 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

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

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. (2 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. (3 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 kinesiological 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 examines the structural, functional, and developmental features of the human nervous system with reference to different disease states. It establishes an anatomical basis for the study and understanding of the nervous system as presented in the classroom and the lab. Application of these studies will help in the solving of problems encountered in your career as a future health care professional. (3 credits)

#### **PHT 6700—Introduction to Research Methods and Data Analysis**

This course allows the learner to gain skill in reviewing research literature. It includes an overview of the principles of measurement, reliability, and validity; an understanding of the four levels of measurement (nominal, ordinal, interval, and ratio); research ethics; and critical literature analysis. Students will learn about the various types of designs; the researcher's role in the process; and the procedures for data collection, data recording, and data analysis in qualitative research. In addition, students will address the verifications steps, learn what triangulation is, and learn what the elements of the qualitative narrative are. 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. In addition, the outline of the capstone project (to be completed by Year 3 Summer Semester) will be introduced. (3 credits)

#### **PHT 6701—Communication and Cultural Competence**

In this course, students will explore concepts of cultural competence related to health care and be given an opportunity to actively incorporate principles of cultural competency in real-life situations. Students will also explore the concepts of interprofessional and interpersonal communication and group processes, needed to function effectively as part of a team in the health care environment. Communication (written, verbal, and nonverbal) methods with the patient/client, their families, and other members of the health care team will be explored and practiced. Discussions will include epidemiology and health care access issues as they relate to cultural barriers. (2 credits)

#### **PHT 6706—Tier IA Clinical Education**

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 6722—Integumentary PT**

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**

In this four-week, community-based clinical education experience, students are directly supervised in the clinic by community-based clinicians in a 1:1 or 2:1 model based on clinic preference. Emphasis is on developing confidence and competency in professional behavior, reimbursement/billing, clinical safety, communication, therapeutic presence, assessment, examination, treatment planning, patient/client education, and performance of basic skill interventions and documentation with patients/clients scheduled on a repetitive basis over the course of several weeks. (3 credits)

#### **PHT 6810—Musculoskeletal I**

This is the first of three courses designed to introduce the entry-level D.P.T. student to the elements of patient/client management in the orthopedic setting. This course emphasizes the musculoskeletal system and follows both the sequence and nomenclature outlined in the *Guide to Physical Therapist Practice* including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Specific areas to be covered will include communication and history taking, systems review, symptom physiology, selection and administering tests and measures, principles of manual therapy, soft tissue/myofascial intervention, extremity and spine mobilization (non-thrust), common disorders and injuries, musculoskeletal radiology, and principles of musculoskeletal

disorder/injury management. Students will acquire the cognitive, psychomotor, and affective skills necessary to conduct a general musculoskeletal examination and perform interventions relevant to physical therapy practice. At completion of this course, students will have acquired the requisite knowledge to learn advanced diagnoses and interventions covered in PHT 6820, PHT 6820L, PHT 6821, and PHT 6821L. Case studies will be utilized in conjunction with lecture, laboratory skill practice, and interactive teaching and learning methods to integrate didactic knowledge into real-life clinical scenarios. (2 credits)

#### **PHT 6810L—Musculoskeletal I Lab**

Laboratory sessions will emphasize the psychomotor and affective skills required to perform the examination and interventions addressed in PHT 6810. **Corequisite:** PHT 6810 (2 credits)

#### **PHT 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 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)

#### **PHT 6802—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 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.

This course also exposes the students to the most common statistical tools used in research. Through lectures and assignments, students will learn about sampling and data management, describing and exploring data, inferential statistics and hypothesis testing, correlation and regression, and nonparametric statistics, applying what is learned to critiquing the value of an article. Students will also be exposed to statistical methods on appraisal of the evidence about diagnostic tests, intervention outcomes, and systematic reviews.

In addition, this course explores the incorporation of outcome measurement tools that measure both clinical (impairments, functional limitations, disabilities) and quality of life (social, emotional, and/or vocational areas) outcomes into daily practice. (3 credits)

#### **PHT 6816—Neuroscience**

This course provides the foundational 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 results 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**

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)

#### **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 self-contained, collaborative, clinical education model where students are directly supervised in the clinic by academic faculty members. Students practice assessment/examination, evaluation, and interventions learned in Clinical Skills I and II, Musculoskeletal I, Physical Agents, Musculoskeletal II, Pediatrics, Neuroscience, Musculoskeletal III, Neuromuscular Systems I, and other courses throughout the curriculum in a pediatric site. Students will attend the clinical experiences primarily on Mondays for a full day (please refer to schedule for exact days). Students manage patients/students to apply learned skills for underinsured and underserved children of all ages in multiple settings, including the educational environment and skilled nursing facilities. Emphasis is on application of initial examination skills, evaluation, treatment planning and implementation, and documentation, with continuing

emphasis on developing confidence and competency in professional behavior, clinical safety, communication, therapeutic presence, patient/client education, and performance of skill interventions. (2 credits)

#### **PHT 6841—Tier ID Clinical Education**

At the completion of this course, physical therapy students will be able to demonstrate the clinical knowledge and skill necessary to effectively communicate with clients/patients and others in written and oral formats; the appropriate therapeutic presence during interactions with patients/clients, families, and facility staff members of all ages and differing cultures; the appropriate and safe body mechanics; the ability to perform client/patient histories and interviews; and the cognitive, affective, and psychomotor clinical skills indicated in the learner objectives of Clinical Skills I and II, Musculoskeletal I, Physical Agents, Musculoskeletal II, Musculoskeletal III, Neuroscience, Neuromuscular Systems I, Pediatrics, and other courses throughout the curriculum in both an outpatient adult setting on the NSU campus and various settings within a pediatric site.

Students will learn to apply applicable reimbursement processes in the outpatient setting. Students will practice critical-thinking skills to facilitate application of knowledge gained in the didactic curriculum to effectively and safely handle patients/clients encountered in Tier ID who have impairments and functional limitations. (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 Diagnostics 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 6904—Research Capstone Project**

This course requires students to complete a group research project with two–three other students in the same class. The topic, methodology, and depth of the study will be determined by the supervising faculty member. Though this is a group project, students will receive individual grades for the work they contributed to the project. (3 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 four 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 including pediatrics, sports, 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, evaluations, 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. (4 credits)

### **PHT 6921—Tier IIB Clinical Education Internship**

This is the second of four 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. (4 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 third of four 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. (4 credits)

### **PHT 6941—Tier IID Clinical Education Internship**

This is the fourth of four 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. (4 credits)

### **PHT 6910—Independent Study**

Individualized study completed under the supervision of an instructor. Requires permission of the program director (1–6 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 in an online format to meet the needs of working professionals. 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 rapidly 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
- document clinical reasoning using deductive reasoning skills and disablement terminology during the five steps of patient/client management (examination, evaluation, diagnosis, prognosis and plan of care, and interventions)

- 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 and wellness programs using the principles of behavior change theory and sound teaching strategies
- screen all patients for medical disease, distinguishing musculoskeletal from medical conditions in order to identify when referral to other practitioners is needed
- use professional standards and principles of teaching, learning, and communicating in order 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 exercise science principles
- conduct a systematic needs assessment and organizational analysis of a physical therapy practice in order to effect change when in the role of consultant, administrator, or manager

### Admissions Requirements

The following are requirements for admission:

1. graduation from an entry-level physical therapy (PT) program that is accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE), or 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 the Test of English as a Foreign Language (TOEFL) scores. Agencies that evaluate foreign courses for institution equivalency include:

• World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
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)

\*This agency specializes in evaluation for U.S. PT licensure.

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 D.P.T. semester or they will have to withdraw from classes until the subsequent semester.

3. 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 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.

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 (EPS)  
College of Allied Health and Nursing  
Physical Therapy Department  
Office of Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

- three letters of evaluation from persons who can evaluate the applicant's performance as a physical therapist and/or the applicant's ability for doctoral studies
- official GRE scores and TOEFL 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

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence. For more information, please call the Physical Therapy Admissions Office at (954) 262-1101 or 877-640-0218.

## Transition D.P.T. Tuition and Fees

Tuition for 2011–2012 is \$450 per credit hour. 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 (June–August), and fall (August–December). The summer term is designated primarily for elective courses only, that is, students that enter with a baccalaureate degree. Classes are designed using a hybrid model, meaning coursework is provided online with two days of on-campus classes halfway through the term. This on-campus institute occurs in March and October and is 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. degree must complete five core courses (20 credits).

### 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 completed all program requirements for the degree within six years from the first date of classes
- have a minimum GPA of 80 percent for all 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 7005—Payer Systems (3 credits)
- PHT 7015—The Therapist and Cultural Diversity (3 credits)
- PHT 7025—The Health Care Educator (3 credits)
- PHT 7045—Professional Writing (3 credits)
- PHT 7065—Independent Study: Case Report (3 credits)
- PHT 7075—Independent Study (2–3 credits)

- PHT 7235—Practicing in an Evolving Health Care System (3 credits)
- PHT 7925—Survey of Alternative and Complementary Therapies (3 credits)
- PHT 7955—The D.P.T. in Private Practice (3 credits)
- PHT 7975—The Physical Therapist in Home Health Care (3 credits)

T-D.P.T. students may select electives from other doctoral programs within the College of Allied Health and Nursing 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 7405—Professional Roles of the Doctor of Physical Therapy (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

This class reviews basic research methodology, including statistical analysis, so that students can critically read and evaluate research. Students are exposed to Sackett's model of evidence-based medicine 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 locate the source of evidence, evaluate the evidence, and make recommendations based on the evidence. The class explores the work of the Philadelphia Panel, the Pedro scale, and Hooked on Evidence as methods for critiquing the literature. A course outcome is that all students contribute to the Hooked on Evidence database of the American Physical Therapy Association. (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 in one of five 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 examine closely 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 setting. **(4 credits)**

**PHT 7865—Patient/Client Management—  
Ortho/Sports**

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. (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 CV I) and intervention techniques for the cervical and thoracic spine and the rib cage. The manipulative therapy procedures provided for the cervical spine will be more advanced than the ones instructed in VC I and will include specific techniques for the upper cervical spine. The manipulative therapy interventions for the cervical and thoracic spine will cover examination and intervention procedures 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. (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)

#### **Certification in Musculoskeletal Manipulative Physical Therapy**

This course will serve two purposes: (1) Review the material instructed in all manipulative therapy courses and (2) Evaluate the competence of graduates in the material covered from the five core courses in manipulative therapy (VC I–III and PJ I–II). The course will include three days of review and two days of examination. Upon successful completion of the examination of the material, the student will receive a certification entitled Certified Musculoskeletal Manual Therapist (CMMT). Available winter 2012

#### **Electives**

##### **PHT 7005—Payer Systems**

This course covers issues related to cost containment, managed care, and reimbursement as applied to the provision of physical therapy in multiple health care environments. Students are introduced to theories of health care reform, societal factors effecting reimbursement, and the concept of becoming a change agent. (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) **(3 credits)**

**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 7045—Professional and Scientific Writing**

Upon completion of this course, students will be able to write grammatically sound papers for both the academic and work environments. The course reviews basic grammar, punctuation, and syntax rules. Students then engage in writing six different types of papers: autobiography, expository, descriptive, persuasive, humorous, and writing on writing. **(3 credits)**

**PHT 7065/7075—Independent Study/Case Report**

The student engages in an individualized program of study to develop and write a case report based on a case in his or her own practice, using the 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. Students may also choose to develop a clinical program and/or management project/proposal for implementation. **(1–3 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. **(3 credits)**

**PHT 7975—The Physical Therapist in Home Health Care**

This course addresses common issues affecting the physical therapist in the evolving home health care environment. The student will develop an understanding of the various types of home care organizations and identify optimal methods to work effectively within each. Included in this course will be a review of regulatory guidelines, assessment principles, care planning, and identification and implementation of targeted interventions to achieve successful outcomes. Principles of interdisciplinary case management using evidence-based standards of care will be reviewed for the most common home care diagnoses. The common legal and ethical principles including patient rights, abuse, and neglect will also be addressed. **(3 credits)**

Additional electives are available through the D.H.Sc./M.H.Sc. program. Prior approval must be granted by the T-D.P.T. program director for registration in D.H.Sc./M.H.Sc. courses.

## Doctor of Philosophy in Physical Therapy (Ph.D.)

As our health care delivery systems change and our knowledge base broadens, it becomes important for licensed physical therapists to continue their formal education to assume roles as consultants, educators, researchers, advanced clinicians, 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 education format. Sixty semester hours are required beyond the entry-level master's 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. The elective courses are offered in education, administration, computer technology in education, clinical tracks, and public health.

### Expected Outcomes of Student Learning

Graduates of the program will be able to

- serve as change agents in health care organizations
- negotiate and advocate for patients, self, and others for the provision of health care services
- address health care issues of patients through the life cycle
- 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 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 or a master's degree, entry-level master's degree (e.g., M.S.P.T., M.P.T.), or entry-level doctoral degree (D.P.T.) in physical therapy.

4. Completion of the Graduate Record Examination (GRE) or equivalent standardized test for applicants entering the program with a bachelor's degree is required. The dean is empowered to evaluate the total qualifications of every student and to modify requirements in unusual circumstances.

### Computer Requirements

All students are **required** to have a computer with the following recommended minimum specifications:

- Pentium III
- 800MHz minimum processor
- 512 MB RAM minimum
- video capable of 800 x 600 screen display or better
- DVD and CD-ROM capability
- full duplex sound card and speakers
- 56.6 baud modem
- Internet connection with private Internet service provider (ISP) for access from home to the Internet (DSL or cable Internet access is recommended.)
- Windows XP or Vista
- Microsoft Office 2003 or newer with PowerPoint, Word, and Excel minimum
- surge suppressor electrical outlet
- suggested option: laptop computer with wireless Internet capability for use on campus

## 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 (EPS)  
College of Allied Health and Nursing  
Physical Therapy Department  
Office of Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

3. three letters of evaluation from persons who can evaluate the applicant's performance as a physical therapist and/or the applicant's capability for doctoral studies

4. copies of all professional certifications, registrations, and other relevant credentials.

5. official GRE scores or equivalent standardized test scores for applicants entering the program with a bachelor's degree in physical therapy and TOEFL scores, if appropriate (After an evaluation of credentials, qualified applicants may be interviewed.)

### Foreign Coursework

If applicant attended or is a graduate of a foreign institution(s), all coursework from the foreign institution(s) must be evaluated for U.S. institutional equivalence. The official evaluation must be sent directly from the evaluation service. You should contact one of the following for evaluations:

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
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)

\*This agency specializes in evaluation for U.S. PT licensure.

### Doctoral Tuition and Fees

Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$550 per credit hour. An NSU student services fee of \$750 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 or up to 75 semester hours beyond the professional undergraduate degree
- satisfactorily complete the program requirements for the degree with a minimum overall GPA of 80 percent, and at least 80 percent in each course
- satisfactorily meet all financial and library obligations
- successfully complete and defend their dissertation and have it approved (The dissertation will be done under the direction of a member of the Dissertation Committee. The committee must approve all aspects of the project. Students will have up to seven years to complete the degree requirements.)

### Course of Study

For students holding a master's or entry-level master's degree in physical therapy with transferable credits:

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.

Students holding an undergraduate degree in physical therapy with transferable credits will take up to 15 additional credit hours of required courses.

Courses will be conducted in an institute 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

### **PHT 6000—Professional and Business Communication**

Covers several aspects of communication: therapeutic communication, business communications, and oral presentation skills. (3 credits)†

### **PHT 6010—Organizational Behavior**

This course will introduce a broad range of behavioral science theory and applications for managers and subordinates in modern organizations, focusing on managing and developing organizations constructively to deal with change. Emphasis is on the integration of managerial psychology and managerial activity. This course will formulate a dynamic approach to the concept of systems for managing organizations to achieve organization and personal objectives. The course will rely heavily on participants' own background and skills to produce an effective learning experience leading to the development of a successful managerial strategy for the future. (2 credits)†

### **PHT 6020—Ethical and Legal Issues in Health Care I**

Covers ethical, moral, and legal issues affecting health care delivery: confidentiality, consent, reimbursement, patient rights, abuse, risk management. Covers organizational control laws, codes, and standards affecting therapy practice. Students complete a written project on a selected topic or question. (3 credits)†

### **PHT 6030—Health Care Policy and History**

Explores the history of health care delivery and policy development in the United States and globally. Students will analyze, from a historical perspective, the impact of history on policy development, both present and future.

References include works on history and policy as well as analysis of the works of health care analysts. (3 credits)†

### **PHT 6140—Ethnocultural Issues in Health Care**

This course is a survey of ethnic and cultural issues, focusing on the insight and skills necessary to effectively deliver health care services to individuals in minority ethnic groups and cultures. Attention will be directed at individual communication and assessment skills necessary to positively effect the practitioner-patient interaction and enhance patient compliance. (3 credits)†

### **HPH 7200—Research Ethics**

Health care professionals are required to act morally and ethically. This course is designed to expand the student's basic understanding of ethics to promote ethical awareness and enable students to derive better health care decisions that reduce risk of potential ethical consequence. By exposing students to bioethics and controversial ethical issues typically encountered in current health care practice, students practice making difficult decisions. Students will synthesize and implement strategies for applying morals, values, and ethics systematically in the various settings in which health care is delivered. Considering the perspectives of all stakeholders and the role of the health care provider, patient advocate, professional, and consumer of medical care, students will gain workable knowledge of contemporary ethical issues and appreciate that ethics permeate the majority of decisions made in health care. (3 credits)\*

### **HPH 7300—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 graduate coordinator. (1–10 credits)

#### **PHT 7401—Independent Study**

Individualized study under the supervision of assigned instructor. Requires permission of graduate coordinator. (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 7610—Neuroscience**

Individual study course designed to meet the needs of the individual student. (3 credits)

#### **PHT 7620—Joint and Skeletal Muscles: Structure and Function**

Individual study course designed to meet the needs of the individual student. (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. (4 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. (4 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 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. **(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 73,000 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 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 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.

During the clinical year of study, the student participates in challenging clinical rotations at a variety of health care facilities associated with the program. 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 has enjoyed continuing accreditation since its inception and was recently awarded continuing accreditation until 2015, a seven-year term, the longest allowed by ARC-PA. The department 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 a PA career.

1. Applicants must have a minimum cumulative GPA of 2.9 and a minimum science GPA of 2.9 on a 4.0 grading scale **in order for an application to be considered.**

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.

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 (3 semester hours)
- human physiology (3 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)
- 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.

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

Throughout the curriculum, students are required to access various instructional materials and information from the Internet. All students are required, therefore, to have a computer with minimum suggested specifications:

- PC or Mac computer
- Internet connection with private Internet service provider (ISP) for access from home to the Internet—broadband connection recommended (If a laptop computer is utilized, a wireless modem will allow access to the campus-wide NSU wireless network.)
- sound card and speakers
- CD-ROM
- Windows XP or NT operating system
- Microsoft Office 2003 or later, with PowerPoint, Word, and Excel
- convenient access to a printer

### 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 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, 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 (EPS)  
College of Allied Health and Nursing  
Physician Assistant Department  
Office of 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. Applicants may be considered for interviews if they have

- competitive cumulative and science GPAs
- competitive GRE scores
- at least two out of the three required letters of recommendation (including the one from a physician or physician assistant) submitted
- exposure to the health care field
- no more than two science prerequisites missing

## 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 April. 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 with coursework still outstanding will not be considered for an interview until they have completed all but two required outstanding courses.

## 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 2011–2012 (subject to change by the board of trustees without notice) is \$27,000. Tuition for 2012–2013 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 \$250. This is due February 15, under the same terms as the acceptance fee.
- Preregistration fee is \$250. This is due April 15th, 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 \$750 is also required annually.

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.

### **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, prenatal care/gynecology, surgery, and internal medicine. The students 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.) 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	4
PAC	5400	Clinical Pathophysiology	48	0	3
PAC	5000	Physical Diagnosis I	30	36	3
PAC	5002	Medical Terminology	4	14	1
PCO	5300	Biomedical Principles	18	0	1
PAC	5003	Fundamentals of Medical Imaging	18	0	1
PAC	5001	Introduction to the PA Profession	16	0	1
<b>Total Hours:</b>			<b>242</b>	<b>78</b>	<b>19</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	112	0	7
PAC	5130	Clinical Laboratory Medicine I	20	0	1
PAC	5229	Electrocardiography	30	6	2
<b>Total Hours:</b>			<b>316</b>	<b>42</b>	<b>20</b>

<b>Third Semester—Winter (January–May)</b>			Lecture	Laboratory	Credit Hours
PAC	5200	Physical Diagnosis III	32	38	3
PAC	5210	Clinical Medicine and Surgery II	120	0	8
PAC	5310	Clinical Medicine and Surgery III	112	0	7
PAC	5131	Clinical Laboratory Medicine II	36	0	2
PCO	5410	Pharmacology II	72	0	4
PAC	5311	Clinical Psychiatry	45	0	3
PAC	5410	Complementary Medicine and Nutrition	30	0	2
PAC	5412	Interpretation and Evaluation of Medical Literature	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	26	5
PAC	5129	Health Promotion and Disease Prevention	22	0	1
PAC	5010	Core Competencies	15	0	1
PAC	5407	Clinical Pharmacology	50	10	4
PAC	5408	Clinical Genetics	36	0	2
<b>Total Contact Hours:</b>			<b>205</b>	<b>76</b>	<b>16</b>

<b>Clinical Curriculum—Second Year (August 2009–August 2010)</b>			Weeks	Contact Hours	Credit Hours
PAC	6304	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**

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)

### **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.** (28-38-3)

### **PAC 5001—Introduction to the Physician Assistant Profession**

Introduces key concepts regarding the PA profession: an overview of the profession, the history of the profession, the current status of the profession, physician assistant education, current and future roles of the physician assistant, and the importance of joining and participating in physician assistant professional organizations. (16-0-1)

### **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. (4-14-1)

### **PAC 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)

### **PAC 5010—Core Competencies\***

This course serves to transition the PA student from the didactic year into the clinical year. It will cumulatively evaluate the student's medical knowledge and physical exam techniques after the first 12 months of instruction. It will also provide instruction on the core rotations and student conduct and detail written assignment criteria and expectations. Students will participate in simulated, faculty-guided patient encounters, obtaining history, performing a focused examination, giving an oral case presentation, and writing a focused SOAP note. Classroom instruction, weekly vignette-style question quizzes, and review of the clinical year handbook will round out the course. Student evaluation and competency will be evaluated by a comprehensive OSCE-style practical examination, the taking of a written examination, and an evaluation of written assignments. This course is a prerequisite for clinical rotations. (15-0-1)

### **PAC 5100—Physical Diagnosis II\***

This course will build upon the skills learned in Physical Diagnosis I and will cover the essential skills for performing both complete and focused medical interviews and physical examinations. 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**

Etiology, clinical manifestations, appropriate diagnostic evaluation, and the management of selected disease entities. (112-0-7)

### **PAC 5129—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)

**PAC 5130—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. (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\***

This course is a continuation of PAC 5100. 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. (32-38-3)

**PAC 5210—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)

**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 disease, including the recognition of more subtle ECG abnormalities (30-6-2)

**PAC 5310—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)

**PAC 5311—Clinical Psychiatry**

Common psychosocial problems and psychiatric 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)

**PAC 5400—Clinical Pathophysiology**

This course focuses on pathophysiological changes seen in disease states. By following the progression from the normal physiologic state to the diseased state with its resultant clinical signs and symptoms, it serves as a bridge between the Physiology and the Clinical Medicine and Surgery courses. Beginning with discussions of general biologic and pathologic processes, the course then covers perturbations in the physiology, regulatory mechanisms, and anatomy of major body systems and organs. (48-0-3)

**PAC 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 professional behavior, solving an ethical dilemma, ethical implications involved in genetic engineering, the impaired clinician, the relationship between providers, conflicts between providers, the clinician-patient relationship, euthanasia, risk management, confidentiality, informed consent, patients' directives, documentation, legal responsibilities as a witness, and domestic violence. The course also surveys contemporary health insurance programs being offered. (32-0-2)

**PAC 5407—Clinical Pharmacology**

At the completion of this course, students will be able to appropriately prescribe medications in various clinical settings. Preparation for appropriate prescribing and administration of medicines is accomplished by studying drug classifications, pharmacodynamic actions, and the rationale for therapeutic use of prescription and nonprescription medications. In addition, students will be able to describe the potential advantages and disadvantages of specific therapeutic regimens, universal indications and contraindications for usage, dosing schedules, and the relative cost of commonly prescribed medications. 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. (45-0-3)

**PAC 5408—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. (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 WebCT at any time to view reading assignments, the course calendar, the syllabus, and additional resources, as well as to contact the instructor. (32-0-2)

**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**

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. (56-24-4)

**PAC 6304—Prenatal Care and Gynecology**

This 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)

**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**

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)

#### **PCO 5410—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)

#### **PHS 5400—Physiology**

Clinically relevant physiologic principles of the major organ systems covered in Clinical Anatomy and Clinical Pathophysiology courses. (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, more than 73,000 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 family and internal medicine, and more than one-third are in towns with fewer than 50,000 residents. The PA profession was ranked the fourth fastest growing profession in the country by *CNN.com* and *Forbes.com* in 2007. 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 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, psychiatry, 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 Student Educational Center. 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 at least one rotation 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 and received full, continuing accreditation in 2007. The department will undergo its next accreditation visit in 2011. The department is a member of the Physician Assistant Education Association (PAEA).

## Mission Statement

- to provide an exemplary educational experience that emphasizes primary medical care, yet enables graduates to demonstrate competency and skill in a variety of clinical environments
- to inspire graduates to pursue lifelong learning
- to foster leadership qualities that will enable graduates to improve access to quality, affordable health care
- to 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 2.9 and a minimum science GPA of 2.9 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:

- 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 March 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.

## Computer Requirements

All students are required to have a computer with the following minimum specifications:

- IBM-compatible PC
- 1 GB RAM
- DVD capability with CD-RW
- sound capability and speakers
- Internet connection with private Internet service provider (ISP) for access from home to the Internet
- printer

The following are recommended features:

- video capable of 800 x 600 screen display or better
- Windows XP or higher
- Microsoft Office 2003 or higher with PowerPoint, Word, and Excel minimum
- surge suppressor electrical outlet

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 a desk top computer at a later date or may elect to purchase a laptop, 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 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 (EPS)  
College of Allied Health and Nursing  
Physician Assistant Department  
Office of 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 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 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 Fort Myers, Florida, campus and are by invitation only. Interviews will be held from August through 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 student.

Inquiries should be directed to

Director of Student  
Services and Recruitment  
Nova Southeastern University  
Physician Assistant Department—Southwest Florida  
3650 Colonial Court  
Fort Myers, Florida 33913-6636

Phone: (954) 262-1101  
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.

### Undergraduate/Physician Assistant Dual Admission Program with Hodges University

Nova Southeastern University’s College of Allied Health and Nursing 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.

For information and requirements, contact

Office of Admissions  
Hodges University  
2655 Northbrooke Drive  
Naples, Florida 34119  
(239) 513-1122.

### Tuition and Fees

- Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$27,000.
- 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 \$750 is also required annually.

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 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.

The clinical year is devoted to 13 months of clinical training with required clinical rotations in family medicine, emergency medicine, pediatrics, prenatal care/gynecology, surgery, and internal medicine. The students also complete three elective rotations, for a total of nine clinical rotations. The required subject rotations and two of the elective rotations are six weeks in length. The remaining elective rotation is four weeks in length. All required rotations must be completed in the state of Florida, primarily in an area within 100 miles from the Fort Myers Student Educational Center. Each student should expect to 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. For core rotations assigned by the program outside of the 100-mile radius, housing will be provided for the student.

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, 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: June

Length: 27 months

Degree: Master of Medical Science (M.M.S.) in Physician Assistant

Didactic: 14 months

Clinical: 13 months

First Semester—Summer (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	5006	Electrocardiology	30	6	2
PAN	5102	Clinical Pathophysiology I	15	0	1
<b>Total Hours:</b>			<b>357</b>	<b>46</b>	<b>23</b>

<b>Third Semester—Winter (January–May)</b>			Lecture	Laboratory	Credit Hours
PAN	5320	Physical Diagnosis III	50	30	4
PAN	5510	Clinical Medicine and Surgery II	120	0	8
PAN	5103	Clinical Pathophysiology II	15	0	1
PAN	5520	Clinical Medicine and Surgery III	112	0	7
PAN	5104	Clinical Pathophysiology III	15	0	1
PAN	5610	Clinical Laboratory Medicine II	32	0	2
PAN	5420	Pharmacology II	72	0	4
PAN	5540	Clinical Psychiatry	45	0	3
<b>Total Hours:</b>			<b>461</b>	<b>30</b>	<b>30</b>

<b>Fourth Semester—Summer II Advanced Didactic (May–July)</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	30	0	2
PAN	5411	Complementary Medicine and Nutrition	30	0	2
PAN	5419	Clinical Pharmacology	46	0	3
PAN	5423	Interpretation and Evaluation of Medical Literature	50	30	4
<b>Total Hours:</b>			<b>246</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	6370	Clinical Elective I	6	270	6
PAN	6375	Clinical Elective II	6	270	6
PAN	6380	Clinical Elective III	4	160	4
PAN	6601	Graduate Project	0	0	3
<b>Total Hours:</b>			<b>52</b>	<b>2,300</b>	<b>55</b>

Curriculum is subject to change as directed by the department.



## 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 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, federal health care programs, and other issues involving patient care. (30-0-2)

### 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. (15-0-1)

### PAN 5103—Clinical Pathophysiology II

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. This course builds on the discussions of general biologic and pathologic processes given in PAN 5102. **Prerequisite:** PAN 5102 (15-0-1)

### PAN 5104—Clinical Pathophysiology III

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. This course builds on the discussions of general biologic and pathologic processes given in PAN 5102 and PAN 5103. **Prerequisite:** PAN 5103 (15-0-1)

### 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. **Prerequisite for PAN 5320 (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. (30-0-2)

#### **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 Psychiatry**

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 6370—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 at the same site or separately. (270-0-6)

**PAN 6375—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 at the same site or separately. (270-0-6)

**PAN 6380—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)

**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 73,000 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 and 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, pediatrics, gynecology and prenatal care, emergency medicine, general surgery, and one selective of six weeks from one of the following areas: dermatology, otorhinolaryngology, or orthopedics. The clinical year contains one six-week and one four-week elective rotation. With a sound foundation in medical training, NSU graduates are prepared to work in many clinical areas, both in primary care and specialty medicine.

## Accreditation

The NSU Physician Assistant Program—Orlando has been awarded accreditation from the Accreditation Review Commission on Education for Physician Assistants, Inc., (ARC-PA). The next review for Continuing Accreditation is to be completed in March 2014. The department is a member of the Physician Assistant Education Association (PAEA).

## Mission Statement

- to provide a high-quality training program designed for, and dedicated to producing, culturally competent physician assistants who will provide quality health care in rural, urban, underserved, and culturally diverse communities
- to 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

## 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 classes (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 2.9 and a minimum science GPA of 2.9 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. Introductory and survey courses are not accepted. Applicants are encouraged to complete their elective coursework in the areas of behavioral, physical, and social sciences or the humanities. Upon review of an applicant's record, the Committee on Admissions may require additional coursework and testing as a condition of acceptance.

The following courses are recommended:

- biochemistry or organic chemistry laboratory (1 semester hour)
- anatomy laboratory (1 semester hour)
- physiology laboratory (1 semester hour)

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 can be any courses 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:

- Pentium IV or equivalent, 800MHz minimum processor
- 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:

- 800 x 600 or higher video display
- Windows XP
- 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 relative or friend), one of which must be from a physician or PA.

## 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 (EPS)  
College of Allied Health and Nursing  
Physician Assistant Department  
Office of 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 (EPS)  
College of Allied Health and Nursing  
Physician Assistant Department  
Office of 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 Student Educational Center, 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  
Orlando Student Educational Center  
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 2011–2012 (subject to change by the board of trustees without notice) \$27,000. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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, 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.

### **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.

### **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,

pediatrics, prenatal care/gynecology, general surgery, as well as a selective rotation in orthopedics, dermatology, or otorhinolaryngology and a six-week 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)
  - Orthopedics (six weeks)
  - Dermatology (six weeks)
  - Otorhinolaryngology (six weeks)
- Elective (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 an acceptable paper on a selected disease process 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. Testing on rotation specialties will be required and must be submitted to advisers at the scheduled times. Weekly Exam Master tests and comprehensive pre- and post-rotation examinations are included. 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 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/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	44	0	3
PAO	5320	Physical Diagnosis III	34	42	5
PAO	5420	Pharmacology II	64	0	4
PAO	5510	Clinical Medicine and Surgery II	168	0	8
PAO	5520	Clinical Medicine and Surgery III	118	0	7
PAO	5540	Clinical Psychiatry	45	0	3
<b>Total Hours:</b>			<b>473</b>	<b>42</b>	<b>30</b>

<b>Fourth Semester—Summer II Advanced Didactic (June–July)</b>			Lecture	Lab	Credit Hours
PAO	5005	Genetics	16	0	1
PAO	5008	Health Promotion and Disease Prevention	20	0	1
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	30	60	4
PAO	5460	Life Support Procedures and Skills	24	24	3
PAO	5560	Clinical Procedures and Surgical Skills	32	32	3
<b>Total Hours:</b>			<b>198</b>	<b>116</b>	<b>17</b>

<b>Clinical Curriculum—Second Year (August–August)</b>			Weeks	Contact*	Credit Hours
PAO	6401	Elective I	4	160	4
PAO	6402	Elective II	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	300	6
PAO	6320	Family Medicine	6	255	6
PAO	6330	Internal Medicine	6	270	6
PAO	6340	Pediatrics	6	270	6
PAO	6350	Prenatal Care and Gynecology	6	270	6
PAO	6360	General Surgery	6	300	6
PAO	6406	Selective (choose one of three**) <ul style="list-style-type: none"> <li>Orthopedics</li> <li>Dermatology</li> <li>Otorhinolaryngology</li> </ul>	6	270	6
<b>Total Weeks/Hours/Credits (second year)</b>			<b>52</b>	<b>2,335</b>	<b>55</b>

\*factors in time for inpatient rounds, grand rounds, extra reading assignments, and projects

\*\*one of three selectives required, may use other selectives as electives

Curriculum is subject to change as directed by the department.

## **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. (48-38-5)

### **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. (22-0-1)

### **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. (16-0-1)

### **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. (20-0-1)

### **PAO 5009—PA and Health Care Dynamics**

This course focuses on the current status and issues regarding the physician assistant profession within the context of the U.S. medical system and today's health care workforce. The course discusses the structures and administrative principles in health care organizations; the role of the practicing PA in unique environments, with an emphasis on rural and underserved medicine; reimbursement for services rendered; quality assurance; federal health care programs; and other issues involving patient care. (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. (20-36-2)

### **PAO 5320—Physical Diagnosis III**

Students will continue to systematically learn abnormalities in the physical examination and specialty examination techniques. The student will have supervised practice

of skills using simulated patient encounters. Integrating previously learned interviewing skills with principles from the clinical sciences, students elicit a comprehensive medical history, perform a complete physical examination, and formulate an initial diagnostic impression and diagnostic plan. Students are expected to continue to progress in recording information in written form and presenting the information orally to colleagues. (34-42-5)

#### **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. (20-0-1)

#### **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. (30-60-4)

#### **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. (40-0-3)

#### **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. (44-0-3)

#### **PAO 5460—Life Support Procedures and Skills**

Introduction to the principles of advanced life support used in medical and surgical emergencies. Includes a review of the most common emergency situations encountered and provides hands-on practical training that will assist the student in developing the skills required to stabilize patients with life-threatening conditions. Includes certification in basic (BLS) and Advanced Cardiac Life Support (ACLS), as well as Pediatric Advanced Life Support (PALS). (24-24-3)

**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. (110-0-7)

**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, endocrinology, orthopedics, OB/GYN, geriatrics, and neurology. (168-0-8)

**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, and general surgery. (118-0-7)

**PAO 5540—Clinical Psychiatry**

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)

**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. (40-24-3)

**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. (38-0-3)

**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. (300-0-6)

**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. (255-0-6)

**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. (270-0-6)

**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. (270-0-6)

**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. (270-0-6)

**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. (300-0-6)

**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 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 at the same site, or separately. (240-0-6)

**PAO 6406—Selective**

Choose one the three following medical areas to take a six-week rotation in. (270-0-6)

**Orthopedics**

The six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Lecture hours may occur during other than the scheduled period of the rotation in order to accommodate all PA students and instructors at the clinical site. 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. Procedures and disease processes listed, for which the student has not had the opportunity for direct involvement, may be addressed by the preceptor through discussion, lecture, informal seminars, and reading assignments. Formal grading is required in this rotation.

### **Dermatology**

This is a six-week rotation. The 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. Procedures and disease processes listed, for which the student has not had the opportunity for direct involvement, may be addressed by the preceptor through discussion, lecture, informal seminars, and reading assignments.

### **Otorhinolaryngology**

This six-week clinical practicum is intentionally flexible to meet the variety of patients that are likely to present during the rotation. Lecture hours may occur during other than the scheduled period of the rotation in order to accommodate all PA students and instructors at the clinical site. 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. Procedures and disease processes listed, for which the student has not had the opportunity for direct involvement, may be addressed by the preceptor through discussion, lecture, informal seminars, and reading assignments. Formal grading is required in this rotation.

### **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 73,000 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 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 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 Provisional Accreditation in March 2009. 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 a PA career.

1. Applicants must have a minimum cumulative and a minimum science GPA of 2.9 on a 4.0 grading scale in order for an application to be considered. Successful applicants in the past have, typically, had cumulative GPAs in the range of 3.0–3.3, 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. The program requires the student to earn a grade of C (2.0) or better in all courses.
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 (3 semester hours)
  - human physiology (3 semester hours)
  - biochemistry or organic chemistry (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 (3 semester hours)

4. Graduates of foreign institutions where English is not the primary language of instruction must present transcripts showing at least 18 semester hours (or equivalent quarter hours) of study from a regionally accredited college or university in the United States. Of these 18 semester hours,

- 3 semester hours must be in English composition (courses do not include ESOL)
- 3 semester hours must be in English literature (courses do not include ESOL)
- 3 semester hours must be in public speaking (courses do not include ESOL)

The remaining 9 semester hours can be any courses of the applicant's choosing.

5. All applicants are required to submit official scores from the Graduate Record Examination (GRE) general test to the Office of Admissions. The test must have been taken within the past five years and must be taken early enough for official scores to be received in the admissions office by the supplemental application due date of February 15. Applications will not be considered complete without GRE scores. Testing information for the GRE may be obtained from [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

Throughout the curriculum, students are required to access various instructional materials and information from the Internet. All students are required to have a laptop. The minimum specifications are

- Intel or AMD dual core processor
- 1012 MB of RAM minimum
- video capable of 800x600 screen display or better
- DVD/CD Rom capability
- CD writer capable, DVD writer optional

- full duplex sound card with speakers
- ethernet capable
- 56K or higher modem
- an Internet service provider (ISP) for your home/apartment
- Windows XP or Vista
- Microsoft Office 2003 or 2007 with PowerPoint, Word, and Excel as a minimum
- Internet Explorer or Netscape
- Wireless-G capability at a minimum
- printer
- surge protector

### 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 (EPS)  
College of Allied Health and Nursing  
Physician Assistant Department  
Office of 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 Student Educational Center 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 Allied Health and Nursing 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 446F  
Jacksonville, Florida 32202  
(904) 632-5066

#### Tuition and Fees

- Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$27,000. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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 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 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, 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 2012  
 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	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	18	0	1
PAJ	5200	Microbiology	45	0	3
PAJ	5310	Physical Diagnosis II	20	36	3
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>21</b>

<b>Third Semester—Winter (January–May)</b>			Lecture	Lab	Credit Hours
PAJ	5102	Clinical Pathophysiology II	18	0	1
PAJ	5103	Clinical Pathophysiology III	16	0	1
PAJ	5320	Physical Diagnosis III	60	0	5
PAJ	5420	Pharmacology II	72	0	4
PAJ	5510	Clinical Medicine and Surgery II	120	0	8
PAJ	5520	Clinical Medicine and Surgery III	112	0	7
PAJ	5540	Clinical Psychiatry	45	0	3
PAJ	5610	Clinical Laboratory Medicine II	32	0	2
<b>Total Hours</b>			<b>475</b>	<b>0</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, 5103, 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 reluctant clinical signs and symptoms. This course builds on PAJ 5101. (18-0-1)

### PAJ 5103—Clinical Pathophysiology III

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 reluctant clinical signs and symptoms. This course builds on the discussions of general biologic and pathologic processes given in PAJ 5101 and PAJ 5102. (16-0-1)

### **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. (20-36-3)

### **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. (60-40-5)

### **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 (72-0-4)**

### **PAJ 5500—Clinical Medicine and Surgery I**

This course will encompass the etiology, clinical manifestations, appropriate diagnostic evaluation, and management of selected disease entities. (30-0-7)

### **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. (30-0-2)

### **PAJ 5506—Cultural Issues in Health Care**

This course offers an introduction to the skills and insights necessary in promoting health and dealing with illness in diverse populations. Issues discussed include the need for effective communication—with an understanding of societal and cultural factors and how they impact on health care efforts—and use of the health care system. (15-0-2)

### **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 Psychiatry**

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. (32-0-2)

#### **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  
950 North Washington Street  
Alexandria, Virginia 22314-1552  
[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—Vascular Sonography and Master of Health Science—Vascular Sonography are supported by a state-of-the-art vascular teaching laboratory. 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. The Bachelor of Health Science—Cardiovascular Sonography and the Master of Health Science—Cardiovascular Sonography programs are opening in Tampa in May 2012.

- **Bachelor of Health Science (B.H.Sc.)**—online
- **Bachelor of Health Science—Cardiovascular Sonography (B.H.Sc.)**—entry-level, on-campus, Tampa
- **Bachelor of Health Science—Vascular Sonography (B.H.Sc.)**—entry-level, on-campus, Fort Lauderdale
- **Master of Health Science (M.H.Sc.)**—online
- **Master of Health Science—Anesthesiologist Assistant (M.H.Sc.)**—entry-level, on-campus, Fort Lauderdale
- **Master of Health Science—Anesthesiologist Assistant (M.H.Sc.)**—entry-level, on-campus, Tampa
- **Master of Health Science—Cardiovascular Sonography (M.H.Sc.)**—entry-level, on-campus, Tampa
- **Master of Health Science—Vascular Sonography (M.H.Sc.)**—entry-level, on-campus, Fort Lauderdale
- **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 a computer meeting the minimum requirements listed below.

- Pentium or AMD at 1.00GHz or equivalent Macintosh processor
- 256MB 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
- Microsoft Office 2000 or newer with PowerPoint, Word, and Excel minimum
- printer capability
- suggested option: laptop computer with wireless Internet capability for use during campus institutes

## 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 Allied Health and Nursing's 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

#### General Education Program Mission Statement

Incorporating dynamic resources and methods in various settings, the general education curriculum at NSU provides opportunities for learners to emerge as thoughtful and responsible citizens prepared for a competitive global environment.

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. A limited number of D grades may be considered to meet elective requirements, depending on the total number of credits being transferred and where the D grades are being applied to the curriculum. 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

- composition (3 semester hours above COMP 1000—must be completed prior to matriculation into the program)
- mathematics (3 semester hours—above MATH 1000)
- humanities (6 semester hours)
- social and behavioral sciences (9 semester hours)
- natural and physical sciences (9 semester hours)

Total: 30 semester hours

### 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.

### General Education Program

The General Education Program is designed to foster critical skills by helping students develop the ability to solve problems, think analytically, and communicate clearly. The program provides a common connection among all NSU undergraduates through a rigorous set of writing; mathematics; humanities; and social, biological, and physical science requirements. As a result of the General Education Program, students develop effective

communication skills in speaking, listening, writing, reading, and critical interpretation. The program also helps students place ideas in their proper context and appreciate the role of different cultural traditions.

### **General Education Program Framework**

All students are required to complete general education requirements. Students normally complete general education requirements by the end of their junior year through a series of courses in the areas of communication (including written communication and oral communication), mathematics, humanities (including literature, history, ethics, and general humanities), social and behavioral sciences, and biological and physical sciences.

### **Using General Education Credits for Major and Minor Requirements**

Most courses may count toward both general education and major/minor requirements. Students should refer to their program curriculum and consult their academic adviser to determine which courses serve both sets of requirements.

### **General Education Learning Outcomes**

Upon successful completion of the General Education Program, students are expected to

1. think critically by
  - a. solving problems
  - b. analyzing data and concepts
2. communicate clearly by
  - a. speaking effectively
  - b. listening effectively
  - c. writing effectively
  - d. reading effectively
  - e. developing clear, coherent, and consistent interpretations
3. place ideas in their proper context
4. explain the key elements of a variety of cultural traditions

### **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 2.5 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 2.5 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 Allied Health and Nursing will review all material for evidence of the proper education, training, and background to enter the B.H.Sc. program.

### **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. Only courses with a grade of C (2.0 on 4.0 scale) or better will be accepted toward transfer of credit.

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.
- coursework taken at a foreign institution must be evaluated for U.S. institutional equivalence. Foreign coursework must be evaluated by one of the following services:

• World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

• Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

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 (EPS)  
Attn: College of Allied Health and Nursing  
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 Allied Health and Nursing. 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.

### **Tuition and Fees**

- \$50, nonrefundable application fee
- Tuition is \$300 per semester hour.
- An NSU student services fee of \$750 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 Allied Health and Nursing. 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.
- 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 Allied Health and Nursing

### **Graduation with Honors**

A student eligible for graduation with a cumulative grade point average of 3.8 or higher who has completed at least 54 credits at NSU is eligible to receive the degree with distinction.

Students who have earned fewer than 54 credits at NSU may petition for graduation with distinction if they have maintained at least a 3.8 GPA in all coursework accepted toward their degree program at NSU. Degree candidates must complete all of the requirements as specified above.

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).

### **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 August).

Information regarding graduation ceremonies for the College of Allied Health and Nursing is posted at [www.nova.edu/cwis/hpdasa/graduation/](http://www.nova.edu/cwis/hpdasa/graduation/). 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 a course/s 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 2.5 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 2.5 (effective July 2011) 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 Health Science— Cardiovascular Sonography (On-Campus, Entry-Level, Tampa)**

Diagnostic medical sonography includes three primary areas of specialization: general, cardiac, and vascular. General sonography includes subspecialties for obstetrics and gynecology exams, exams of the soft tissues and organs of the body, and exams of structures such as joints and tendons. Vascular sonography studies the anatomical and physiological characteristics of all arteries and veins in the body. Cardiac sonography examines the anatomical structure and function of the heart. Cardiovascular technology consists of five areas of specialization: cardiac sonography (adult), cardiac sonography (pediatric), electrophysiological cardiology (EKG, stress testing, cardioversion, etc.), vascular sonography, and invasive cardiology (angiograms and other catheter-based technology).

The demand for all diagnostic medical sonographers and for all cardiovascular specialists is projected to increase, primarily due to the aging of the “Baby Boom” generation, as seniors are generally more prone to cardiac and vascular problems. 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 level cardiovascular 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**

Admission to the program requires the completion of a minimum of 33 semester hours of general education coursework. The core of the cardiovascular sonography course of study includes 102 semester hours. The entire program requires a total of 135 semester hours for a student to graduate with a Bachelor of Health Science—Cardiovascular Sonography.

The cardiovascular sonography program, both at the bachelor’s and master’s degree levels, 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 either a bachelor’s or master’s degree in health science with a specialization in cardiovascular sonography, depending on the program completed. 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, Carotid Artery Duplex, and EKG. While on campus, the student will spend more than 300 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 1,800 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 Health Science—Cardiovascular Sonography (B.H.Sc.) specialization, a student must have completed 33 semester hours of prerequisite education coursework with a minimum cumulative GPA of 2.75 on a 4.0 grading scale.



### Required General Education Coursework

- composition (3 semester hours—above COMP 1000)
- social and behavioral sciences (9 semester hours)
- humanities\* (6 semester hours)
- anatomy and physiology I (3 semester hours)
- physical/human/biological science (6 semester hours)
- physics (3 semester hours)
- mathematics\*\* (3 semester hours—above MATH 1000)

Total General Education Courses: 33 semester hours

\*3 semester hours in foreign language recommended

\*\*3 semester hours in college algebra strongly recommended

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.

Upon receipt of the completed application, fees, credentials, and transcripts, the admissions officers and the College of Allied Health and Nursing will review all material for evidence of the proper education, training, and background to enter the Bachelor of Health Science—Cardiovascular Sonography specialization 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 Allied Health and Nursing. 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 June 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
- evaluation of coursework taken at a foreign institution for U.S. institutional equivalence, if applicable

Foreign coursework must be evaluated by one of the following services:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

The Office of Admissions for the B.H.Sc.—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 (EPS)  
College of Allied Health and Nursing  
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 Student Educational Center 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 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 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 2012–2013 will subsequently be posted on our Web site ([www.nova.edu/cah/healthsciences/cardiovascular](http://www.nova.edu/cah/healthsciences/cardiovascular)).
- \$750 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 \$225 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 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 Allied Health and Nursing. 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 135 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
- 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 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 is a new offering at NSU and is currently seeking accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Commission on Education in Cardiovascular Technology (JRC-CVT), which can only be awarded after the first graduating class of students.

Graduates will be eligible to take the national registry examinations under the rules for new programs, as 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—Cardiovascular Sonography

Required General Education Courses	Semester Hours
Composition*	3
Social and behavioral sciences	9
Humanities**	6
Anatomy and physiology I	3
Physical/human/biological science	6
Physics	3
Mathematics***	3

**General Education Subtotal: 33**

\* 3 COMP semester hours above COMP 1000

\*\* 3 semester hours in foreign language recommended

\*\*\* 3 semester hours above MATH 1000, college algebra strongly recommended

Required Core B.H.Sc.—Cardiovascular Sonography Courses	Semester 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 Policy	3

BHS	4000	Cultural Competency in Health Care	3
BHS	4100	Academic and Professional Writing	3
BHS	4110	Health Care and Aging	3
PHY	3050	Anatomy and Physiology	4
CVS	3000	Introduction to Cardiovascular Instruments	3
CVS	3005	Pharmacology and EKG/Lab	3
CVS	3010	Echocardiography I/Lab	3
CVS	3020	Echocardiography II/Lab	3
CVS	3030	Echocardiography III/Lab	4
CVS	3040	Ultrasound Physics I	3
CVS	3050	Ultrasound Physics Review	1
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)	12
CVS	4600	Clinical Externship II (16 weeks)	12
CVS	4700	Clinical Externship III (16 weeks)	12

**Required B.H.Sc. Courses Subtotal: 102**

**Minimum Total Semester Hours Required: 135**

Curriculum is subject to change without notice.

In order to be eligible to graduate with the Bachelor of Health Science—Cardiovascular Sonography degree, a student must have completed 33 semester hours of general education coursework in addition to the B.H.Sc. curriculum, with a resulting minimum total of 135 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— Vascular Sonography (On-Campus, Entry-Level)**

Diagnostic Medical Sonography (DMS) uses the properties of sound to image tissues and organs within the body. Vascular Sonography is a specialty of DMS, focusing on the assessment of all arteries and veins of the body (excluding those located in the heart).

Vascular sonographers are an important part of the medical team. Clinical settings using the skills and services of vascular sonographers typically include imaging centers, radiology departments, and cardiology or vascular surgery offices. The demand for vascular sonographers is projected to increase primarily due to the aging of the population, as seniors are generally more prone to vascular problems.

The Bachelor of Health Science—Vascular Sonography course of study at Nova Southeastern University is designed to train highly skilled and knowledgeable vascular technologists who are prepared to take leadership positions in diagnostic laboratories, clinical research, and education in the field of vascular sonography.

### **Program Objectives**

- to graduate competent vascular technologists who are qualified to perform a variety of standard and specialized diagnostic 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 graduates for future leadership roles in vascular laboratories and ultrasound departments
- to enhance the student's academic skills for pursuing research studies or education in vascular sonography

Upon successful completion of the 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**

Admission to the program requires the completion of a minimum of 30 semester hours of general education coursework. The core of the vascular sonography course of study includes 96 semester hours. The entire program requires a total of 126 semester hours for a student to graduate with a Bachelor of Health Science—Vascular Sonography.

The first year of the course of study is designed as a combination of on-campus lectures, ultrasound laboratory practice, and online courses. Students will learn theory in the lecture and online courses, and apply that knowledge in the ultrasound laboratory.

The second year will focus almost entirely on clinical training for a minimum of 48 weeks, with a minimum of 35 hours per week, with hands-on experience in a vascular laboratory under the supervision of a registered vascular technologist. Students will be required to fulfill competencies outlined in the clinical syllabus. These competencies include all aspects of vascular sonography training and professional development. In addition, four online courses are required during the senior year.

Online courses are provided to students through NSU computer accounts that include email. Students, however, must obtain their own Internet service provider (ISP) and their own computer system (IBM-compatible PC or Apple Macintosh, and modem.) New students are provided with an orientation and extensive online support on computer and software requirements, online access, online tools, and library resources.

### **Prerequisites**

In order to apply to the Bachelor of Health Science—Vascular Sonography (B.H.Sc.) specialization, 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 can not 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 Allied Health and Nursing will review all material for evidence of the proper education, training, and background to enter the Bachelor of Health Science—Vascular Sonography specialization.

Prospective vascular 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 vascular sonography. Areas of consideration include application content, academic record, letters of evaluation and personal motivation.

Admission to the vascular 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 Allied Health and Nursing. 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 vascular 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
- 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

Foreign coursework must be evaluated by one of the following services:

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

- resumes or curricula vitae

The Office of Admissions for the B.H.Sc.—Vascular 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 (EPS)  
College of Allied Health and Nursing  
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 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 WebCT. 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
- \$17,500 tuition 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 May 15, 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 \$225 will be incurred.
- A \$125 vascular 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 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 Allied Health and Nursing. Tuition, fees, and payment schedules are subject to change without notice.

### **Requirements for Graduation**

To be eligible to receive the Bachelor of Health Science—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 126 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—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 Core B.H.Sc.—Vascular Sonography Courses			Semester 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 of 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
BSV	3100	Ultrasound Physics I/Lab	3
BSV	3110	Advanced Anatomy for Health Professions	4
BSV	3200	Ultrasound Physics Review	1
BSV	3220	Introduction to Diagnostic Medical Sonography	3
BSV	3300	Cerebrovascular Testing/Lab	4
BSV	3400	Venous Testing/Lab	4
BSV	3500	Peripheral Arterial Testing/Lab	4
BSV	3600	Abdominal Vascular Testing/Lab	4
BSV	3700	Clinical Preparation and Review	2
BSV	3810	Introduction to Cardiac Sonography Techniques	2
BSV	3820	Introduction to Cardiac Pathology	1
FME	5105	Basic Life Support	1
BSV	4500	Clinical Externship I (16 weeks)	12
BSV	4600	Clinical Externship II (16 weeks)	12
BSV	4700	Clinical Externship III (16 weeks)	12

**Required B.H.Sc. Courses Subtotal: 96**

**Minimum Total Semester Hours Required: 126**

In order to be eligible to graduate with the Bachelor of Health Science—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 126 semester hours. Only courses with a minimum GPA of 2.0 on a 4.0 grading scale will be accepted.



## Bachelor of Health Science Course Descriptions

\*Denotes a required B.H.Sc. core course

### **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 3120—Introduction to Epidemiology\***

The purpose of this course is to introduce the history and development of epidemiology in relation to public health and disease. Communicable, epidemic, and endemic as well as social disease will 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 statistics 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 the conflict and effective methods and strategies for reducing the incidence of workplace conflict including employee-employee conflict, supervisor-subordinate conflict, patient-patient conflict, and patient/client-provider conflict. (3 semester hours)

### **BHS 3160—Health 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 4000—Cultural Competency in Health Care\***

The purpose of this course is to develop competency and better understanding when confronted with issues related to culture, diversity, and ethnically based customs, rituals, alternative health care choices, folk medicine, cultural structure and viewpoints, and the practitioner's delivery of health care. (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 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 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)

**BSV 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 semester hours)

**BSV 3110—Advanced Anatomy 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 semester hours)

**BSV 3200—Ultrasound Physics Review**

This course is designed to review the principles and concepts learned in BSV 3100 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)

**BSV 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)

**BSV 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)

**BSV 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)

**BSV 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. (5 semester hours)

**BSV 3600—Abdominal Testing/Lab**

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, as well as some other imaging techniques. (5 semester hours)

**BSV 3700—Clinical Preparation and Review**

This course will provide and reinforce the nontechnical aspects of the profession of diagnostic medical sonographers. These include, but are not limited to, professionalism, billing, quality assurance, and image storage. This course will also prepare the students for the clinical experience that follows in the second year. (4 semester hours)

**BSV 3810—Introduction to Cardiac Sonography Techniques**

This course will provide an introduction to techniques, measurements, and normal function of the adult heart as evaluated with ultrasound. (2 semester hours)

**BSV 3820—Introduction to Cardiac Pathology**

This course will provide an introduction to common pathologies that can be evaluated by ultrasound in the adult heart. Through case studies, the basic techniques, measurements, and functions seen in BSV 3810 will be reinforced and discussed in the context of pathologies. (1 semester hour)

**BSV 4500—Clinical Externship I**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 semester hours)

**BSV 4600—Clinical Externship II**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students

will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 semester hours)

### **BSV 4700—Clinical Externship III**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 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 3005—Pharmacology and EKG**

This course will introduce the students to the theory (in lecture) and practical (hands-on use in the training lab) of the equipment used to obtain electrocardiographic (EKG) data and basic EKG interpretation. Course content will also consist of familiarization with commonly encountered pharmacology in the typical patient population of the vascular and/or cardiovascular lab, patient physiological cardiovascular effects and implications for exams, and typical clinical presentation in patients. (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. (3 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. (1 semester hour)

### **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. **(12 semester hours)**

### **CVS 4600—Clinical Externship II**

This course is a continuation of CVS 4500. **(12 semester hours)**

### **CVS 4700—Clinical Externship III**

This course is a continuation of CVS 4500 and CVS 4600. **(12 semester hours)**

### **FME 5105—Basic Life Support**

The American Heart Association-approved course leads to certification upon successful completion. **(1 semester hour)**

### **PHY 3050—Anatomy and Physiology**

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 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. The internship component of the M.H.Sc. program may be conducted at hospitals, private institutions, or locations approved by M.H.Sc. program administration.

### 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 record, prior clinical health care experience or one to three years of responsible administrative health care experience, 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 though 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 Allied Health and Nursing.

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  
Attn: College of Allied Health and Nursing  
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. This form is supplied with the application package. 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 Allied Health and Nursing.

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 2011–2012 is \$300 per credit hour. An NSU student services fee of \$750 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 Allied Health and Nursing. 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 (EPS), 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 evaluation forms from professional supervisors

These evaluators, preferably supervising clinicians, should know the applicant's personal character and scholastic, clinical, and work abilities.

- 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 (EPS)  
 Attn: College of Allied Health and Nursing  
 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

Undergraduate coursework taken at a foreign institution must be evaluated for U.S. institution equivalence. Foreign coursework must be evaluated by one of the services listed below.

Contact one of the following:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
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, and an official evaluation must be sent directly to NSU's Enrollment Processing Services (EPS) from the evaluating service.

## 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. internship and practicum
- receive a recommendation by the M.H.Sc. program director to the dean of the College of Allied Health and Nursing.

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 Allied Health and Nursing. 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.

## 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

Practical Courses (10 credits)			Credit Hours
MHS	5107	Internship	5
MHS	5207	Practicum	5

## Specialty Tracks in the Master of Health Science Program

The M.H.Sc Program offers five specialty tracks: sports medicine, higher education, health law, forensic investigative technology, and leadership in health care. The internship and practicum must be completed in the specialty areas. There are no electives in the specialty tracks.

### Sports Medicine Track 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

Specialty 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	5107	Internship	5
MHS	5207	Practicum	5

### Higher Education Track 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

Specialty 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	5107	Internship	5
MHS	5207	Practicum	5

### Health Law Track Curriculum

This concentration is offered through a partnership with the NSU Shepard Broad Law Center. **Students in this track 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	5543	Principles and Practice of Health Care Management	3

### Specialty Courses

(18 credits offered through the Shepard Broad Law Center)			Credit Hours
MHL	1010	Institute on Campus I	1
MHL	1020	Legal Research Methods and Reasoning	3
MHL	1060	Tort and Contract Law	3
MHL	2030	Risk Management	2
MHL	1030	Administrative Law	2
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	2000	Institute on Campus II	1
MHL	2020	Legal Negotiation	2

Practical Courses (10 credits)			Credit Hours
MHS	5107	Internship	5
MHS	5207	Practicum	5

## Forensic Investigative Technology

This track 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 specialty track 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

Specialty 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	5107	Internship	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 specialty 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 Curriculum

This track 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 specialty track 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

Specialty 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	5107	Internship	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 specialty 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.

## 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 (3 credits)

#### **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 (3 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. (2 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)

#### **MHL 2020—Legal Negotiation**

This course seeks to familiarize students with the various ways in which their legal counsel will attempt to resolve disputes on their behalf. Lawyers, of course, may litigate to resolve disputes, but far more often, they choose negotiation, arbitration, and mediation. Students in this course will

have the opportunity to review, discuss, and experiment with some of the skills their lawyers will be using on their behalf. They will come to appreciate the legal issues that can affect such nonlitigation techniques. Attention will also be paid to the legal mechanisms by which parties to disputes are more and more often being forced into mediation or arbitration. **Prerequisite:** MHL 1020 (2 credits)

#### **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)

### **Practical Components**

#### **MHS 5107—Internship**

The student will complete 80 hours of internship in an area of interest within a health care organization, outside of their regular places of employment. The final product of this internship is an in-depth SWOT analysis of the unit or health care organization. The internship site requires prior M.H.Sc faculty approval. (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)

### **M.H.Sc.—Anesthesiologist Assistant, 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 2,484 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 health science degree from NSU.

Students are trained in the newly constructed, state-of-the-art AA facilities. NSU's AA program is the only one in the country to have four METI-Man anesthesia simulators (two adult, one pediatric, and one baby). The student's educational experience is further enhanced by having the largest, fully functional operating room and mock postoperative and intensive care units.

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.H.Sc.—Anesthesiologist Assistant specialization 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 Health Science—Anesthesiologist Assistant course of study 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.H.Sc.—Anesthesiologist Assistant 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.H.Sc.—Anesthesiologist Assistant 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.

### Admissions Requirements

Prospective M.H.Sc.—Anesthesiologist Assistant 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

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 obtain a minimum score of 600 on the written (or comparable score on the computerized) Test of English as a Foreign Language (TOEFL). 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
- 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)

Applicant is responsible for contacting one of the evaluation services listed here. The official evaluation must be sent directly from the evaluation service to EPS.

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

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 M.H.Sc. 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 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 2011–2012 (subject to change by the board of trustees without notice): \$33,600. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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.H.Sc.—Anesthesiologist Assistant 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

## Anesthesiologist Assistant Curriculum—Fort Lauderdale

Start Date:	June 2010
Length:	27 months
Degree:	Master of Health Science—Anesthesiologist Assistant
Didactic:	14 months
Clinical:	13 months
Total Credit Hours:	134
Total Clinical Hours:	2,484

All courses with the MHS prefix will be taken online.

Summer—Semester I (June 2010–August 2010)			Credit Hours
ANES	5048	Medical Terminology	1
ANES	5621	Principle of Airway Management I	2
ANES	5081	Introduction to Clinical Anesthesia	2
ANES	5328	ECG for Anesthesiologist Assistants	1
ANES	5901	Anesthesia Principle and Practices I	2
ANA	5420	Anatomy	5
PHS	5400	Physiology	3
ANES	5301	Anesthesia Laboratory I	3
MHS	5003	Current Trends and Cultural Issues in Health Care	3
<b>Total Credit Hours</b>			<b>22</b>

Basic Life Support Certification will be obtained during this semester.

Fall—Semester II (September 2010–December 2010)			Credit Hours
ANES	5002	Clinical Anesthesia II	2
ANES	5302	Anesthesia Laboratory II	3
ANES	5601	Applied Physiology for Anesthesia Practice I	3
ANES	5462	Pharmacology for Anesthesia I	2
ANES	5901	Anesthesia Principle and Practices I	2
ANES	5622	Principle of Airway Management II	2
MHS	5205	Writing for Medical Publication	3
MHS	5103	Principles of Life Support	3
<b>Total Credit Hours</b>			<b>20</b>

Minimum clinical experience: 92 hours (anesthesia rotations in hospital)

Advanced Cardiac Lifesaving will be obtained during this semester.

<b>Winter—Semester III (January 2011–May 2011)</b>			<b>Credit Hours</b>
ANES	5003	Clinical Anesthesia III	3
ANES	5463	Pharmacology for Anesthesia II	2
ANES	5303	Anesthesia Laboratory III	3
ANES	5602	Applied Physiology for Anesthesia Practice II	2
ANES	5902	Anesthesia Principle and Practices II	2
ANES	5801	Instrumentation and Monitoring	2
MHS	5510	Research Methods	3
MHS	5400	Directed Studies in Anesthesia I	3
<b>Total Credit Hours</b>			<b>20</b>

Minimum clinical experience: 150 hours. (anesthesia rotations in hospital)

<b>Summer—Semester IV (June 2011–August 2011)</b>			<b>Credit Hours</b>
ANES	5004	Clinical Anesthesia IV	5
ANES	5304	Anesthesia Laboratory IV	3
MHS	5107	Internship	5
MHS	5401	Directed Studies in Anesthesia II	3
<b>Total Credit Hours</b>			<b>16</b>

Minimum clinical experience: 312 hours. (anesthesia rotations in hospital)

Pediatric and Advanced Cardiac Lifesaving will be obtained during this semester.

<b>Clinical Year, Fall—Semester V (September 2011–December 2011)</b>			<b>Credit Hours</b>
MHS	5207	Practicum—Senior Seminar in Anesthesia I*	5
ANES	6110	Anesthesia Review I	1
ANES	6001	Clinical Anesthesia V	13
MHS	5501	Epidemiology and Biostatistics	3
<b>Total Credit Hours</b>			<b>22</b>

Minimum clinical experience: 675 hours. (anesthesia rotations in hospital)

\*MHS 5207 will be completed over fall, winter, and summer semesters.

<b>Clinical Year, Winter—Semester VI (January 2012–May 2012)</b>			<b>Credit Hours</b>
ANES	6120	Anesthesia Review II	1
ANES	6002	Clinical Anesthesia VI	15
MHS	5521	Ethical Issues in Health Care	3
<b>Total Credit Hours</b>			<b>19</b>

Minimum clinical experience: 760 hours. (anesthesia rotations in hospital)

<b>Clinical Year, Summer—Semester VII (June 2012–August 2012)</b>			<b>Credit Hours</b>
ANES	6130	Anesthesia Review III	1
ANES	6003	Clinical Anesthesia VII	11
MHS	5530	Principles of Health Care Management	3
<b>Total Credit Hours</b>			<b>15</b>

Minimum clinical experience: 495 hours. (anesthesia rotations in hospital)

Curriculum is subject to change as directed by the department.

## **Anesthesiologist Assistant—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**

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 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 6001—Clinical Anesthesia V**

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 VI**

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 VII**

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 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 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**

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 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, 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)

## **M.H.Sc.—Anesthesiologist Assistant, 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 2,500 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 health science degree from NSU.

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.H.Sc.—Anesthesiologist Assistant specialization 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 Health Science—Anesthesiologist Assistant course of study 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.H.Sc.—Anesthesiologist Assistant 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.H.Sc.—Anesthesiologist Assistant 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.

## **Admissions Requirements**

Prospective M.H.Sc.—Anesthesiologist Assistant 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 obtain a minimum score of 600 on the written (or comparable score on the computerized) Test of English as a Foreign Language (TOEFL). 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
- 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)

Applicant is responsible for contacting one of the evaluation services listed here. The official evaluation must be sent directly from the evaluation service to EPS.

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

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 M.H.Sc. 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 location 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 2011–2012 (subject to change by the board of trustees without notice): \$33,600. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 is also required annually.

1. **Acceptance Fee—\$500.** This fee is required to reserve the accepted applicant’s place in the entering firstyear 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.H.Sc.—Anesthesiologist Assistant 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

## Anesthesiologist Assistant Curriculum—Tampa

Summer—Semester I			Credit Hours
ANET	5048	Medical Terminology	1
ANET	5621	Principle of Airway Management I	2
ANET	5081	Introduction to Clinical Anesthesia	3
ANET	5328	ECG for Anesthesiologist Assistants	1
ANAT	5420	Anatomy	5
PHST	5400	Physiology	3
ANET	5301	Anesthesia Laboratory I	3
MHS	5003	Current Trends and Cultural Issues in Health Care	3
<b>Total Credit Hours</b>			<b>21</b>

Fall—Semester II			Credit Hours
ANET	5302	Anesthesia Laboratory II	4
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	Principles of Airway Management II	2
MHS	5205	Writing for Medical Publication	3
ANET	5801	Principles of Instrumentation and Patient Monitoring	3
<b>Total Credit Hours</b>			<b>19</b>

Winter—Semester III			Credit Hours
ANET	5001	Clinical Anesthesia and Seminar I	2
ANET	5463	Pharmacology for Anesthesia II	2
ANET	5303	Anesthesia Laboratory III	4
ANET	5602	Applied Physiology for Anesthesia Practice II	2
ANET	5902	Anesthesia Principle and Practices II	2
MHS	5103	Principles of Life Support	3
MHS	5510	Research Methods	3
MHS	5400	Directed Studies in Anesthesia I	3
<b>Total Credit Hours</b>			<b>21</b>

<b>Summer—Semester IV</b>			<b>Credit Hours</b>
ANET	5002	Clinical Anesthesia II	5
ANET	5304	Anesthesia Laboratory IV	4
ANET	5903	Anesthesia Principles and Practices III	2
MHS	5107	Internship	5
MHS	5402	Directed Studies in Anesthesia II	3
<b>Total Credit Hours</b>			<b>19</b>

<b>Clinical Year, Fall—Semester V</b>			<b>Credit Hours</b>
MHS	5207	Practicum I*	5
ANET	6110	Anesthesia Review I	1
ANET	6001	Clinical Anesthesia III	13
MHS	5501	Epidemiology and Biostatistics	3
<b>Total Credit Hours</b>			<b>22</b>

\*MHS 5207 will be completed over fall, winter, and summer semesters.

<b>Clinical Year, Winter—Semester VI</b>			<b>Credit Hours</b>
ANET	6120	Anesthesia Review II	1
ANET	6002	Clinical Anesthesia IV	15
MHS	5521	Ethical Issues in Health Care	3
<b>Total Credit Hours</b>			<b>19</b>

<b>Clinical Year, Summer—Semester VII</b>			<b>Credit Hours</b>
ANET	6003	Clinical Anesthesia V	12
MHS	5530	Principles of Health Care Management	3
<b>Total Credit Hours</b>			<b>15</b>



## **Anesthesiologist Assistant—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 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 5076—Physics of Anesthesia Practice**

Basic physical principles and processes applied to the practice of anesthesia. Includes dimensional analysis; work, energy, and power; gas laws; fluid mechanics; heat transfer; vaporization; solubility, diffusion, and osmosis; fires and explosions; laser and X-ray radiation; principles of electrical circuit theory used to model anesthesia equipment, physiologic systems, and time constants. (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 6001—Clinical Anesthesia V**

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 VI**

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 VII**

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 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**

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 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 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— Cardiovascular Sonography (On-Campus, Entry-Level, Tampa)

Diagnostic medical sonography includes three primary areas of specialization: general, cardiac, and vascular. General sonography includes subspecialties for obstetrics and gynecology exams, exams of the soft tissues and organs of the body, and exams of structures such as joints and tendons. Vascular sonography studies the anatomical and physiological characteristics of all arteries and veins in the body. Cardiac sonography examines the anatomical structure and function of the heart. Cardiovascular technology consists of five areas of specialization: cardiac sonography (adult), cardiac sonography (pediatric), electrophysiological cardiology (EKG, stress testing, cardioversion, etc.), vascular sonography, and invasive cardiology (angiograms and other catheter-based technology).

The demand for all diagnostic medical sonographers and for all cardiovascular specialists is projected to increase, primarily due to the aging of the “Baby Boom” generation, as seniors are generally more prone to cardiac and vascular problems. 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.

The Master of Health Science—Cardiovascular Sonography specialization at Nova Southeastern University is designed to train highly skilled and knowledgeable cardiovascular technologists 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.

## Program Objectives

- to offer an advanced-level, professional degree to those already holding a bachelor’s-level degree in a health care-related or science field
- 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 master’s-degree level cardiovascular sonography specialization, students are eligible to apply for admission to the Doctor of Health Science (D.H.Sc.) program. This is an online degree program with a requirement for students to complete two one-week summer institutes.

## Curriculum Overview

Admission to the master’s degree-level program requires the completion of a minimum of 33 semester hours of general education coursework, which may be satisfied within a previously earned bachelor’s degree from a regionally accredited institution. The cardiovascular sonography master’s degree-level program requires the student to complete 109 semester hours to graduate with a Master of Health Science—Cardiovascular Sonography.

The cardiovascular sonography program, both at the bachelor's and master's degree levels, 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 either a bachelor's or master's degree in health science with a specialization in cardiovascular sonography, depending on the program completed.

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, Carotid Artery Duplex, and EKG. While on campus, the student will spend more than 300 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 more than 1,800-hour clinical training program 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 Master of Health Science—Cardiovascular Sonography (M.H.Sc.) specialization, a student must have completed 33 semester hours of prerequisite education coursework and have earned a bachelor's degree from a regionally accredited institution with a minimum cumulative GPA of 3.0 on a 4.0 scale.

### Required General Education Coursework

- composition (3 semester hours—above COMP 1000)
- social and behavioral sciences (9 semester hours)
- humanities\* (6 semester hours)
- anatomy and physiology I (3 semester hours)
- physical/human/biological science (6 semester hours)
- physics (3 semester hours)
- mathematics\*\* (3 semester hours—above MATH 1000)

Total General Education Courses: 33 semester hours

\*3 semester hours in foreign language recommended

\*\*3 semester hours in college algebra strongly recommended

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.

Upon receipt of the completed application, fees, credentials, and transcripts, the admissions officers and the College of Allied Health and Nursing will review all material for evidence of the proper education, training, and background to enter the Master of Health Science—Cardiovascular Sonography specialization 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 Allied Health and Nursing. 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
- resumes or curricula 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
- 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

Foreign coursework must be evaluated by one of the following services:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

The Office of Admissions for the M.H.Sc.—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 (EPS)  
College of Allied Health and Nursing  
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 Student Educational Center 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 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 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 2012–2013 will subsequently be posted on our Web site ([www.nova.edu/cah/healthsciences/cardiovascular](http://www.nova.edu/cah/healthsciences/cardiovascular)).
- \$750 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 15, under the same terms as the acceptance fee.
- \$250 preregistration fee —This fee is due June 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 \$225 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 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 Allied Health and Nursing. Tuition, fees, and payment schedules are subject to change without notice.

### Requirements for Graduation

To be eligible to receive the Master 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 142 semester hours
- 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, 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 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 is a new offering at NSU and is currently seeking accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Commission on Education in Cardiovascular Technology (JRC-CVT), which can only be awarded after the first graduating class of students.

Graduates will be eligible to take the national registry examinations under the rules for new programs, as 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 Master of Health Science—Cardiovascular Sonography

Required General Education Courses	Semester Hours
Composition*	3
Social and behavioral sciences	9
Humanities**	6
Anatomy and physiology I	3
Physical/human/biological science	6
Physics	3
Mathematics***	3
<b>General Education Subtotal: 33</b>	

\*3 COMP semester hours above COMP 1000

\*\*3 semester hours in foreign language recommended

\*\*\*3 semester hours above MATH 1000, college algebra strongly recommended



<b>Required Core M.H.Sc.—Cardiovascular Sonography Courses</b>			<b>Semester Hours</b>
MHS	5003	Current Trends and Cultural Issues in Health Care	3
MHS	5107	Master's Degree Internship	5
MHS	5205	Writing for Medical Publications	3
MHS	5207	Practicum	5
MHS	5406	Directed Studies I/Elective	3
MHS	5407	Directed Studies II/Elective	3
MHS	5501	Epidemiology and Biostatistics	3
MHS	5510	Research Methods	3
MHS	5521	Ethical Issues in Health Care	3
MHS	5530	Principles of Management in Health Care	3
PHY	3050	Anatomy and Physiology	4
CVS	3000	Introduction to Cardiovascular Instruments	3
CVS	3005	Pharmacology and EKG/Lab	3
CVS	3010	Echocardiography I/Lab	3
CVS	3020	Echocardiography II/Lab	3
CVS	3030	Echocardiography III/Lab	4
CVS	3040	Ultrasound Physics I	3
CVS	3050	Ultrasound Physics Review	1
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)	12
CVS	4600	Clinical Externship II (16 weeks)	12
CVS	4700	Clinical Externship III (16 weeks)	12

**Required Core M.H.Sc. Courses Subtotal: 109**

**Minimum Total Semester Hours Required: 142**

Curriculum is subject to change without notice.

## **Master of Health Science—Cardiovascular Sonography Course Descriptions**

### **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 3005—Pharmacology and EKG**

This course will introduce the students to the theory (in lecture) and practical (hands-on use in the training lab) of the equipment used to obtain electrocardiographic (EKG) data and basic EKG interpretation. Course content will also consist of familiarization with commonly encountered pharmacology in the typical patient population of the vascular and/or cardiovascular lab, patient physiological cardiovascular effects and implications for exams, and typical clinical presentation in patients. **(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. **(3 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. **(1 semester hour)**

### **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. (12 semester hours)

**CVS 4600—Clinical Externship II**

This course is a continuation of CVS 4500. (12 semester hours)

**CVS 4700—Clinical Externship III**

This course is a continuation of CVS 4500 and CVS 4600. (12 semester hours)

**MHS 5003—Current Trends and Cultural Issues in Health Care**

The 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 semester 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 semester hours)

**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 semester 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 semester hours)

**MHS 5406—Directed Studies I**

This course is the foundation for MHS 5407 Directed Studies II. This two-tiered course structure will culminate in either a scientific paper or a research poster presentation based on extensive research on a particular topic in cardiovascular sonography or ultrasound technology. In MHS 5406, the student will select an appropriate topic, obtain approval by the program director, and explore the foundation of that topic including issues and questions. Work product for this course will include, but is not limited to, the first half of a scientific paper or research poster (introduction, needs assessment, identification of resources, literature review, methodologies and procedures section, and anticipated results). (3 semester hours)

**MHS 5407—Directed Studies II**

This course concludes the series on Directed Studies by the completion of the scientific paper or research poster presentation on the topic chosen in MHS 5406. The final paper is to be suitable for publication in professional journals. The poster presentation is to be suitable for presentation at a local, regional, or national professional

event. Work product for this course will include, but is not limited to, the remaining content necessary to complete a scientific paper or research poster (discussion, conclusions, implications, and recommendations.) **(3 semester hours)**

#### **MHS Elective Courses**

Master of Health Science elective courses may be taken in addition to, or in lieu of, Directed Studies I and II, based upon faculty adviser approval and course availability. Available course listings will be provided as needed. **(3 semester 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 semester 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 semester 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 processes that providers and patients engage in are analyzed. Topics will include informed consent, the role of institutional review boards, euthanasia, and the allocation of scarce resources. **(3 semester 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 semester hours)**

#### **PHY 3050—Anatomy and Physiology**

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 semester hours)**

## **Master of Health Science— Vascular Sonography (On-Campus, Entry-Level)**

Diagnostic Medical Sonography (DMS) uses the properties of sound to image tissues and organs within the body. Vascular Sonography is a specialty of DMS, focusing on the assessment of all arteries and veins of the body (excluding those located in the heart).

Vascular sonographers are an important part of the medical team. Clinical settings using the skills and services of vascular sonographers typically include imaging centers, radiology departments, and cardiology or vascular surgery offices. The demand for vascular sonographers is projected to increase primarily due to the aging of the population, as seniors are generally more prone to vascular problems.

The Master of Health Science—Vascular Sonography specialization at Nova Southeastern University is designed to train highly skilled and knowledgeable vascular technologists 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.

### **Program Objectives**

- to graduate competent vascular technologists who are qualified to perform a variety of standard and specialized diagnostic 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 vascular laboratories, research centers, and vascular centers
- to develop advanced academic and clinical skills, for pursuing research studies and publication in the field of vascular sonography

Upon successful completion of the Master of Health Science with a specialization in Vascular Sonography, students are eligible to apply for admission to the Doctor of Health Science (D.H.Sc.) program. The D.H.Sc. program has a requirement for students to complete two one-week summer institutes.

### **Curriculum Overview**

The vascular sonography program includes on-campus lectures; extensive, hands-on ultrasound laboratory time; online courses; and a 12-month externship in a clinical vascular laboratory. The program starts in July with two

online courses and is 26 months long. The successful graduate will earn a Master of Health Science degree with a specialization in Vascular Sonography. Students will take a combination of core courses in both the health science field and more focused vascular technology courses. A sample of core courses in the health sciences includes subjects such as Writing for Medical Publication, Epidemiology, Biostatistics, and Principles and Practice of Management in Health Care. Examples of vascular technology courses include Ultrasound Physics, Cerebrovascular Testing, Venous Testing, and Peripheral Arterial Testing. While on campus, the student will spend more than 300 hours in the Ultrasound Training Laboratory learning scanning skills and physiologic testing methods prior to the clinical externship experience.

The second year will focus almost entirely on clinical training for a minimum of 48 weeks, with a minimum of 35 hours per week, with hands-on experience in a vascular laboratory under the supervision of a registered vascular technologist. Students will be required to fulfill competencies outlined in the clinical syllabus. These competencies include all aspects of vascular sonography training and professional development. In addition, four online courses are required during the senior year. In addition to the regular curriculum, the Master of Health Science student will work with a faculty member to design and implement a project, such as a case study, a presentation, or clinical research. Students in the master's degree track will have additional, directed courses (including directed studies in vascular ultrasound, a practicum, and an internship) during their clinical training.

Admission to the program requires the completion of a bachelor's degree, including a minimum of 3 credits in anatomy and physiology and 3 credits in general/mechanical physics. The core of the vascular sonography specialization includes 106 semester hours. The entire program requires a total of 106 semester hours for a student to graduate with a Master of Health Science—Vascular Sonography.

### **Prerequisites**

Candidates for the Master of Health Science with a specialization in Vascular Sonography must have earned a bachelor's degree from a regionally accredited institution with a minimum GPA of 2.75 on a 4.0 scale. In addition, applicants for the master's degree must have completed the following prerequisite education coursework with a grade of 2.0 (C) or higher on a 4.0 scale.

### **Required General Education Coursework**

- English (3 semester hours)
- anatomy and physiology (3 semester hours)
- mathematics (3 semester hours—above MATH 1000)

- physical/human/biological sciences (6 semester hours)
- physics (3 semester hours)

Note: It is also recommended, although not required, for the applicant to have completed Anatomy and Physiology II. Required general education courses cannot be survey courses.

### 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

### Admissions Requirements

Prospective vascular 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 a demonstrated capacity to pursue the course of study in vascular sonography. Areas of consideration include application content, academic record, letters of evaluation, and personal motivation.

### Application Procedures

Candidates for admission are responsible for the submission of

- completed application forms with \$50, nonrefundable application fees by May 1
- 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
- copies of national and or state professional certification, licensure, or registration, if applicable

- resumes or curricula vitae
- evaluation of any coursework taken at a foreign institution for U.S. institutional equivalence, if applicable

Foreign coursework must be evaluated by one of the following services:

• World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

• Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

The Office of Admissions for the M.H.Sc.—Vascular 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 the following address no later than the first Friday in May:

Nova Southeastern University  
Enrollment Processing Services (EPS)  
Attn: College of Allied Health and Nursing  
M.H.Sc.—Vascular Sonography 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 Allied Health and Nursing. 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 vascular sonography director reserve the right to require the student's withdrawal at any time for the above mentioned reasons.

## 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 main campus and are by invitation only. 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. Final deadline for applications to be received by the admissions office is the first Friday in May

Upon receipt of the completed application, fees, credentials, and transcripts, the admissions officers and the College of Allied Health and Nursing will review all material for evidence of the proper education, training, and background to enter the M.H.Sc.—Vascular Sonography specialization.

## Distance Education Support

Students on clinical externships in vascular sonography must maintain Nova Southeastern University 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 WebCT. 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 students.

## Tuition and Fees

- \$50, nonrefundable application fee
- \$19,500 tuition for 2011–2012 academic year
- \$750 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 15, under the same terms as the acceptance fee.

- \$250 preregistration fee—This fee is due June 15, under the same terms as the acceptance fee.
- \$200 Sonography Principles and Instrumentation (SPI) Examination fee
- A graduation and diploma fee of \$225.

Students are responsible for purchasing any required textbooks, uniforms, white coats, and/or classroom materials. A \$125 vascular 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 26 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 Allied Health and Nursing. Tuition, fees, and payment schedules are subject to change without notice.

## Requirements for Graduation

To be eligible to receive the M.H.Sc. degree, students are required to

- complete the general education, major, and elective requirements as specified by the program at the time of admission, resulting in a minimum total of 106 semester hours
- 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, the student’s program, and the bursar’s office
- attend graduation ceremonies
- complete ARDMS Sonography Principles and Instrumentation (SPI) course by the end of the first year

## Graduation with Honors

A student graduating 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 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.

## Master of Health Science—Vascular Sonography

### Curriculum Outline

Required prior to matriculation (cannot be survey courses)

Prerequisite Courses	Semester Hours
English	3
Anatomy and Physiology I	3
Math	3
Physical/Human/Biological Sciences	6
Physics	3

**Prerequisite Subtotal: 18**

Required M.H.Sc. Courses	Semester 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 Vascular Sonography I	3
MHS 5501 Epidemiology and Biostatistics	3
MHS 5404 Directed Studies in Vascular Sonography II	4
MHS 5530 Principles of Management	3
MHS 5107 Master's Degree Internship	5
MHS 5405 Directed Studies in Vascular Sonography III	2
MHS 5207 Practicum	5
BSV 3100 Ultrasound Physics I/Lab	3
BSV 3110 Advanced Anatomy for the Health Professions	4
BSV 3200 Ultrasound Physics Review	1
BSV 3220 Introduction to Diagnostic Medical Sonography	3
BSV 3300 Cerebrovascular Testing/Lab	4
BSV 3400 Venous Testing/Lab	4
BSV 3500 Peripheral Arterial Testing/Lab	4
BSV 3600 Abdominal Vascular Testing/Lab	4
FME 5105 Basic Life Support	1
BSV 3700 Clinical Preparation and Review	2
BSV 3810 Introduction to Adult Cardiac Sonography Techniques	2
BSV 3820 Introduction to Cardiac Pathology	1
BSV 4500 Clinical Externship I (16 weeks)	12
BSV 4600 Clinical Externship II (16 weeks)	12
BSV 4700 Clinical Externship III (16 weeks)	12

**Required M.H.Sc. Courses Subtotal: 106**

**Minimum Total Semester Hours Required: 124**



## Master of Health Science—Vascular Sonography Course Descriptions

### **BSV 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 semester hours)

### **BSV 3110—Advanced Anatomy 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 semester hours)

### **BSV 3200—Ultrasound Physics Review**

This course is designed to review the principles and concepts learned in BSV 3100 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)

### **BSV 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)

### **BSV 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)

### **BSV 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)

### **BSV 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. (5 semester hours)

### **BSV 3600—Abdominal Testing/Lab**

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, as well as some other imaging techniques. (5 semester hours)

### **FME 5105—Basic Life Support**

This American Heart Association-approved course leads to certification upon successful completion. (1 semester hour)

### **BSV 3700—Clinical Preparation and Review**

This course will provide and reinforce the nontechnical aspects of the profession of diagnostic medical sonographers. These include, but are not limited to, professionalism, billing, quality assurance, and image storage. This course will also prepare the students for the clinical experience that follows in the second year. (4 semester hours)

### **BSV 3810—Introduction to Cardiac Sonography Techniques**

This course will provide an introduction to techniques, measurements, and normal function of the adult heart as evaluated with ultrasound. (2 semester hours)

### **BSV 3820—Introduction to Cardiac Pathology**

This course will provide an introduction to common pathologies that can be evaluated by ultrasound in the adult heart. Through case studies, the basic techniques, measurements, and functions seen in BSV 3810 will be reinforced and discussed in the context of pathologies. (1 semester hour)

**BSV 4500—Clinical Externship I**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 semester hours)

**BSV 4600—Clinical Externship II**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 semester hours)

**BSV 4700—Clinical Externship III**

This course will be mainly provided through immersion in a clinical setting assigned during the first year. The students will be a daily integral part of the operations of the vascular laboratory or diagnostic ultrasound department they have been assigned to for the length of the term. The students will report to the clinical coordinator or an assigned professor of the program at NSU. (12 semester hours)

**MHS 5001—APA Writing Seminar**

This seminar is designed to introduce students to the APA 5 writing style. They will be guided by an instructor through the main components of an APA-style academic paper, as well as internship and practicum reports. (2 semester 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 semester hours)

**MHS 5205—Writing for Medical Publication**

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 semester 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 semester hours)

**MHS 5403—Directed Studies in Vascular Sonography I**

This course provides the foundation for MHS 5404 Directed Studies in Vascular Sonography II and MHS 5405 Directed Studies in Vascular Sonography III, which culminates in either a paper suitable for publication in a peer-reviewed journal, a poster presentation at a scientific meeting, or a presentation at a professional conference. During the course, the student will propose a topic for directed study. After receiving faculty member approval, the student will produce the following aspects of a scientific paper: an introduction, a needs assessment, and identification of appropriate resources. Topics of study are selected and approved based on their relevance to the field of vascular sonography. Topic approval is done by the vascular sonography program director. (3 semester hours)

**MHS 5404—Directed Studies in Vascular Sonography II**

This course continues to build upon the topic selected in MHS 5403, while providing the foundation for MHS 5405 Directed Studies in Vascular Sonography III, which culminates in either a paper suitable for publication in a peer-reviewed journal, a poster presentation at a scientific meeting, or a presentation at a professional conference. During the course, the student will craft a comprehensive review of the literature section of the paper, the methodology and procedures section of the paper, and the anticipated results section of the paper for the topic approved in MHS 5403. Topics of study are selected and approved based on their relevance to the field of vascular sonography. Topic approval is done by the vascular sonography program director. **Prerequisite:** MHS 5403 (4 semester hours)

**MHS 5405—Directed Studies in Vascular Sonography III**

This course is the culmination of the topic that has been the subject of work in MHS 5403 and MHS 5404. MHS 5405 Directed Studies in Vascular Sonography III concludes in either a paper suitable for publication in a peer-reviewed journal, a poster presentation at a scientific meeting, or a presentation at a professional conference. During the course, the student will construct a comprehensive review of the literature section of the paper, as well as the discussion, conclusions, implications, and recommendations sections of the paper for the topic approved in MHS 5403. The student will submit the final paper. Topics of study are selected and approved based on their relevance to the field of vascular sonography. Topic approval is done by the vascular sonography program director. **Prerequisites:** MHS 5403 and MHS 5404 (2 semester 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 semester 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 semester 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, the role of institutional review boards, euthanasia, and the allocation of scarce resources. (3 semester 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 semester 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.

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 Allied Health and Nursing.

## Tuition and Fees

Tuition for M.H.Sc. courses are \$300 per semester hour for courses offered during the summer II and fall 2011 terms. Tuition for winter, spring, summer II, and fall 2012 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 \$550 per semester hour for courses offered during the summer II and fall 2011 terms. Tuition for winter, spring, summer II, and fall 2012 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 \$750 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)

Applicant is responsible for contacting one of the evaluation services listed here. The official evaluation must be sent directly from the evaluation service to the EPS.

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

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 (EPS)  
College of Allied Health and Nursing  
M.H.Sc./D.H.Sc. Accelerated Track  
3301 College Avenue  
PO Box 299000  
Fort Lauderdale, Florida 33329-9905

Phone: (954) 262-1101  
877-640-0218  
Fax: (954) 262-2282

## Computer Requirements

All students are required to have a computer with the following minimum specifications:

- Pentium or AMD at 1.00 GHZ or equivalent Macintosh processor
- 256 MB RAM
- video and monitor capable of 1024 X 768 resolution or better
- CD-ROM drive
- full duplex sound card and speakers
- Internet connection with Internet service provider (DSL, cable, or satellite highly recommended)
- Windows XP or NT or MAC OS
- 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 Allied Health and Nursing

**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.

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 of Management in Health Care	3
MHS Elective Courses			9
<b>Total MHS Credits</b>			<b>21</b>

Students are required to have 23 credits in the DHS courses

Courses			Credits
DHS	8040	Professionalism and Health Care Ethics	4
DHS	8010	Statistics and Research Methods	4
Student's choice of a DHS course			4
DHS	8125	Preparation for the Internship/Practicum	1
DHS	8130	Internship	5
DHS	8140	Practicum	5
<b>Total DHS Credits</b>			<b>23</b>
<b>Total Credits Applied to the Master of Health Science</b>			<b>44</b>

## Course of Study

### M.H.Sc. Degree Curriculum Required MHS Courses (12 Credits)

MHS	5003	Current Trends and Cultural Issues in Health Care
MHS	5205	Writing for Medical Publication
MHS	5501	Epidemiology and Biostatistics
MHS	5530	Principles and Practice of Management in Health Care

### MHS Elective Courses (choose three—9 Credits)

MHS	5211	Contemporary Issues in Nutrition
MHS	5541	Health Care Systems and Conflict
MHS	5543	Educational Theories and Psychology
MHS	5544	Curriculum and Instruction in Health Care Education
MHS	5545	Assessment and Evaluation in Health Care Education
MHS	5400	Directed Studies
MHS	5546	Health Care Finance

Total credits completed in the M.H.Sc. program: 21

### D.H.Sc. Degree Curriculum Required DHS Courses (21 Credits)

DHS	8010	Statistics and Research Methods
DHS	8040	Professionalism and Health Care Ethics
DHS	8190	Health Care Education
DHS	8080	Conflict Resolution
DHS	8170	Leadership in Health Care
DHS course for internship/practicum preparation		

### Block 1 (three out of four required—12 Credits)

All four may be taken. If only three are chosen, one elective may substitute for the fourth required course.

DHS	8000	Professional Competencies in the Clinical Care of Diverse and Special Populations
DHS	8030	Community Health Promotion and Disease Prevention
DHS	8090	Health Policy
DHS	8110	Community/Environmental Health

**Block 2 (4 Credits)**

One required, the others may be omitted or used as electives.

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DHS	8400	Global Health Studies
HSP	9006	Evidence-Based Medical Practice
DHS	8750	Patient Safety and Medical Errors
DHS	8810	Epidemiology and Global Health

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**Experiential (11 Credits)**

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DHS	8125	Preparation for Internship and Practicum
DHS	8130	Internship
DHS	8140	Practicum

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**Electives (Choose three—12 Credits)**

Any courses from Block 1 and 2 not counted toward core requirements can also be used as electives.

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DHS	8100	Alternative and Complementary Medicine
DHS	8180	Medical Writing
DHS	8200	Independent Study A
DHS	8250	Independent Study B
DHS	8700	Comparative International Health Systems
DHS	8775	Survey of Health Law
DHS	8045	The Influence of Ethics and Culture on Global Health
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DHS	8120	Doctoral Analysis (2 Credits)

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**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 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 semester 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 semester 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 semester 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 semester 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 semester 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 semester 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 semester 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 semester 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 semester 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 semester hours)



## **Doctor of Health Science**

### **DHS 8010—Statistics and Research Methods (Summer Institute Course)**

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. Student will select a health care topic and do a review of the literature. The review will be at least 10 pages and will include a minimum of 20 references from books and journals. The student will utilize the NSU electronic library to get the references. Discussion boards are a required part of this course. **(4 semester 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. The student will be required to choose an ethical or professionalism issue in health care and prepare a written paper on that subject. **(4 semester 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. 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 semester hours)**

### **DHS 8080—Conflict Resolution in Health Care (Summer Institute)**

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 semester hours)**

### **DHS 8170—Leadership in Health Care (Summer Institute)**

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. **on-campus institute (4 semester hours)**

### **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 a 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 semester 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. 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 semester 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. 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 go in and what the future of health care reform is. (4 semester 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. Students will contact one of their senators or representatives for an environmental statement, and then write a critical analysis. (4 semester hours)

#### **Block 2**

#### **DHS 8400—Global Health Studies**

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 semester hours)

#### **HSP 9006—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 setting. (4 semester hours)

#### **DHS 8750—Patient Safety and Medical Errors**

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 semester hours)

#### **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., that is approved by the D.H.Sc. program. The student should spend a minimum of 80 clock hours in the health promotion department. Health promotion activities should be critically analyzed. The student will complete a 20-page

paper that describes the institution, defines the population served, analyzes the reimbursement options accepted, and details the health promotion activities observed. A critical evaluation should be made that details strengths, weaknesses, opportunities, and threats to the institution. Recommendations for improvement should be made, if needed. (5 semester hours)

#### **DHS 8140—Practicum**

The practicum is a written project that is developmental in nature. D.H.Sc. faculty advisers must approve the practicum subject. The practicum must be preceded by a proposal that contains the project idea and a preliminary literature review. The student will be required to choose a health promotion topic, perform a literature review, and create a health promotion program that can be used for a community education program. An implementation and evaluation plan must be included in the final product. (5 semester hours)

#### **DHS 8120—Doctoral Analysis**

In this faculty-supervised project, the capstone of the program, the student will develop a paper (the final paper for the doctoral program). The basis of the paper will use the objectives from the core courses and one elective as guidelines and references. 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 semester hours)

#### **DHS 8125—Preparation for Internship and Practicum**

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. (1 semester hour)

## **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.

3. 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. 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 Allied Health and Nursing. 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 (EPS)  
Attn: College of Allied Health and Nursing  
D.H.Sc. Program 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)

Applicant is responsible for contacting one of the evaluation services listed here. The official evaluation must be sent directly from the evaluation service to the EPS.

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

5. a complete resume or CV
6. copies of national and professional certifications or licenses by recognized certifying bodies

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 (EPS)  
College of Allied Health and Nursing  
D.H.Sc. Program 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 \$550 per semester hour for courses offered during the summer II and fall 2011 terms. Tuition for winter, spring, summer II, and fall 2012 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 \$750 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 Allied Health and Nursing

## 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.

			Semester 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.

			Semester Hours
DHS	8400	Global Health Issues	4
DHS	8750	Patient Safety	4
DHS	8190	Health Care Education	4
DHS	8800	Health Care Informatics	4
DHS	8810	Global Epidemiology	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>			Semester Hours
DHS	8125	Preparation for Internship and Practicum	1
DHS	8130	Internship	5
DHS	8140	Practicum	5

<b>Summer Residential Institutes (required)—12 Credits</b>			Semester 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>			Semester 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

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.

			Semester 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 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 and competency 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 develop a paper regarding their impact on the health care system. **(4 semester 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. 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 semester hours, 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 health status of the population. 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. **(4 semester 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 discusses the three ethical theories. There is a critical discussion and analysis of the ethical dilemmas faced by health care personnel in such areas as cloning, organ transplantation, and the implications of the Human Genome Project. The impact of technological advances on ethical issues will be studied for their implications for future health care practitioners. The student will be required to choose an ethical issue in health care and prepare a written paper on that subject. **(4 semester hours)**

### DHS 8045—The Influence of Ethics and Culture on Global Health

The purpose of this course is to provide an introduction to the principles and theory 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 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, culture, and practice. **(4 semester 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 semester hours, one-week 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. An 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 new directions managed care may take and what the future of health care reform may be. **(4 semester 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 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 global major health concerns. **(4 semester 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, non-judgmental format. Students will be allowed to choose either an alternative or complementary medicine field and complete a paper of at least 15 pages that is presented as a patient or community education tool. Special emphasis will be placed on the educational value of the project, rather than a pro/con stance. **(4 semester 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. Students will participate by contacting one of their senators or house representatives for an environmental statement and then write a critical analysis. **(4 semester hours)**

### **DHS 8125—Preparation for Internship and Practicum**

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. **(1 semester hour)**

### **DHS 8130—Internship**

The student will perform an internship at a community health care institution, clinic, etc., that is approved by the D.H.Sc. faculty. The student should spend a minimum of 80 clock hours in the health promotion or similar department. Health promotion activities should be

critically analyzed. The student will complete a 20-page paper describing the institution, defining the population served, analyzing the reimbursement options accepted, and detailing the health promotion activities observed. A critical evaluation should be made that details strengths, weaknesses, opportunities, and threats to the institution. Recommendations for improvement should be made, if needed. **(5 semester hours)**

### **DHS 8140—Practicum**

The practicum is a written project that is developmental in nature. The D.H.Sc. faculty advisers must approve the practicum topic. The practicum must be preceded by a proposal that contains the project idea and a preliminary literature review. The student will be required to choose a health topic, perform a literature review, and create a product that is a health promotion program that can be used for community education. An implementation and evaluation plan must be included in the final product. **(5 semester hours)**

### **DHS 8150—Internship**

This course is a continuation of the DHS 8130 Internship. It is used when the student is in need of additional time to satisfy the requirements for an incomplete internship. **(continuing services, 0 semester hours)**

### **DHS 8160—Practicum**

This course is a continuation of the DHS 8140 Practicum. It is used when the student is in need of additional time to satisfy the requirements for an incomplete practicum. **(continuing services, 0 semester 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 theory. **(4 semester hours, one-week on-campus institute)**

### **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. All students are required to develop a quality paper that meets the standards required for publication in a peer-reviewed professional/biomedical journal. **(4 semester 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. 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 semester 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 a minimum of six 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 listed in the objectives. 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 a doctoral-level course of study. **(4 semester 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 a minimum of six 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 listed in the objectives. 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 a doctoral-level course of study. **(4 semester 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 semester hours)**

### **DHS 8700—Comparative International Health Systems**

Every country in the world implements a unique health service delivery system or model; some have been more successful than others in promoting and meeting the health needs of their citizens. Currently, all countries are struggling to reform their health care systems and are experiencing conflict between controlling costs and maintaining or improving quality and quantity of health care services provided. 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 semester hours)**

### **DHS 8750—Patient Safety**

This course is an in-depth study of the concepts and practices related to patient safety in the United States health care system, enabling students to apply them in the context of professional practice. The course will provide an overview of the origins of the patient safety movement, its rise to public awareness and as a national policy initiative, the scope and magnitude of medical error in U.S. health care today, and current practices for improvement. **(4 semester 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 semester hours)**

### **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. **(4 semester 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 semester hours)**

### **HSP 9006—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 setting. **(4 semester hours)**

### **Capstone Course (all)**

#### **DHS 8120—Doctoral Analysis**

In this faculty-supervised project, the capstone of the program, the student will develop a paper, (the final paper for the doctoral program), 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 semester 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 71 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 evaluation, and personal motivation.

1. All applicants must hold a master's degree from a regionally accredited college or university prior to matriculation into the program. In special circumstances, a personal interview may be required.
2. Applicants must have a cumulative master's degree GPA of 3.0 or better on a 4.0 scale.

3. Applicants must have prior health care or health research experience and must submit verifiable documentation regarding this experience to the Office of Admissions.

Prior health care experience is required and is strongly considered in the admissions process. The Ph.D. in Health Science 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 Allied Health and Nursing. The dean makes the final determination.

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 Health Science Online Orientation, or other training facilities.

### **Application Procedures**

**Before the applicant can be reviewed for possible admission, the following must be submitted:**

1. a completed health science doctoral application form with a \$50, nonrefundable application fee (students can apply online at <http://webstar.nova.edu/>)
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 (EPS)  
College of Allied Health and Nursing  
Health Science Doctoral Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, FL 33329-9905

Phone: (954) 262-1101 or 877-640-0218

4. evaluation for U.S. institutional equivalency for all coursework from international institution(s), if applicant attended or is a graduate of any international institution(s)

Applicant is responsible for contacting one of the evaluation services listed here. The official evaluation must be sent directly from the evaluation service to the EPS.

• World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

• Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

5. a complete resume or CV

6. current state licensure, registration, or certification, as well as copies of national allied health professional certifications or licensure, if applicable

Administrative/non-clinical applicants for admissions must also submit or be responsible for the submission of

- a 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 (EPS)  
College of Allied Health and Nursing  
Ph.D. Program Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

The Ph.D. 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. The Ph.D. Committee on Admission will not consider an application until all required fees, credentials, documents, and transcripts have been received by the Office of Admissions. All final documentation must be received by the EPS no later than one month prior to the intended registration date.

### **Transfer of Credits**

Students matriculated in the Ph.D. program may petition for transfer of credits to the program. Up to, but not to exceed, 8 credits may be considered for transfer to meet Core Block One or Core Block Two course requirements—shared between the D.H.Sc. and the Ph.D. Credits must come from a regionally accredited doctoral program of study and will be transferred only if the courses meet the goals and objectives of the course in question.

### **Tuition and Fees**

Tuition for doctoral courses are \$550 per semester hour for courses offered during the summer II and fall 2011 terms. Tuition for winter, spring, summer II, and fall 2012 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 \$750 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 successfully

1. complete all core and research courses, as well as required electives
2. complete a minimum of 71 semester hours of prescribed coursework in the program
3. complete the research practicum
4. pass the comprehensive exam after completion of all courses
5. 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
6. defend the dissertation, as determined by the dissertation committee

### **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 1024x768 resolution or higher
- CD-ROM drive
- full duplex sound card and speakers
- 56.6 baud modem (a DSL or cable modem is a plus in an online program)
- Internet connection with private Internet service provider (ISP) for access from home to the Internet (DSL, cable, or satellite highly recommended)
- Windows XP or NT or MAC OS
- Microsoft Office 2000 or newer with PowerPoint, Word, and Excel minimum
- surge suppressor electrical outlet

Suggested option: Back up for hard drive

## Curriculum Outline

### General Core Courses—24 Credits

#### Core Block One

Four of the following courses and the two summer institute courses are required. Either DHS 8090 or DHS 8095 will be used to fulfill the Health Policy requirement.

			Semester 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	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 8080 and DHS 8170 are required summer institute courses.

#### Core Block Two

Two of the following courses are required.

			Semester Hours
DHS	8800	Health Care Informatics	4
DHS	8810	Global Epidemiology	4
DHS	8400	Global Health Issues	4
DHS	8750	Patient Safety	4
DHS	8190	Health Care Education	4

<b>HPD Research Courses—18 Credits</b>			<b>Semester Hours</b>
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

<b>Health Science Research Courses—9 Credits</b>			<b>Semester Hours</b>
HSP	9006	Evidence-Based Medical Practice	4
HSP	9007	Research Practicum*	5

\*HSP 9007 is a required winter institute course.

<b>Comprehensive Exam—0 Credits</b>			<b>Semester Hours</b>
HSP	9008	Comprehensive Exam	0

<b>Dissertation—12 Credits</b>			<b>Semester Hours</b>
HSP	9009	Dissertation	12

## 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

#### **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.

#### **DHS 8750—Patient Safety**

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.

#### **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.

#### **DHS 8810—Global Epidemiology**

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.

#### **HSP 9006—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. Starting winter 2011, students will need to take HSP 9006 only when it is offered in the online format.

#### **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.

#### **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.

#### **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. As such, a prerequisite



for enrolling in this course is satisfactory completion of 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.

#### **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.

#### **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.

#### **HPH 7500—Philosophy of Science**

This course covers schools of thought in the 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.

#### **HPH 7600—Grant Writing and Publication**

This course enables students 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 to request funding support to study the problem. Students will become familiar with a number of funding sources (including federal and state governments, private foundations, and corporations that support vision or dental research projects) and learn to use a variety of resources to target potential funding sources. Students will also become familiar with grant-related terminology, as well as guidelines, rules, and regulations of awarding agencies, with particular focus on the National Institutes of Health (NIH) organization.

#### **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.

#### **HSP 9008—Comprehensive Exam**

The comprehensive examination is a written examination that students in the Doctor of Philosophy in Health Science will take after the completion of all the required coursework and before beginning the dissertation phase of the Ph.D. program. Successful completion of the comprehensive examination is required for students to move to advanced standing and begin dissertation research. Comprehensive exams are given two times per academic year. They will take place at either the Summer or Winter Institute at one of NSU's Student Educational Centers in Florida. Students will register to take the comprehensive exam with the Department of Health Science prior to attending one of the institutes and will receive an examination number.

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. Following 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 institute. Students have one opportunity to pass the failed category. Students who retake the failed question and fail it a second time have failed the comprehensive examination. Students who do not pass two, or all three categories, have failed

the comprehensive exam and will be 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 to the College of Allied Health and Nursing Appeals Committee within five business days of notification from the chair of their department.

#### **HSP 9009—Dissertation**

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 *Dissertation Guide*.

#### **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 Student Educational Center in Orlando, Florida; or the NSU Student Educational Center in Tampa, Florida. Three such institutes are required to complete the Ph.D. degree. Starting winter 2011, students will need to take HSP 9006 only when it is offered in the online format. DHS 8080 and DHS 8170 will be offered as summer institutes. HSP 9007 will be offered as a winter institute.

## Nursing Department

The Nursing Department offers Bachelor of Science in Nursing (B.S.N.) and Master of Science in Nursing (M.S.N.) degree programs, a post-M.S.N. certificate program, 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 track or an R.N. to B.S.N. or R.N. to M.S.N. completion track for registered nurses holding an associate's degree or diploma in nursing. The M.S.N. program has three tracks—nursing education, health systems leadership, and family nurse practitioner. All programs focus on developing nursing professionals to assume leadership roles in the complex health care environment.

### Department Mission Statement

The mission of the Nova Southeastern University nursing department 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. Education courses are provided in an environment that fosters scholarly inquiry, professional values, interdisciplinary collaboration, and community partnerships.

### Accreditation

The NSU Bachelor of Science in Nursing and Master of Science in Nursing programs are accredited for a period of 10 years (October 11, 2010–June 30, 2021) by the Commission on Collegiate Nursing Education (CCNE). The nursing department will seek initial accreditation for the Doctor of Nursing Practice program through the American Association of Colleges of Nursing.

### Undergraduate Courses of Study

#### Option 1: Entry-Level Track

The entry-level track 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 make application to sit for the national licensure examination for registered nurses (NCLEX-RN). The entry-level nursing track curriculum is completed following a minimum of 36 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 36 semester hours, the student may apply to the nursing program.

The remainder of the 85 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. Track

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 nursing department associate dean and the College of Allied Health and Nursing dean. 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. track. Students are awarded 64 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 track may be completed in as little as five terms, some students elect to spread the coursework out over a longer period of time.

#### Option 3: R.N. to M.S.N. Track

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 track or through the combination on-site and online track offered at the main campus in Fort Lauderdale or the student educational centers in Fort Myers and Orlando. Registered nurses receive 64 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.

### B.S.N. 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

## Entry-Level B.S.N. Track Admissions Requirements

Applicants must have completed a minimum of 36 semester hours (or equivalent quarter hours) of specific undergraduate coursework from a regionally accredited college or university prior to matriculation into the nursing program. Other requirements include

- completion of each prerequisite course with a grade of C or higher
- overall GPA of 3.0 or higher
- no C-s, Ds, Fs, or Ws in science courses
- two letters of recommendation from individuals other than relatives (academic instructors, professors, or advisers)

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 Allied Health and Nursing  
Nursing Department Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

## Entry-Level B.S.N. Application Procedures

- All 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 (EPS)  
College of Allied Health and Nursing  
Nursing Department  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905
- Your completed application must be received no later than April 1 in order to be considered for admission for the August entering class and September 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 Allied Health and Nursing  
Nursing Department 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. 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.
- If applicant attended or is a graduate of a foreign institution, all coursework from the foreign institution must be evaluated for U.S. institutional equivalence. The official evaluation must be sent directly from the evaluation service to EPS. For evaluations, please contact one of the following:
  - World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
  - Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)
- Applicants must submit two recommendation forms from individuals other than relatives (academic instructors, professors, or advisers)

## Curriculum Outline—Nursing Entry-Level Track

### Undergraduate Course Prerequisites

General Education	Semester Hours
Written communication—Any written communications course	3
Social behavioral sciences—One PSYC, one SOC, and Life Span Human Growth and Development	9
Humanities—Any ARTS, HIST, HUMN, LITR, PHIL, or foreign language	3
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
Statistics—2000 level or higher from a college mathematics department	3
General education elective—Any college-level ENC, MAT, PSYC, SOC, ARTS, HIST, HUMN, LITR, PHIL, or foreign language course (courses beginning with 00 are not considered college level)	3
<b>Total General Education Credits</b>	<b>36</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
BHS or Nursing Elective *			3
NUR	3000	Transition to Baccalaureate Nursing Education	3
NUR	3029	Foundations of Health Assessment	3
NUR	3032	Foundations of Pathophysiology	3
NUR	3050	Theoretical Applications in Nursing Research	3
NUR	3130	Foundations of Professional Nursing Practice	6
NUR	3160	Introduction to Professional Nursing	3
NUR	3175	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 Health Nursing	6
NUR	3191	Pharmacological Basis for Nursing Interventions I	2
NUR	3192	Pharmacological Basis for Nursing Interventions II	2
NUR	3250	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	Advanced Concepts of Adult Nursing II	6
NUR	4120	Advanced Concepts of Adult Nursing III	5
NUR	4130	Concepts of Maternal-Child Nursing and Families	5
NUR	4150	Concepts of Community-Based Nursing	4
NUR	4160	Genetics for Nursing Practice	2
NUR	4180	Nursing Practicum	6
<b>Total Nursing Credits</b>			<b>85</b>
<b>Total Degree Requirements</b>			<b>121</b>

\*Please see Bachelor of Health Science course descriptions starting on page 239.

### **Entry-Level Track Tuition and Fees**

- Tuition for the 2011–2012 academic year: \$23,000 for Florida residents and \$24,000 for out-of-state students. Tuition for the 2012–2013 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 \$750 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, 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 July 15 for August admission and November 15 for January admission, under the same terms as the acceptance fee.
- Lab fee is \$150. This is due on or before registration.
- Students may incur additional costs in the program, including PDA, FNSA dues, uniforms, and lab coat.

All tuition 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 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.

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 Course Descriptions

### 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 credits)

### NUR 3000—Transition to Baccalaureate Nursing Education

This course is designed to assist the adult learner in making the transition to the university setting and the role of the nursing student. During this course, students will be introduced to skills that facilitate success in achieving their educational goals at NSU. Opportunities for writing and library searches will be provided. Use of technology as a tool for learning and time management are additional skills that will be emphasized. This class will involve active participation in cooperative group activities as well as individualized activities. **Corequisites:** NUR 3005, NUR 3160, PHS 4904 (3 credits: 3 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, manager of care, advocate, teacher, 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 nursing theories of practice, as well as ethical and legal principles, medical terminology, sociocultural concepts, and political principles guiding the profession. **Corequisites:** NUR 3000, PHS 4904 (3 credits: 3 didactic/0 clinical)

### NUR 3130—Foundations of Professional Nursing Practice

This course introduces the entry-level student to the culture and practice of nursing. It examines the holistic concepts of individuals, environment, health, and nursing. It focuses on system variables of an individual including the physiological, psychological, social, cultural, cognitive, and spiritual domains. The important themes of primary, secondary, and tertiary prevention-as-intervention modalities; the client system's reaction to interpersonal, intrapersonal and extrapersonal stressors; and critical thinking are integrated throughout the course to prepare the students for practice. Students are introduced to health promotion, the legal and ethical issues, and contemporary trends in health care that impact nursing practice. The course provides fundamental nursing concepts, skills, and techniques of nursing practice and a firm foundation for more advanced areas of study. **Prerequisites:** NUR 3000, NUR 3005, NUR 3160, PHS 4904; **Corequisites:** NUR 3029, NUR 3032, NUR 3131 (6 credits: 3 didactic/3 clinical)

### NUR 3005—Mathematical Applications for Nursing Practice

This course builds upon previously learned mathematical skills needed to calculate pharmacological dosages for medication administration in the clinical setting. Students are taught dimensional analysis as the appropriate problem-solving method to ensure safe medication administration to clients. Concepts included in this course include accurate calculation of oral and parenteral dosages and intravenous drip rates. **Corequisites:** NUR 3000, NUR 3160, PHS 4904 (2 credits: 2 didactic/0 clinical)

### NUR 3029—Foundations of Health Assessment

This course introduces beginning students to the foundational health assessment skills emphasizing data collection. Students will be expected to use beginning assessment skills in identifying pertinent data as they relate to physiological, psychological, sociocultural, spiritual, and developmental variables. Students will use this data to identify stressors in assigned clients and develop appropriate nursing interventions with an emphasis on health promotion for these clients. Contemporary trends in nursing practice and legal and ethical issues pertaining to health assessment will be introduced. **Prerequisites:** NUR 3160, PHS 4904; **Corequisites:** NUR 3032, NUR 3130 (3 credits: 3 didactic/0 lab)

### NUR 3131—Problem-Solving Strategies for Nursing Practice

This course introduces the new entry-level nursing student to problem solving and critical-thinking strategies needed for safe decision making in the delivery of nursing care. Using patient scenarios and/or case studies, students will use active-learning strategies in applying the nursing process in determining nursing care necessary for safe practice. **Corequisites:** NUR 3029, NUR 3032, NUR 3130 (1 credit: 1 didactic/0 clinical)

### NUR 3032—Foundations of Pathophysiology

This course introduces the student to concepts of pathophysiology—emphasizing the physiological variable—and incorporates the psychological, sociocultural, spiritual, and developmental variables related to pathophysiology. The student will begin to integrate and apply biological theories and pathophysiological concepts. Contemporary trends, legal and ethical issues, and health promotion concepts pertaining to pathophysiological stressors will be introduced. **Prerequisites:** NUR 3000, NUR 3005, NUR 3160, PHS 4904; **Corequisites:** NUR 3029, NUR 3130 (3 credits: 3 didactic/0 clinical)



### **NUR 3180—Primary Concepts of Adult Health Nursing**

This course integrates nursing theories, theories from the biological and social sciences, and evidence-based practice using the nursing process. The focus is on adults and older adults experiencing medical or surgical stressors affecting physiological, psychological, sociocultural, spiritual, and developmental stability. Contemporary trends, legal and ethical issues, and health promotion will be discussed. Topics covered include selected alterations in immune, gastrointestinal, endocrine, renal, integumentary, and hematological systems. This course will include both a clinical and didactic component. **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 focuses on the basic principles of pharmacology and therapeutics necessary for nursing practice throughout the life span. Concepts of drug efficacy, pharmacokinetics, mechanism of action, and drug interaction will be examined as they apply to primary, secondary, and tertiary prevention to assist clients to retain, attain, or maintain optimal system stability. Contemporary trends in administration and delivery of pharmacological therapies will be addressed. Emphasis will be placed on the pharmacological action of drugs on specific organ systems. Medications used in the treatment of gastrointestinal, hematological, immune, endocrine, and renal disorders will be explored. **Prerequisites:** NUR 3029, NUR 3130, NUR 3131, and NUR 3032; **Corequisite:** NUR 3180 (2 credits: 2 didactic/0 clinical)

### **NUR 3192—Pharmacological Basis for Nursing Interventions II**

This course applies basic principles of pharmacology and therapeutics necessary for nursing practice throughout the life span to specific client disorders. Concepts of drug efficacy, pharmacokinetics, mechanism of action, and drug interaction will be examined as they apply to primary, secondary, and tertiary prevention to assist clients to retain, attain, or maintain optimal system stability. Contemporary trends in administration and delivery of pharmacological therapies will be addressed. Emphasis will be placed on the pharmacological action of drugs on specific organ systems. Medications used in the treatment of cardiovascular, respiratory, neurological, and musculoskeletal disorders will be explored. **Prerequisites:** NUR 3180, NUR 3191; **Corequisite:** NUR 4110 (2 credits: 2 didactic/0 clinical)

### **NUR 4110—Advanced Concepts of Adult Nursing II**

This course integrates nursing theory, theories from the biological and social sciences, and evidence-based practice using the nursing process. The focus is on adults and older adults experiencing medical or surgical stressors

affecting physiological, psychological, sociocultural, spiritual, and developmental stability. Contemporary trends, legal and ethical issues, and health promotion will be discussed. Topics covered include selected alterations in musculoskeletal, respiratory, cardiovascular, peripheral vascular, and neurological systems. This course will include both a clinical and didactic component. **Prerequisites:** NUR 3180, NUR 3191; **Corequisite:** NUR 3192 (6 credits: 3 didactic/3 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 using the nursing process. The focus is on the childbearing family and children experiencing stressors affecting physiological, psychological, sociocultural, spiritual, and developmental stability. Contemporary trends, social justice issues, and legal and ethical issues, as well as health promotion and risk reduction will be discussed. Topics covered include the family as client, care of the pregnant woman, and complex nursing care of children experiencing stressors of selected body systems. This course will include both a clinical and didactic component. **Prerequisites:** NUR 3192, NUR 4020, and NUR 4110 (5 credits: 3 didactic/2 clinical)

### **NUR 3050—Theoretical Applications in Nursing Research**

This course introduces concepts of critical analysis and outcomes research. Students will analyze the scientific merit of quantitative and qualitative research reports with an emphasis on application to, and implication for, evidence-based nursing practice as it relates to primary, secondary, and tertiary preventions/interventions. Students will also be exposed to the contemporary trends and legal and ethical issues guiding the research process. **Prerequisite:** Statistics course at the 2000 level or higher; **Corequisite:** NUR 4110 (3 credits: 3 didactic/0 clinical)

### **NUR 3175—Nursing in Today's Health Care Environment**

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. **Prerequisites:** NUR 3250, NUR 4020, NUR 4030, NUR 4120, NUR 4150; **Corequisite:** NUR 4180 (3 credits)

### **NUR 3250—Concepts of Psychiatric-Mental Health Nursing**

This course applies nursing theory and evidence-based practice focusing on designing nursing strategies that support mental health and wellness and reduce symptomatology following a reaction to stressors. Contemporary trends in treatment and mental health promotion will be emphasized. The legal and ethical issues pertaining to intrapersonal, interpersonal, and extrapersonal stressors of the psychological variable will be discussed. Students will also reflect on their own behaviors and methods of communication. This 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 4150—Concepts of Community-Based Nursing**

This course provides the foundation for developing and using nursing theory and theories from other disciplines that, in turn, provide the foundation for developing and using epidemiological theory and concepts in planning and implementing primary, secondary, and tertiary levels of prevention for at-risk aggregates and communities. It focuses on the process of conceptualizing individuals, families, groups, and communities within their environments. Students will learn to facilitate health care delivery to aggregates and communities of diverse cultures, using effective communication, negotiation, problem-solving skills, and collaboration with the interdisciplinary health care team and members of the community. Students will demonstrate an ability to evaluate health and wellness within primary, secondary, and tertiary levels of prevention using principles of evidence-based practice. Contemporary trends in community-based nursing practice will be discussed. Students will also examine the economic, sociocultural, legal, and ethical influences on community-based nursing practice. **Prerequisites:** NUR 3050, NUR 4110, NUR 4130; **Corequisite:** NUR 3250 (4 credits: 3 didactic/1 practicum)

### **NUR 4020—The Nurse as a Leader and Manager**

This theory-based nursing course is designed to assist the nursing student to focus on basic concepts that relate to leadership; management; and working with individuals, families, groups, and communities in providing nursing care. The legal and ethical issues regarding delegation, risk management, and client care will be discussed. Contemporary trends in leadership and management theories will be explored. **Prerequisites:** NUR 3180, NUR 3191, **Corequisites:** NUR 3192, NUR 3200, NUR 4110 (3 credits: 3 didactic/0 clinical)

### **NUR 4120—Advanced Concepts of Adult Nursing III**

This course integrates nursing theory, theories from the biological and social sciences, and evidence-based practice

using the nursing process. The focus is on adults and older adults experiencing acute and chronic multisystem stressors affecting physiological, psychological, sociocultural, spiritual, and developmental stability. Students will apply previously learned theoretical concepts and critical care skills in complex settings. Contemporary trends, legal and ethical issues, and health promotion will be emphasized as it pertains to the care of clients with multiple needs. This course will include both a clinical and didactic component.

**Prerequisites:** NUR 3250, NUR 4110, NUR 4150; **Corequisite:** NUR 4030 (5 credits: 3 didactic/2 clinical)

### **NUR 4030—The Business of Health Care**

This web-enhanced course examines the financial environment of the health services industry and how it affects today's nurse manager role. Students examine the principles of financial accounting and budgeting. This course presents the concepts of cost and revenue, basic vocabulary, processes, functions, and reports commonly seen in health care environments. This includes types of budgets and considerations for and use of human and material resources. **Prerequisites:** NUR 3250 and NUR 4150; **Corequisite:** NUR 4120 (3 credits: 3 didactic/0 clinical)

### **NUR 4160—Genetics for Nursing Practice**

This course will focus on providing students with a fundamental understanding of human genetics and its role in pathophysiology, 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. They will be asked to apply knowledge of inheritance and immunogenetics in predicting the possible effect of genetics on disease processes. This course will also discuss the ethical, social, political, and economical impact of selected genetic diseases, DNA-based genetic diagnoses, and gene therapy. **Corequisite:** NUR 4130 (2 credits: 2 didactic/0 clinical)

### **NUR 4180—Nursing Practicum**

This seminar/clinical capstone course synthesizes all previously learned knowledge, integrating the concepts of physiological, psychological, sociocultural, developmental, and spiritual variables as they pertain to client care. The student will focus on the synthesis and integration of complex concepts of nursing knowledge related to clinical practice and leadership and management skills. Within the seminar setting, students will utilize nursing theory to guide practice. Students will also apply leadership skills and client management theories in delegating, supervising, and evaluating other members of the health care team. The student will work with a registered nurse preceptor and other members of the health care team. **Prerequisite:** Completion of all prior clinical and didactic courses; **Corequisite:** NUR 3175 (6 credits: 2 didactic/4 clinical)

### PHS 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 3000, 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. Track Admissions Requirements

- overall GPA 2.5 or higher on a 4.0 scale
- proof of current, active United States Registered Nurse (R.N.) 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 department chair and College of Allied Health and Nursing dean for admission into the program.

### R.N. to B.S.N. Application Procedures

- 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 (EPS)  
College of Allied Health and Nursing  
Nursing Department  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905.

- The nursing department has rolling admissions for the R.N. to B.S.N. track. Candidates must submit all applications and transcripts by July 31 for priority consideration for the August entering class and by December 18 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 Allied Health and Nursing  
Nursing Department 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.
- If applicant attended or is a graduate of a foreign institution, all coursework from the foreign institution must be evaluated for U.S. institutional equivalence. The official evaluation must be sent directly from the evaluation service. For evaluations, please contact one of the following:
  - World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
  - Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)
- Applicants must submit two recommendation forms from individuals other than relatives: one from academic instructor, professor, or adviser and one from a community associate.

### R.N. to B.S.N. Tuition and Fees

Tuition for the R.N. to B.S.N. track for academic year 2011–2012 is \$390 per credit hour. Tuition for 2012–2013 will subsequently be posted on our Web site ([www.nova.edu/nursing/rntobsn](http://www.nova.edu/nursing/rntobsn)). 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 \$750 is also required annually.

Acceptance fee is \$200. This fee is required to reserve the accepted applicant's place and is not refundable in the event of a withdrawal. This fee will be subtracted from the first term's tuition payment, which is due on registration day.

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 nursing department are eager to assist you in exploring all possible financial aid options. Please do not hesitate to ask for this help.

## Curriculum Outline—R.N. to B.S.N. Track

### Undergraduate Course Requirements

General Education	Semester Hours
Written communication—Any written communications course	3
Social behavioral sciences—One PSYC, one SOC, or one Anthropology, and Life Span Human Growth and Development	9
Humanities—Any ARTS, HIST, HUMN, LITR, PHIL, or foreign language	3
Natural/physical sciences—Credit with R.N. license	12*
Statistics—2000 level or higher from a college mathematics department	3
General education elective—Any college-level ENC, MAT, PSYC, SOC, ARTS, HIST, HUMN, LITR, PHIL, or foreign language course (courses beginning with 00 are not considered college level)	3
<b>Total General Education Credits</b>	<b>33</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
BHS or Nursing Elective**	3
<b>Total Cognate Credits</b>	<b>13</b>

Nursing Courses			Semester Hours
NUR	3000	Transition to Baccalaureate Nursing Education	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	3175	Nursing in Today's Health Care Environment	3
NUR	3050	Theoretical Applications in Nursing Research	3
NUR	4020	The Nurse as a Leader and Manager	3
NUR	4030	The Business of Health Care	3
NUR	4150	Concepts of Community-Based Nursing	4
NUR	4160	Genetics for Nursing Practice	2
<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 CLEPed or taken as online courses at NSU. Advisers will work with students on completing a course sequence plan and CLEPing. Thereafter, general education courses must be taken at NSU.

Cognate and nursing courses must be completed at NSU.

\*Credit with R.N. license

\*\*Please see Bachelor of Health Science course descriptions starting on page 239.

## **R.N. to B.S.N. Course Descriptions**

### **NUR 3000—Transition to Baccalaureate Nursing Education**

This course is designed to assist the adult learner make the transition to the university setting and the role of the nursing student. During this course, students will be introduced to skills that facilitate success in achieving their educational goals at NSU. Opportunities for writing and library searches will be provided. Use of technology as a tool for learning and time management are additional skills that will be emphasized. This 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. The 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 focuses on health assessment skills and emphasizing data collection. Students will be expected to use assessment skills in identifying pertinent data as it relates to physiological, psychological, sociocultural, spiritual, and developmental variables. Students will use this data to identify stressors in assigned clients and develop appropriate primary, secondary, and tertiary nursing preventions/interventions to attain, maintain, or retain lines of defense in these clients. (3 credits)

### **NUR 3020—Theoretical Foundations of Professional Nursing Practice**

This course focuses on the acquisition, evaluation, utilization, and interpretation of nursing theories as a foundation for nursing practice. Selected behavioral, social, and physical science theories impacting nursing practice will be explored as a basis for understanding self and others as individuals, families, groups, and communities. (3 credits)

### **NUR 3031—Pathophysiology**

This course emphasizes the physiological variable and incorporates the psychological, sociocultural, spiritual and developmental variables related to pathophysiology. 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 trends, legal and ethical issues, and health promotion concepts pertaining to pathophysiological stressors will be explored. (3 credits)

### **NUR 3050—Theoretical Applications in Nursing Research**

This course introduces concepts of critical analysis and outcomes research. Students will analyze the scientific merit of quantitative and qualitative research reports with an emphasis on application to, and implication for, evidence-based nursing practice as it relates to primary, secondary, and tertiary preventions/interventions. Students will also be exposed to the contemporary trends and legal and ethical issues guiding the research process. (3 credits)

### **NUR 3175—Nursing in Today's Health Care Environment**

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 4020—The Nurse as a Leader and Manager**

This theory-based nursing course is designed to assist the nursing student in focusing on basic concepts that relate to leadership; management; and working with individuals, families, groups, and communities in providing nursing care. The legal and ethical issues regarding delegation, risk management, and client care will be discussed. Contemporary trends in leadership and management theories will be explored. (3 credits)

### **NUR 4030— The Business of Health Care**

This web-enhanced course examines the financial environment of the health services industry and how it affects today's nurse manager role. Students examine the principles of financial accounting and budgeting. This course presents the concepts of cost and revenue, basic vocabulary, processes, functions, and reports commonly seen in health care environments, including types of budgets and considerations for and use of human and material resources. (3 credits)

### **NUR 4150—Concepts of Community-Based Nursing**

This course provides the foundation for developing and using nursing theory and theories from other disciplines that, in turn, provide the foundation for developing and using epidemiological theory and concepts in planning and implementing primary, secondary, and tertiary levels of prevention for at-risk aggregates and communities. It focuses on the process of conceptualizing

individuals, families, groups, and communities within their environments. Students will learn to facilitate health care delivery to aggregates and communities of diverse cultures, using effective communication, negotiation, problem-solving skills, and collaboration with the interdisciplinary health care team and members of the community. Students will demonstrate an ability to evaluate health and wellness within primary, secondary, and tertiary levels of prevention using principles of evidence-based practice. Contemporary trends in community-based nursing practice will be discussed. Students will also examine the economic, sociocultural, legal, and ethical influences on community-based nursing practice. (4 credits)

#### **NUR 4160—Genetics for Nursing Practice**

This course will focus on providing students with a fundamental understanding of human genetics and its role in pathophysiology, 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. They will be asked to apply knowledge of inheritance and immunogenetics in predicting the possible effect of genetics on disease processes. This course will also discuss the ethical, social, political, and economical 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. Track Admissions Requirements**

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 a current/active United States R.N. license. If the applicant resides out of the United States and does not hold this license, the applicant's application must be approved by the nursing department chair and CAHN dean.
- Applicants must have an overall GPA of 2.5 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. track.
- 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.

#### **R.N. to M.S.N. Application Procedures**

- Applicants must submit completed application forms and a \$50, nonrefundable application fee and all admission forms to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Allied Health and Nursing  
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 31 for priority consideration for the August entering class and by December 18 for priority 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 Allied Health and Nursing  
Nursing Department 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 Nursing Department Admissions. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.
- If applicant attended, or is a graduate of, a foreign institution, all coursework from the foreign institution must be evaluated for U.S. institutional equivalence. The official evaluation must be sent directly from the evaluation service to the EPS. For evaluations, please contact one of the following:

• World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
 P.O. Box 514070  
 Milwaukee, Wisconsin 53203-3470  
 (414) 289-3400  
[www.ece.org](http://www.ece.org)

- Submit two recommendation forms from individuals other than relatives, such as academic instructors, professors, or advisers.

### R.N. to M.S.N. Tuition and Fees

Tuition for the R.N. to M.S.N. track academic year 2011–2012 is \$390 per credit hour for courses at the baccalaureate degree (B.S.N.) level and \$550 per credit hour for courses at the master’s degree (M.S.N.) level. Tuition for 2012–2013 will subsequently be posted on our Web site ([www.nova.edu/nursing/mtomsn](http://www.nova.edu/nursing/mtomsn)). A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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 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 and fees are subject to change by the board of trustees without notice.

There are a number of Florida and hospital grants available for the R.N. to M.S.N. student. Additionally, student loan interest for nursing students is lower than for students seeking other degrees. The financial aid office is eager to assist you to explore all possible financial aid options.

## Curriculum Outline—R.N. to M.S.N. Track

General Education	Semester Hours
Written communication—Any written communications course	3
Social behavioral sciences—One PSYC, one SOC, or one Anthropology, and Life Span Human Growth and Development	9
Humanities—Any ARTS, HIST, HUMN, LITR, PHIL, or foreign language	3
Natural/physical sciences—Credit with R.N. license	12*
Statistics—2000 level or higher	3
General education elective—Any college-level ENC, MAT, PSYC, SOC, ARTS, HIST, HUMN, LITR, PHIL, or foreign language course (courses beginning with 00 are not considered college level)	3
<b>Total General Education Credits</b>	<b>33</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>



<b>Nursing Courses</b>			<b>Semester Hours</b>
NUR	3000	Transition to Baccalaureate Nursing Education	3
NUR	3013	Transition to Professional Nursing	3
NUR	3031	Pathophysiology	3
NUR	3030	Health Assessment	3
NUR	3175	Nursing in Today's Health Care Environment	3
NUR	4150	Concepts of Community-Based Nursing	4
NUR	4160	Genetics for Nursing Practice	2
NUR	4175	Transition to Graduate Studies	9
NSG	5000	Advance Nurse Role	3
NSG	5100	Advanced Theoretical Foundations of Research	3
NSG	5110	Nursing Research I: Data Analysis as a Foundation for Decision Making	3
<b>Total Nursing Credits Completed at NSU</b>			<b>39</b>
<b>Prior Learning Nursing Credits</b>			<b>42*</b>
<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.

## Graduate Nursing Program Master of Science in Nursing (M.S.N.)

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 tracks are offered: education, health systems leadership, and family nurse practitioner.

The M.S.N. education track 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. tracks take 15 semester hours of core foundational nursing courses online. An additional 21 semester hours of nursing education courses are required for this track, 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 track; however, additional elective courses may be taken by students with special interests.

The M.S.N. health systems leadership track is designed for the future working nurse executive. This track allows the student to meet professional aspirations and organizational commitments to accreditation, magnet status, and personal goals. All students in M.S.N. tracks 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. in Health Systems leadership track.

The M.S.N. family nurse practitioner (FNP) track prepares nurses for a career as a family nurse practitioner. The 15 credits for the M.S.N. core courses will be offered online. The FNP (37 credits) will be offered at the Palm Beach Student Educational Center in a face-to-face format. Classes will be offered one day/week for each cohort so that students from surrounding areas can easily commute to the Palm Beach location. **The first class will be admitted in 2012. Applications will be available online at [www.nova.edu/nursing](http://www.nova.edu/nursing) beginning August 16, 2011.**

## Admissions Requirements

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
- a B.S./B.A. GPA of 3.0 on a 4.0 scale\*
- current, active 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 Allied Health and Nursing.)
- application with writing sample, two evaluation (reference) forms and application fee

\*Students who enter the M.S.N. program without a B.S.N. will be required to enroll in NUR 4900 Transition to Advanced Nursing Practice in the first semester of admission to the M.S.N. program. This course is only offered in the fall term. Students who have not completed a college-level statistics course (from a mathematics department) must complete one, receiving a C or better.

The M.S.N. FNP track is designed to prepare family nurse practitioners. The track utilizes theory and clinical practice experiences to prepare the family nurse practitioner. All students in the M.S.N. FNP track need to meet the following specific admissions requirements.

- a Bachelor of Science (B.S.) degree from a regionally accredited college or university
- a B.S.N GPA of 3.0 on a 4.0 scale
- an overall GPA of 3.0 from a regionally accredited college or university and satisfactory completion of NSG 4900 Transition to Advanced Nursing Practice (only offered in fall term) prior to beginning the M.S.N. program (for those with a B.S. in a field other than nursing)
- minimum of one year full-time, acute care experience as an R.N.
- official transcripts from each university/college attended

## Application Procedures

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 (EPS)  
College of Allied Health and Nursing  
Nursing Department 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 school attended
3. submit proof of current, active, professional nursing (R.N.) licensure from the jurisdiction of the practicum (Licensure must remain current throughout the program.)

If applicant attended, or is a graduate of, a foreign institution, all coursework from the foreign institution must be evaluated for U.S. institutional equivalence. The official evaluation must be sent directly from the evaluation service to the EPS. For evaluations, please contact one of the following:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

### Tuition and Fees

Tuition for academic year 2011–2012 is \$550 per credit hour. Tuition for 2012–2013 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 \$750 is required annually. 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 towards 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.

To progress in the M.S.N. program, the student must take a minimum of one course per semester, with no more than one semester taken off per year. All coursework must be completed within five years. 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.

A GPA of 3.0 or above must be maintained throughout the program in order for the student to progress. If the student's GPA falls below 3.0 he or she will be on probation and must increase his or her GPA to 3.0 or above within the next semester attended to remain in the program. Otherwise, the student is automatically 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 and health systems leadership) or 53 semester hours (for the family nurse practitioner specialty track)
- satisfactorily complete the program requirements for the degree including all required courses for the chosen track with a minimum GPA of 3.0 and with no course with a grade below B- applied toward the degree

- apply for graduation
- have satisfactorily met all financial and library obligations
- receive a recommendation for graduation by the program director

### Courses of Study

The M.S.N. program offers three tracks of study: education, health systems leadership, and family nurse practitioner. While the core M.S.N. courses remain constant, courses for each track are specific to the area of interest and are provided by the appropriate schools. Courses can be added to the student's program track to accommodate the student's overall interest, employment, and educational goals. A faculty adviser is available for individualized program advisement. Practicum courses allow the student to apply synthesized knowledge gained from all prior courses to an individualized experience in the chosen track.

### Curriculum Outline—M.S.N. Program

Core Courses			Semester Hours
NSG	5000	Advanced Nurse Role	3
NSG	5100	Advanced Theoretical Foundations of Nursing Research	3
NSG	5110	Research 1: Data Analysis as a Foundation for Decision Making	3
NSG	5120	Research 2: Translation of Interdisciplinary Evidence into Nursing Practice	3
NSG	5130	Health Care Policy, Organization, and Finance	3
<b>Total Core Courses</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 track:

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 Instruction and Evaluation	3
NSG	5390	Educational Concepts 2: Synthesis and Application	3
NSG	5350	Roles and Responsibilities of Nurse Educators	3
NSG	5360	Nurse Educator Practicum I	3
NSG	5500	Nurse Educator Practicum II	3
<b>Total Education Courses</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 track:

<b>M.S.N. Health Systems Leadership Courses</b>			<b>Semester Hours</b>
NSG	5230	Nursing Decision Making in Complex Health Systems	3
NSG	5240	Nursing Governance	3
NSG	5340	Nursing Leadership Roles in Complex Health Systems	3
NSG	5270	Informatics and Data Analysis in Complex Health Systems	3
NSG	5250	Fiscal Management in Complex Health Systems	3
NSG	5490	Health Systems Leadership Nursing Practicum I	3
NSG	5491	Health Systems Leadership Nursing Practicum II	3
<b>Total Health Systems Leadership Courses</b>			<b>21</b>

In addition to the core M.S.N. courses, the following courses are required to complete the M.S.N. Family Nurse Practitioner track:

<b>M.S.N. Family Nurse Practitioner</b>			<b>Semester Hours</b>
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	1
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	1
NSG	5580	Primary Care: Pediatrics/Family	3 (2 theory/1 practicum)
NSG	5590*	Family Nurse Practitioner Preceptorship	6 (2 theory/4 practicum)
<b>Total Family Nurse Practitioner Courses</b>			<b>37</b>

\*75 practicum hours earned for each practicum semester hour taken

## Family Nurse Practitioner Curriculum Track

Semester 1			Semester Hours
NSG	5000	Advanced Nurse Role	3
NSG	5130	Health Care Policy, Organization, and Finance	3
Semester 2			
NSG	5100	Advanced Theoretical Foundations of Research	3
NSG	5531	Advanced Pathophysiology I	4
Semester 3			
NSG	5110	Research I: Data Analysis as a Foundation for Decision Making	3
NSG	5510	Advanced Pharmacology I	4
Semester 4			
NSG	5120	Research II: Translation of Interdisciplinary Evidence into Nursing Practice	3
NSG	5502	Advanced Health Assessment/Differential Diagnosis	4
Semester 5			
NSG	5542	Primary Care: Adult I	5
NSG	5522	Family Nursing: Theory, Research, and Practice	1
NSG	5501	Suture Workshop	1
Semester 6			
NSG	5550	Primary Care: Adult II	5
NSG	5570	Mental Health Across the Life Span	1
Semester 7			
NSG	5580	Primary Care: Pediatrics/Family	3
NSG	5560	Primary Care: Women	3
Semester 8			
NSG	5590	Family Nurse Practitioner Preceptorship	6

## **Post-Master of Science in Nursing Certificate (Post-M.S.N. Certificate)**

The Post-Master of Science in Nursing Program is a certificate program for graduates of Master of Science programs with majors in nursing who hold Registered Nurse (R.N.) licensure.

### **Post-M.S.N. Certificate**

The Post-M.S.N. education track prepares nurses who already hold an M.S.N. degree for career paths in staff development, vocational-technical, or community college education. Students in the Post-M.S.N. education track take 21 semester hours of online and practicum nursing courses. These courses are taught by nursing department faculty members with advanced preparation and extensive experience in higher education. A total of 21 semester hours are required to complete the Post-M.S.N. education track; however, additional elective courses may be taken by students with special interests.

The Post-M.S.N. family nurse practitioner track prepares nurses who already hold an M.S.N. degree and are working toward a career path as a family nurse practitioner. Students in the Post-M.S.N. family nurse practitioner track take 37 semester hours of face-to-face and online nursing courses. These courses are taught by nursing department faculty members with advanced preparation and extensive experience as clinical practitioners. A total of 37 semester hours are required to complete the Post-M.S.N. family nurse practitioner track; however, additional elective courses may be taken by students with special interests. Post-M.S.N. family nurse practitioner students will take their face-to-face courses at the Palm Beach Student Educational Center.

### **Admissions Requirements**

Prospective Post-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 post-M.S.N. program requires the following:

- Master of Science degree with a major in nursing
- M.S.N. cumulative GPA of 3.0
- current, active 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 Allied Health and Nursing.)
- application with writing sample, two evaluation (reference) forms, and application fee

Admission to the post-M.S.N. certificate program family nurse practitioner track requires a minimum of one year full-time, acute care experience as a registered nurse.

### **Application Procedures**

Applicants must submit

- signed application form with writing sample, two evaluation (reference) forms, and the nonrefundable application fee of \$50
- official transcripts from each college and university attended, sent directly from the school to the EPS address on the application
- Proof of current registered nurse (R.N.) licensure, in the jurisdiction of the practicum, which must remain current throughout the program

### **Tuition and Fees**

Tuition for academic year 2011–2012 is \$550 per credit hour. An NSU student services fee of \$750 is required annually. Tuition for 2012–2013 will subsequently be posted on our Web site ([www.nova.edu/nursing/msn](http://www.nova.edu/nursing/msn)). 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**

#### **Transfer Credits**

No credits may be transferred into the post-M.S.N. program from other graduate programs.

#### **Progression Requirements**

To progress in the post-M.S.N. program, the student must take a minimum of one course per semester, with no more than one semester taken off per year. All coursework must be completed within five years. All Post-M.S.N. Certificate education track work must be completed within five years. All Post-M.S.N. Certificate family nurse practitioner track work must be completed within seven years. A course may be repeated once if a grade of less than B- is obtained. Only one repeated course can be applied toward the certificate. A second course with a grade less than B- will preclude completion of the program and the student will be dismissed from the program.

A GPA of 3.0 or above must be maintained throughout the program in order for the student to progress. If the student's GPA falls below 3.0 he or she will be on probation and must increase his or her GPA to 3.0 or above within the next semester attended to remain in the program. Otherwise, the student is automatically 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.

### Certificate Completion Requirements

To receive a post-M.S.N. certificate, students must fulfill the following requirements:

- successfully complete a minimum of 21 semester hours of coursework for the education track and a minimum of 37 semester hours for the family nurse practitioner track
- satisfactorily complete the program requirements for the certificate with a minimum GPA of 3.0 and with no course with a grade below B- applied toward completion of the program
- apply for the certificate
- have satisfactorily met all financial and library obligations
- receive a recommendation for the certificate by the program director

### Course of Study

The online post-M.S.N. program offers tracks of study in nursing education and family nurse practitioner. Courses can be added to the student's program track to accommodate the student's overall interest, employment, and educational goals. A faculty adviser is available for individualized program advisement.

Curriculum Outline—Post-M.S.N. Certificate Education Program			Semester Hours
NSG	5300	Nursing Curriculum Development	3
NSG	5350	Roles and Responsibilities of Nurse Educators	3
NSG	5360	Nurse Educator Practicum I	3
NSG	5361	Nurse Educator Practicum II	3
NSG	5370	Introduction to Educational Concepts	3
NSG	5380	Educational Concepts 1: Principles of Instruction and Evaluation	3
NSG	5390	Educational Concepts 2: Synthesis and Application	3
<b>Total Courses</b>			<b>21</b>



**Curriculum Outline—Post-M.S.N. Certificate Family Nurse Practitioner Program**

			Semester Hours
NSG	5500*	Advanced Health Assessment/ Differential Diagnosis	4 (3 theory/1 practicum)
NSG	5501	Suture Workshop	1
NSG	5510	Advanced Pharmacology	4
NSG	5520	Family Nursing: Theory, Research, and Practice	1
NSG	5530	Advanced Pathophysiology	4
NSG	5540*	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	1
NSG	5580	Primary Care: Pediatrics/Family	3 (2 theory/1 practicum)
NSG	5590*	Family Nurse Practitioner Preceptorship	6 (2 theory/4 practicum)

**Total Courses 37**

\*75 practicum hours earned for each practicum semester hour taken

**Family Nurse Practitioner Proposed Curriculum Track Options**

<b>Year 1</b>			Semester Hours
NSG	5510	Advanced Pharmacology	4
NSG	5530	Advanced Pathophysiology	4
NSG	5500	Advanced Health Assessment/Differential Diagnosis	4
NSG	5520	Family Nursing: Theory, Research, and Practice	1
NSG	5540	Primary Care: Adult I	5
NSG	5580	Primary Care: Pediatrics/Family	3

<b>Year 2</b>			Semester Hours
NSG	5501	Suture Workshop	1
NSG	5560	Primary Care: Women	3
NSG	5570	Mental Health Across the Life Span	1
NSG	5550	Primary Care: Adult II	5
NSG	5590	Family Nurse Practitioner Preceptorship	6

## **M.S.N. and Post-M.S.N. Course Descriptions**

### **Education, Health Systems Leadership, and Family Nurse Practitioner 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 5100—Advanced Theoretical Foundation of Nursing Research**

This course examines the relationship of theory to research and practice. Emphasis is placed on understanding the development, testing, and application of theory within the research process and nursing practice. Various approaches to the research process and the use of evidence in nursing practice are explored. Ethical foundations related to research are introduced. **(3 semester hours)**

#### **NSG 5110—Research I: Data Analysis as a Foundation for Decision Making**

This course focuses on the use of data/findings as a basis for clinical decision making. The roles of information management systems and data analysis software are applied to nursing research. Data are assessed related to nursing practice situations for their quality and rigor. Ethical issues associated with data management are explored. **(3 semester hours)**

#### **NSG 5120—Research II: Translation of Interdisciplinary Evidence into Nursing Practice**

This course focuses on the use of interdisciplinary evidence in nursing practice. The impact of interdisciplinary collaboration in research is emphasized. Strategies for disseminating synthesized evidence to promote improved population health outcomes are explored. Analysis of ethical considerations for decision making is addressed. **(3 semester hours)**

#### **NSG 5130—Health Care Policy, Organization, and Finance**

This course focuses on providing the present and future nurse leaders with an understanding of health policy, finance, and the legal impacts on health care. Political advocacy and the health policy change process will be explored. This course will also review health care management, budgets, cost effectiveness, reimbursement, and fiscal accountability affecting health policy. **(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 in Complex Health Systems**

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 5340—Nurse Leadership Roles in Complex Health Systems**

This course focuses on nursing leadership roles within a complex health system. The student will explore leadership, change, and organizational culture theories, applying them to 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 5490/NSG 5491—Health Systems Leadership Nursing Practicum I and II**

These courses provide opportunities 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. (6 semester hours)

**NSG 5300—Nursing Curriculum Development**

This course focuses on the process of curriculum development. Accreditation standards, trends in professional nursing practice, economic issues, and policy issues are analyzed within the context of curriculum development and program evaluation. Selected nursing and educational theories, principles, and techniques of curriculum development are explored. (3 semester hours)

**NSG 5350—Roles and Responsibilities of Nurse Educators**

This course introduces the student to the skills and knowledge associated with roles and responsibilities of the nurse educator. The environment; trends; policies; protocols; and fiscal, ethical, and legal aspects of education will be explored. Systems thinking as it relates to the nurse educator and core competencies for nurse educators will both be examined. (3 semester hours)

**NSG 5370—Introduction to Educational Concepts**

This course provides the conceptual basis for teaching and learning. The relationships between learning outcomes, learning styles, instructional strategies, assignments, activities, assessment, and evaluation 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: Principles of Instruction and Evaluation**

This course builds on the educational concepts introduced in NSG 5370. Students apply these concepts in the design of instructional strategies, assignments, activities, assessment, and evaluation for learning outcomes in various educational environments. The use of media and instructional technologies to achieve learning outcomes is explored. Methods to assess and evaluate learning outcomes are analyzed. (3 semester hours)

**NSG 5390—Educational Concepts II: Synthesis and Application**

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 5360/NSG 5361—Nurse Educator Practicum I and II**

These courses provide opportunities 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. (6 semester hours)

**NSG 5500—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. Health promotion and disease prevention are incorporated into the assessment process. Assessment criteria are appreciated as underpinnings of differential diagnoses and plans of care. (4 semester hours)

**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**

This course focuses on the use of pharmacotherapeutics for primary health 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. Clinical decision-making, client education, and review of laws governing prescriptive authority for the advanced practice nurse are also emphasized. (4 semester hours)

**NSG 5520—Family Nursing: Theory, Research, and Practice**

This course examines the contemporary family's structure, function, and process. Various theoretical frameworks and models are explored and applied to nursing assessment of and intervention with the healthy and high-risk family system in a variety of clinical settings. Students utilize a wellness approach to optimize health within a developmental framework and promote family resilience and adaptation throughout the life span. 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. (1 semester hour)

#### **NSG 5530—Advanced Pathophysiology**

This course focuses on the analysis of complex interrelationships and interdependence of pathophysiological concepts that serve as a primary component of the foundation for clinical assessment, decision-making, and management for advanced nursing practice. Using a system-focused approach, normal pathophysiological processes and pathological changes affecting homeostasis are explored. Changes associated with individuals of different ethnic/racial origins, genders, and points across the life span are included. Current evidence-based findings related to pathophysiologic changes are examined. (4 semester hours)

#### **NSG 5540—Primary Care: Adult I**

This course focuses on the theoretical concepts of health promotion and disease prevention in adults in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the management of routine, chronic, and acute health problems in this population. The role of the advanced practice nurse implements evidence-based research in the delivery of care to adult clients. Content builds on the core knowledge from prerequisite courses. (5 semester hours)

#### **NSG 5550—Primary Care: Adult II**

This course focuses on the theoretical concepts of clinical prevention in adults in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the management of selected routine, chronic, and acute health problems affecting adults presenting in primary care settings. Special considerations for health concerns unique to the elderly adult are addressed. The role of the advanced practice nurse implements evidence-based research in the delivery of care to adult clients. Content builds on the core knowledge from prerequisite courses. (5 semester hours)

#### **NSG 5560—Primary Care: Women**

This course focuses on the theoretical concepts of health promotion and disease prevention in female clients in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the management of routine, chronic, and acute health problems in this population. The role of the advanced practice nurse implements evidence-based research in the delivery of care to female clients. Content builds on the core knowledge from prerequisite courses. (3 semester hours)

#### **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. Individual and family intervention strategies are presented. (3 semester hours)

#### **NSG 5590—Family Nurse Practitioner Preceptorship**

This course focuses on the theoretical concepts of clinical prevention in infants, children, and adolescents in the primary care setting. Concepts of advanced health assessment, pharmacology, and pathophysiology are incorporated in the management of routine, chronic, and acute health problems in this population. The role of the advanced practice nurse implements evidence-based research in the delivery of care to infants, children, and adolescents. Content builds on the core knowledge from prerequisite courses. (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 Departments of Nursing, Occupational Therapy, Physical Therapy, and Health Science.

For further information, call the nursing department at (954) 262-1983 or 800-356-0026, ext. 21983.

### Admissions Requirements

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 United States R.N. license (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 Allied Health and 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
- overall GPA of 3.5 in the candidate's master's or post-master's degree program in nursing
- an application, curriculum vita, a writing sample that should include an unpublished or published paper, two evaluation (reference) forms, and an application fee
- attendance at a mandatory, weekend, summer orientation session and intensive, annual, one-week, summer, on-campus academic sessions, usually held the first weekend in June

### Application Procedures

1. send signed application form, a writing sample, two evaluation (reference) forms, and the nonrefundable application fee of \$50 (all to be received by March 1) to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
College of Allied Health and Nursing  
Nursing Department 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, professional nursing (R.N.) licensure, from the jurisdiction of the practicum (Licensure must remain current throughout the program.)

### Tuition and Fees

Tuition for academic year 2011–2012 is \$700 per credit hour. An NSU service fee of \$750 is required annually. Tuition for 2012–2013 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.

## Curriculum Outline—Ph.D. Program

Core Courses			Semester Hours
HPH	7200	Ethics	3
HPH	7300	Biostatistics I	3
HPH	7310	Biostatistics II	3
<b>Total Core Courses</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 Courses</b>			<b>12</b>

Research Nursing Courses			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	7250	Scholarship and Applied Research	3
NSG	7310	Doctoral Seminar I	1
NSG	7320	Doctoral Seminar II	1
NSG	7330	Doctoral Seminar III	1
<b>Total Research Nursing Courses</b>			<b>12</b>

Cognates			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
<b>Total Cognates</b>			<b>12</b>

Dissertation			Semester Hours
NSG	7340	Dissertation	9
<b>Total Credits</b>			<b>60</b>

There is an annual, on-campus, one-week residency requirement.

## 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)

### 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, 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)

### 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)

### **HPH 7300—Biostatistics I**

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)

### **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)

### **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)

#### **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)

#### **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)

## **Doctor of Nursing Practice (D.N.P.)**

The online Doctor of Nursing Practice (D.N.P.) program at Nova Southeastern University is a practice-focused terminal degree preparing graduates to practice at the highest level in specialty practice or executive leadership. This program is designed to serve post-M.S.N. nurse practitioners, clinical nurse specialists, nurse midwives, nurse anesthetists, nurse educators, and nurse managers/executives. The D.N.P. curriculum builds on current M.S.N. programs by providing education in evidence-based practice, quality improvement, and systems thinking.

### **Admissions Requirements**

Prospective D.N.P. students are selected for admission based on application content, academic record, curriculum of completed required courses, professional nursing licensure, and evaluation forms. Individual student transcripts and writing samples are evaluated by select faculty members, the graduate program director, and the associate dean of nursing.

Admission to the D.N.P. program requires

- completion of a Master of Science in Nursing degree from a regionally or internationally accredited school
- minimum M.S.N. GPA of 3.5 on a 4.0 scale
- current United States R.N. licensure with no restriction

### **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 by the program director before credit may be granted. Only courses completed prior to matriculation into NSU's D.N.P. program will be considered for transfer credit.

## Application Procedures

All applicants must

1. submit completed application with a \$50, nonrefundable application fee

The office of admissions works on a rolling basis. D.N.P. candidates must submit all applications and transcripts by August 1 for priority consideration for the August entering class and by December 1 for priority consideration for the January entering class. Applications are accepted year round for the D.N.P. entering classes.

2. submit official transcripts of all completed coursework

It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent directly from the school attended to the EPS at the complete address below.

Nova Southeastern University  
Enrollment Processing Services  
College of Allied Health and Nursing  
Nursing Department Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

If applicant attended, or is a graduate of, a foreign institution, all coursework from the foreign institution must be evaluated for U.S. institutional equivalence. The course-by-course official evaluation must be sent directly from the evaluation service. For evaluations, please contact one of the following:

· World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)

· Educational Credential Evaluators  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

3. submit two evaluation (reference) forms from individuals (other than relatives) such as academic advisers, professors, clinical or non-clinical supervisors, or community associates
4. submit a writing sample (use APA 6th edition formatting, including headings for each section)

Please 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.

5. submit official documentation of all supervised postbaccalaureate practice hours from a regionally or internationally accredited school

Documentation must be from the program director or higher 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 or higher signature
- date and title of degree earned
- specialization earned and total number of preceptor-verified clinical experience hours

If, at any time, you wish to withdraw your application from consideration, please do so in writing. Direct this correspondence to:

Nova Southeastern University  
Nursing Department Admissions  
3200 South University Drive  
Fort Lauderdale, Florida 33328-2018

### Tuition and Fees

Tuition for academic year 2011–2012 is \$700 per semester credit hour. The NSU service fee of \$750 per year applies and is pro-rated for part-time students. Health Profession Division student fees may also apply.

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
- minimum of 3.0 GPA
- completion of all degree requirements within seven years
- satisfaction of all financial requirements within the university

### Curriculum Outline—D.N.P. Program

Courses			Semester Hours
NSG	7300	D.N.P. Roles, Collaboration, and Communication	3
NSG	7302	Pathophysiology for Advanced Practice II	3
NSG	7301	Pharmacotherapeutics for Advanced Practice II	3
NSG	7131	Epidemiology and Population Health Care	3
NSG	7500	Outcomes Research and Evaluation	3
NSG	7135	Health Care Information Systems and Outcomes Management	3
NSG	7400	Evaluating Evidence for Advanced Practice Nursing in the Clinical Setting	3
		OR	
		NSG 7401 Evaluating Evidence for Advanced Practice Nursing in the Education Setting	
NSG	7402	Evaluating Evidence for Advanced Practice Nursing in the Health Care System	3
		OR	
HPH	7120	Health Care Policy	3
NSG	7350	Leading in Complex Health Care Systems	3
NSG	7420	D.N.P. Seminar	1
NSG	7421	D.N.P. Seminar	1
NSG	7422	D.N.P. Seminar	1
NSG	7430	D.N.P. Practicum in Clinical Specialization I	4
NSG	7440	D.N.P. Practicum in Clinical Specialization II	4
HPH	7300	Biostatistics I	3
NSG	7450	D.N.P. Capstone	3
<b>Total</b>			<b>44</b>

Students who have not completed Advanced Pathophysiology, Advanced Pharmacology, and Advanced Health Assessment at the M.S.N. level must complete these additional requirements prior to progressing to NSG 7130.

## D.N.P. Course Descriptions and Objectives

### NSG 7300—D.N.P. Roles, Collaboration, and Communication

This course focuses on key concepts related to the role of the Doctor of Nursing Practice in clinical, educational, and health care system settings. Students will analyze the history of nursing education, with emphasis on the development of the Doctor of Nursing Practice. Interprofessional teams, collaboration, and communication skills needed for the effectiveness of this role will be thoroughly examined. (3 semester hours didactic)

Course Objectives:

1. Analyze the history of nursing education with emphasis on the development of the Doctor of Nursing Practice.
2. Critique the roles of advanced practice nurses in current health care systems.
3. Examine teaching strategies and learning principles as they relate to patient education.
4. Analyze communication theories that facilitate collaboration in interprofessional teams.
5. Examine strategies for initiating and implementing an interprofessional team to improve patient and population health outcomes.
6. Evaluate collaborative efforts of an interprofessional team.
7. Construct a practice model for the specialized role of Doctor of Nursing Practice.

### NSG 7302—Pathophysiology for Advanced Practice II

This course builds on basic concepts of pathophysiology to include elements of phylogeny, ontogeny, embryology, and genetics across the life span. Influences of environmental factors and concepts of immunology will be explored.

**Prerequisite:** NSG 5100 (3 semester hours didactic)

Course Objectives:

1. Analyze the influences of embryology, genetics, and environment on human disease processes.
2. Evaluate implications of immunology to nursing practice.
3. Integrate applications of pathophysiology and compose an evidence-based practice plan for individuals and populations.

### NSG 7301—Pharmacotherapeutics for Advanced Practice II

This course presents complex care issues related to pharmacotherapeutics as an integral part of overall treatment. Emphasis is on the evaluation and discussion of current research reports relevant to advanced practice nursing. Focus is on the management of complex disease and diagnostic reasoning as it relates to current health policy and pharmacogenomics. **Prerequisites:** NSG 5510, 7302 (3 semester hours didactic)

Course Objectives:

1. Analyze primary sources of research related to pharmacologic regimens suitable to individual specialty areas of practice.
2. Plan evidence-based pharmacotherapeutic strategies for individuals with complex, multisystem disease processes.
3. Critique contemporary health policies as they relate to clinical practice, prescribing practices, and the pharmaceutical industry.
4. Analyze current ethical, legal, and health-policy issues pertinent to advanced clinical practice and the pharmaceutical industry.
5. Assess emerging trends in pharmacogenetics and their influence on therapeutic management strategies.
6. Compose strategies that enhance effective leadership skills, collaboration, and diagnostic reasoning approaches related to pharmacotherapeutic delivery in a complex health care system.

### 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, and cultural competency related to the health of populations. An emphasis will be placed on evidence-based clinical prevention and population health services for individuals, aggregates, and populations. **Prerequisites:** HPH 7300, NSG 7302 (3 semester hours didactic)

Course Objectives:

1. Critique the population health approach to health care education, delivery, and policy.
2. Debate findings in order to address navigation of the system and continuity of care for populations.
3. Formulate the business and political sides of population health including information technology and marketing strategies needed to be successful.
4. Investigate using the principles of epidemiology and public health to address risks to the health of populations.
5. Analyze data using epidemiological calculations and methods of measurement.
6. Critique successful models to address population health and disease prevention.
7. Examine future trends in the management of population health.

### **NSG 7500—Outcomes Research and Evaluation**

This course focuses on clinical scholarship through qualitative and quantitative research methods. Issues of rigor and data management appropriate for each method, interpretation of analyses, and dissemination of research results will be addressed. Data management software will be utilized. **Prerequisites:** NSG 7130, 7301, and 7302 (3 semester hours didactic)

Course Objectives:

1. Employ research instruments to collect appropriate and accurate data to generate evidence for nursing practice.
2. Integrate professional and ethical values throughout the research process.
3. Construct components of a data management plan that generates meaningful evidence for nursing practice.
4. Predict and analyze outcomes of quantitative data.
5. Examine patterns of behavior and outcomes generated by data from practice studies.
6. Develop a plan for dissemination of results of data.

### **NSG 7135—Health Care Information Systems and Outcome Management**

This course focuses on the evaluation and use of information systems technology in the clinical setting, particularly as it applies to quality improvement and patient-centered health care. This course also provides the student with an understanding of the management of health care information technology in nursing administration, education, research, and clinical practice settings. As part of their work in the course, students will develop evaluation plans of existing information management systems in their work settings. (3 semester hours didactic)

Course Objectives:

1. Examine the use of health care information technology systems that support research for evidence-based practice, quality improvement and outcomes evaluation, management, education, patient safety, and practice.
2. Utilize methodologies for selection, development, implementation, and evaluation of information systems.
3. Analyze legal, ethical, and regulatory issues related to use, protection, and storage of patient data via information systems and technology.
4. Critique consumer health information sources for accuracy, timeliness, and appropriateness for nursing leadership.
5. Utilize current technologies in the care environment for safety and quality initiatives.

### **NSG 7400—Evaluating Evidence for Advanced Practice Nursing in the Clinical Setting**

This course provides a framework for applying evidence to clinical practice. Students will locate, critically evaluate, and synthesize evidence from qualitative and quantitative studies used for decision making for advanced practice. Approaches to translating research into practice, as well as describing processes to monitor and improve the quality of practice, are presented. **Prerequisites:** NSG 7135 and 7500 (3 semester hours didactic)

Course Objectives:

1. Analyze current studies used for decision making for advanced practice.
2. Assemble qualitative and quantitative methodologies used to gather evidence to change practice.
3. Propose evidence to change practice and improve nursing outcomes.
4. Design an evidence-based practice guideline that will promote safe, effective, patient-centered care.
5. Identify gaps in evidence of practice related to the clinical setting.

### **NSG 7401—Evaluating Evidence for Advanced Practice Nursing in the Education Setting**

This course provides a framework for applying evidence-based practice in an educational setting. Students will locate, critically evaluate, and synthesize evidence-based practice guidelines from qualitative and quantitative studies to use as teaching tools for students in nursing education. Approaches to translating research into practice, as well as describing processes to monitor and improve the quality of practice, are presented. **Prerequisites:** NSG 7135 and 7500 (3 semester hours didactic)

Course Objectives:

1. Analyze current evidence-based guidelines to use as teaching tools for students in nursing education.
2. Assemble qualitative and quantitative methodologies used to gather evidence to change practice.
3. Propose evidence to change practice and improve nursing outcomes.
4. Design a comprehensive lesson plan using current evidence-based practice guidelines.
5. Identify gaps in evidence of practice related to the educational setting.

### **NSG 7402—Evaluating Evidence for Advanced Practice Nursing in the Health Care System**

This course provides a framework for applying evidence-based practice in a health care system. Students will locate, critically evaluate, and synthesize evidence from qualitative and quantitative studies used for decision making within a

comprehensive, complex health care system. Approaches to translating research into practice, as well as describing processes to monitor and improve the quality of practice, are presented. **Prerequisites:** NSG 7135 and 7500 (3 semester hours didactic)

Course Objectives:

1. Analyze current studies used for decision making within a comprehensive, complex health care system.
2. Assemble qualitative and quantitative methodologies used to gather evidence to change practice.
3. Propose evidence to change practice and improve nursing outcomes.
4. Design an evidence-based quality improvement methodology that will promote safe, effective, patient-centered care within a health care setting.
5. Identify gaps in evidence of practice related to a health care system.

### HPH 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, economical, technological, national, and global environments within which each setting operates. Students will analyze the interaction of the primary health policy individuals or groups, including 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. (3 semester hours didactic)

Course Objectives:

1. Differentiate the stages of policy planning, development, implementation, and evaluation.
2. Analyze a policy issue that can be addressed through policy intervention.
3. Explore the impact of the economic, social, and environmental factors on health care policy.
4. Relate policy initiatives to health care delivery and the area of research interest.
5. Evaluate ways policy changes may affect future nursing practice, research, and theory.

### NSG 7350—Leading in Complex Health Care Systems

This course will focus on leadership and organizational theories with emphasis on application of the theories within advanced practice nursing. The course prepares nurse leaders to incorporate evidence-based information into practice to improve client outcomes. Strategies of quality improvement, best business practices, cultural competence, and managing ethical dilemmas will be emphasized. (3 semester hours didactic)

Course Objectives:

1. Explore organizational and systems culture related to the role of the Doctor of Nursing Practice.
2. Evaluate appropriate theories from nursing and related fields to identify factors that improve health care delivery.
3. Compare and contrast quality improvement strategies toward improving interdisciplinary communication.
4. Evaluate strategies for managing diversity and ethical dilemmas in patient care, health care organizations, and research.
5. Analyze the cost effectiveness of practice initiatives accounting for risk and improvement of health care outcomes.
6. Develop a plan to create and sustain change at the organizational and/or policy level.

### NSG 7420, 7421, and 7422—D.N.P. Seminar

These seminars focus on the identification of a concept that impacts a health care system or client population. The student will utilize consultative and leadership strategies in the development of his or her doctoral project. The importance of interdisciplinary relationships to achieve positive health care outcomes will be considered. (1 semester hour didactic)

Course Objectives:

#### NSG 7420

1. Identify a concept that impacts a health care system or client population.
2. Perform a comprehensive needs assessment in a health care system or identified client population.

#### NSG 7421

1. Organize evidenced-based literature concerning the identified problem.
2. Propose a consultative and leadership strategy for implementing the project and recommend necessary interdisciplinary teams to achieve positive outcomes.

### NSG 7422

1. Formulate evaluation strategies to meet outcomes.
2. Select an appropriate evaluation tool to assess the outcomes of the proposed strategy
3. Develop a completed proposal for the D.N.P. capstone project.
4. Submit a completed proposal to the Institutional Review Board.

### NSG 7430—D.N.P. Practicum in Clinical Specialization I

This course focuses supervised clinical experiences to integrate the role of the D.N.P., focusing on translating research into practice as a means to improve the delivery of health care. Students investigate clinical problems and refine the literature review and capstone proposal. Students utilize reflective journals to demonstrate the role of the D.N.P. in leadership, consultation, advocacy, and interdisciplinary collaboration. **(4 semester hours clinical—300 hours)**

#### Course Objectives:

1. Systematically investigate a clinical question related to the selected area of nursing practice.
2. Synthesize nursing and related health policy; quality improvement; and economic, ethical, or social theory to the identification of an existing direct clinical care or aggregate population health-related problem to be addressed in the D.N.P. capstone project.
3. Analyze the current state of science concerning the identified clinical question.
4. Demonstrate leadership, consultation, advocacy, and interdisciplinary collaboration during the clinical experience.
5. Design a therapeutic intervention within the selected area of clinical specialization based on nursing and other sciences.

### NSG 7440—D.N.P. Practicum in Clinical Specialization II

This course focuses on the continuation and development of advanced practice at the expert level. Upon completion of this course, students should be prepared to sit for the national certification examination developed by the credentialing authority in a selected area of clinical specialization. **(4 semester hours clinical—300 hours)**

#### Course Objectives:

1. Integrate expertise in clinical skills in the selected area of specialization, as defined by the appropriate credentialing authority.
2. Refine state of science literature.
3. Evaluate an innovative therapeutic intervention within the selected area of clinical specialization.

### HPH 7300—Biostatistics I

This is the 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. This course will teach students to generate, interpret, and evaluate clinical, biomedical, and health care-services research. **(3 semester hours didactic)**

#### Course Objectives:

1. Match empirical research questions to statistical methods.
2. Apply hypothesis-testing models to experimental and quasi-experimental research questions.
3. Use appropriate probability distributions, including  $z$ ,  $t$ , and  $F$ .
4. Estimate parameters with adequate confidence intervals.
5. Test hypotheses using a wide variety of statistical models.
6. Use different versions of analysis of variance as applied to the health sciences.

### **NSG 7450—D.N.P. Capstone**

During the capstone course, students will defend the D.N.P. capstone project in a scholarly oral presentation. Students will also complete the professional portfolio and final reflection paper. (3 semester hours didactic)

Course Objectives:

1. Demonstrate advanced clinical judgment, expertise, and specialization in a defined content area.
2. Utilize advanced levels of systems thinking and accountability in designing, delivering, and evaluating evidence-based care to improve health care quality, safety, and outcomes.
3. Apply leadership in the development and implementation of patient-driven, institutional, local, state, federal, and/or international health policy in a select content/specialty area.
4. Defend the D.N.P. capstone project in a scholarly oral presentation.
5. Disseminate clinical scholarship through oral and written communication.

### **NSG 7441 and 7442—Practicum III and IV**

Students who cannot demonstrate 400 practice hours in their M.S.N. program must complete NSG 7441 and/or NSG 7442. Individual student practice experiences will be developed with the program director and preceptor in order for the student to meet practice hours in his or her area of specialization. This will include, but is not limited to, students with an M.S.N. in nursing administration or nursing education without documented clinical hours. (1–3 semester hours—75 hours per credit)

Course Objectives:

1. Integrate expertise in clinical skills in the selected area of specialization, as defined by the appropriate credentialing authorities.





**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., 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 four-point 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 (EPS)  
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 2011–2012 is \$32,500 (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 \$750 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, A. Mariassy, K. Tu, R. K. Yip** | Associate Professors: **C. Purvis, N. Lutfi** | Assistant Professor: **P. Greeman** | 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. (80-72-7)

#### 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. (56-54-4.5)

#### 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** | Assistant 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)

#### 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. (72-0-4)

#### BCH 6700—Special Topics

Topics and hours to be arranged. (1 to 6 semester hours)

### Microbiology

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

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 6700—Special Topics

Topics and hours to be arranged. (1 to 6 semester hours)

## **Pathology**

Chairman and Professor: **M. Khin** | Professor Emeritus: **D. C. Bergman** | Professor: **K. Khin** | Associate Professors: **B. C. Jones, A. B. Trif**

### **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: **C. E. Reigel, Jr., T. Panavelil** | Associate Professor: **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** | Associate Professor: **Y. Zagvazdin** | Assistant Professor: **L. Lyons**

### **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



Robert Uchin, D.D.S.  
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

**Robert Uchin, D.D.S.**  
Dean

**Stephen Abel, D.D.S.**  
Associate Dean for Extramural Affairs/Public Health

**Abby Brodie, D.M.D., M.S.**  
Associate Dean for Curriculum and Educational Affairs

**Dominick DePaola, D.D.S., Ph.D.**  
Associate Dean for Academic Affairs

**Peter Keller, D.D.S.**  
Executive Associate Dean for Academic and Clinical Resources

**Steven M. Kelner, D.M.D., M.S.**  
Associate Dean for Institutional Affairs

**Sergio Kuttler, D.D.S.**  
Associate Dean for Advanced Education Programs

**Hal Lippman, D.D.S.**  
Executive Associate Dean for Student and Clinical Affairs

**Ana Karina Mascarenhas, Dr.P.H., M.P.H., B.D.S.**  
Associate Dean for Research/Primary Care

## 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.

## Predoctoral 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 required courses.

### 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)

## Other Courses

- 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 Procedure

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, 2011, for the class entering August 2012.

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, 2011:
    - 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.

Although the Committee on Admissions realizes that the majority of applicants take the DAT in October, conditional acceptances may be made to exceptional candidates pending receipt of the spring DAT test results.

Final official transcripts, covering all of the applicant's work, must be forwarded to Nova Southeastern University, Enrollment Processing Services (EPS), College of Dental Medicine, Office of 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 2011–2012 (subject to change by the board of trustees without notice) is \$48,480 for Florida residents and \$50,950 for out-of-state students. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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 July 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 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 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. Nova Southeastern University College of Dental Medicine (NSU-CDM) affords the candidate the option of using the Centralized Application for Advanced Placement for International Dentists (CAAPID). CAAPID does not take part in student selection. Applications are available from the American Dental Education Association (ADEA).

American Dental Education Association  
(CAAPID)  
1400 K Street NW  
Suite 1100  
Washington, D.C. 20005  
  
(617) 612-2035  
[caapidinfo@caapid.org](mailto:caapidinfo@caapid.org)

Materials that should be mailed to CAAPID by December 1, 2011, include the following:

- CAAPID application
  - one official transcript sent directly from each college, professional school, or university attended
  - official National Board of Dental Examiners (NBDE) scores for Part I and Part II (if taken)
  - official score from the Test of English as a Foreign Language (TOEFL)
  - three letters of evaluation
2. If the applicant does not choose to use CAAPID, the applicant should mail the following materials to the Enrollment Processing Services (EPS) by January 1, 2012:
- the completed College of Dental Medicine application form for the International Dental Graduate Program
  - a nonrefundable application fee of \$50
  - official score from the Test of English as a Foreign Language (TOEFL)
3. The applicant must arrange for one official transcript from each college, professional school, or university attended to be sent directly to the EPS by January 1, 2012.

Coursework taken at a foreign institution must be evaluated for U.S. institution equivalency by one of the services listed on the following page. It is the applicant's responsibility to have this coursework evaluated, course by course. An official evaluation must be sent to the EPS.

- World Education Services, Inc.  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(212) 966-6311  
[www.wes.org](http://www.wes.org)
- Josef Silny & Associates, Inc.  
International Education Consultants  
7101 SW 102nd Avenue  
Miami, Florida 33173  
(305) 273-1616  
[www.jsilny.org](http://www.jsilny.org)
- Educational Credential Evaluators, Inc.  
P.O. Box 514070  
Milwaukee, Wisconsin 53203-3470  
(414) 289-3400  
[www.ece.org](http://www.ece.org)

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.

5. 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.

6. Three letters of evaluation are required. They may 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 (EPS)  
College of Dental Medicine  
Office of Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale, Florida 33329-9905

### **Tuition and Fees**

- Tuition for 2011–2012 (subject to change by the board of trustees without notice) is \$53,850.
- 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 \$750 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 the electronic textbook program:

- first year—\$1,400
- second year—\$1,200
- third year—\$1,250
- fourth year—\$1,250

Students should anticipate the following approximate expenses for instruments, equipment, and NSU-specific laptop computer

- first year—\$12,000
- second year—\$10,500
- 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.



## 2011–2012 Curriculum Outline

Calculations based on an 18-week semester (subject to change)

<b>Summer 2011—D1, Class of 2014</b>			Contact	Laboratory	Credit Hours
CDM	2050	Endodontics Lecture (continued in Fall 2011—D2)			
CDM	2060	Endodontics Laboratory (continued in Fall 2011—D2)			
CDM	2201	Operative Dentistry Lecture (continued from Winter 2011—D1)	18	0	1
CDM	2211	Operative Dentistry Laboratory (continued from Winter 2011—D1)	0	48	1
CDM	1016	Clinical Experience Rotation II (continued from Winter 2011—D1)	1	15	1
CDM	2005	Craniofacial Growth and Development	10	0	1
CDM	2501	Periodontology Clinic (continued in Fall 2011—D2)			
CDM	2125	Pathology II	19	0	1
CDM	2025	IDG Operative Dentistry Lecture and Lab	23	67	5
CDM	2185	IDG Clinical Periodontology Orientation	2	8	0.5
CDM	2175	QA/Recare Clinical Rotation I (continued in Fall 2011—D2)			
<b>Summer 2011—D3, Class of 2013</b>			Contact	Laboratory	Credit Hours
CDM	3500	Clinical Restorative Dentistry I (continued in Fall 2011—D3)			
CDM	3410	Clinical Fixed Prosthodontics I (continued in Fall 2011—D3)			
CDM	3411	Clinical Removable Prosthodontics I (continued in Fall 2011—D3)			
CDM	3501	Clinical Periodontology I (continued in Fall 2011—D3)			
CDM	3503	Clinical Periodontology Rotation (continued in Fall 2011—D3)			
CDM	3621	Clinical Endodontics I (continued in Fall 2011—D3)			
CDM	3507	Clinical OMFS Rotation I (continued in Fall 2011—D3)			
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued in Fall 2011—D3)			
CDM	3650	Radiology Clinic I (continued in Fall 2011—D3)			

CDM	3200	Laboratory and Clinical Applications of Occlusion	8	10	0.5
CDM	3175	QA/Recare Clinical Rotation II (continued in Fall 2011—D3)			

**Summer 2011—D4, Class of 2012**

			Contact	Laboratory	Credit Hours
CDM	4501	Clinical Periodontology II (continued in Fall 2011—D4)			
CDM	4500	Clinical Restorative Dentistry II (continued in Fall 2011—D4)			
CDM	4410	Clinical Fixed Prosthodontics II (continued in Fall 2011—D4)			
CDM	4411	Clinical Removable Prosthodontics II (continued in Fall 2011—D4)			
CDM	4621	Clinical Endodontics II (continued in Fall 2011—D4)			
CDM	4507	Clinical OMFS Rotation II (continued in Fall 2011—D4)			
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued in Fall 2011—D4)			
CDM	4650	Radiology Clinic II (continued in Fall 2011—D4)			
CDM	4222	Laser Dentistry (Elective)	8	0	0.5
CDM	4700	Extramural Primary Care Rotations (continued in Fall 2011—D4)			
CDM	402H	Periodontal Honors (continued in Fall 2011—D4)			
CDM	4175	QA/Recare Clinical Rotation III (continued in Fall 2011—D4)			

**Fall 2011—D1, Class of 2015**

			Contact	Laboratory	Credit Hours
CDM	1000	Anatomy Lecture/Laboratory	48	34	4
CDM	1010	Cariology	14	0	1
CDM	1025	Dental Biochemistry and Nutrition	93	0	5
CDM	1030	Histology	36	36	3
CDM	1050	Ethics and Professionalism I	8	0	1
CDM	1070	Periodontology I (continued in Winter 2012—D1)			
CDM	1080	Dental Anatomy Laboratory I	0	72	1.5
CDM	1090	Dental Anatomy Lecture I	16	0	1
CDM	1100	Dental Biomaterials Lecture I	18	0	1

CDM	1015	Clinical Experience Rotation I	2	8	0.5
CDM	1110	Microbiology	45	0	3
CDM	1135	Multidisciplinary Introduction to Record Keeping (continued in Winter 2012—D1)			
CDM	1198	Operative Dentistry Lecture I	10	0	0.5
CDM	1199	Operative Dentistry Laboratory I	10	12	0.5
CDM	1229	Dental Biomaterials Laboratory Ia	0	6	0.5

<b>Winter 2012—D1, Class of 2015</b>			Contact	Laboratory	Credit Hours
CDM	1230	Dental Biomaterials Laboratory Ib	0	12	1
CDM	1111	Immunology	30	0	2
CDM	1051	Ethics and Professionalism II	8	0	1
CDM	1091	Dental Anatomy Lecture II	16	0	1
CDM	1092	Dental Anatomy Laboratory II	0	36	0.5
CDM	1120	Physiology	72	0	4
CDM	1130	Neuroanatomy Lecture/Laboratory	36	18	3
CDM	1135	Multidisciplinary Introduction to Record Keeping (continued from Fall 2011—D1)	6	26	1.5
CDM	1160	Oral Histology	36	0	2
CDM	1070	Periodontology I (continued from Fall 2011—D1)	18	0	1
CDM	1185	Introduction to Clinical Periodontology	0	8	0.5
CDM	1200	Operative Dentistry Lecture II	21	0	1.5
CDM	1210	Operative Dentistry Laboratory II	0	67	1.5
CDM	1220	Occlusion Lecture	24	0	1.5
CDM	1221	Occlusion Laboratory	0	39	1.5
CDM	1016	Clinical Experience Rotation II (continued in Summer 2012—D1)			
CDM	1125	Pathology I	31	0	2

<b>Fall 2011—D2, Class of 2014</b>			Contact	Laboratory	Credit Hours
CDM	2010	Pharmacology I	72	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 2011—D1)	24	0	1.5
CDM	2060	Endodontics Laboratory (continued from Summer 2011—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	18	0	1
CDM	2090	Removable Partial Prosthodontics Lecture	36	0	2
CDM	2100	Removable Partial Prosthodontics Laboratory	0	108	2
CDM	2101	Dental Biomaterials Lecture II	18	0	1
CDM	2110	Radiology	18	27	2
CDM	2175	QA/Recare Clinical Rotation I (continued from Summer 2011—D1) (continued in Winter 2012—D2)			
CDM	2280	Internal Medicine for Dentists	18	0	1
CDM	2501	Periodontology Clinic (continued from Summer 2011—D1) (continued in Winter 2012—D2)			
CDM	2505	Radiology Preclinical Laboratory (continued in Winter 2012—D2)			

**Winter 2012—D2, Class of 2014**

			Contact	Laboratory	Credit Hours
CDM	2102	Dental Biomaterials Laboratory II	0	18	1
CDM	2120	Oral and Maxillofacial Diagnosis I	18	0	1
CDM	2130	Pharmacology II	54	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 2011—D2)	3	6	0.5
CDM	2180	Pediatric Dentistry Lecture	36	0	2
CDM	2190	Pediatric Dentistry Laboratory	0	54	1
CDM	2200	Orthodontics Lecture/Laboratory	36	36	3
CDM	2220	Complete Denture Prosthodontics Lecture	36	0	2
CDM	2230	Complete Denture Prosthodontics Laboratory	0	36	1
CDM	2241	Introduction to Comprehensive Treatment Planning	18	0	1

CDM	2242	Axium EHR Treatment Planning Module	10.5	10.5	0.5
CDM	2250	Endodontics Clinical Lecture	18	0	1
CDM	2260	Fixed Prosthodontics Lecture II	18	0	1
CDM	2270	Fixed Prosthodontics Laboratory II	0	72	2
CDM	2501	Periodontology Clinic (continued from Fall 2011—D2)	0	0	1.5
CDM	2505	Radiology Preclinical Laboratory (continued from Fall 2011—D2)	0	9	1

**Fall 2011—D3, Class of 2013**

			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/Laboratory	18	30	3
CDM	3175	QA/Recare Clinical Rotation II (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3410	Clinical Fixed Prosthodontics I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3411	Clinical Removable Prosthodontics I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3500	Clinical Restorative Dentistry I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3501	Clinical Periodontology I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3503	Clinical Periodontology Rotation (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3507	Clinical OMFS Rotation I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			

CDM	3530	Evidence-Based Dentistry in Clinical Practice	18	0	1
CDM	3621	Clinical Endodontics I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			
CDM	3605	Orthodontic Clinical Comanagement Program (continued in Winter 2012—D3)			
CDM	3650	Radiology Clinic I (continued from Summer 2011—D3) (continued in Winter 2012—D3)			

**Winter 2012—D3, Class of 2013**

			Contact	Laboratory	Credit Hours
CDM	3011	Oral and Maxillofacial Diagnosis III	18	0	1
CDM	3021	Common Oral Conditions	18	0	1
CDM	3080	Behavioral Science	36	8	2
CDM	3090	Introduction to the Dental Profession	18	0	1
CDM	3175	QA/Recare Clinical Rotation II (continued from Fall 2011—D3)	3	6	0.5
CDM	3140	Special Needs Dentistry	18	0	1
CDM	3241	Comprehensive Treatment Planning	18	0	1
CDM	3221	Advanced Clinical Occlusion	18	0	1
CDM	3501	Clinical Periodontology I (continued from Fall 2011—D3)	0	0	2
CDM	3503	Clinical Periodontology Rotation (continued from Fall 2011—D3)	0	20	1
CDM	3500	Clinical Restorative Dentistry I (continued from Fall 2011—D3)	0	0	10
CDM	3411	Clinical Removable Prosthodontics I (continued from Fall 2011—D3)	0	0	11
CDM	3410	Clinical Fixed Prosthodontics I (continued from Fall 2011—D3)	0	0	11
CDM	3060	TMD	18	0	1
CDM	3507	Clinical OMFS Rotation I (continued from Fall 2011—D3)	0	50	1
CDM	3525	Clinical Pediatric Dentistry Rotation I (continued from Fall 2011—D3)	0	12	1
CDM	3621	Clinical Endodontics I (continued from Fall 2011—D3)	0	12	1
CDM	3650	Radiology Clinic I (continued from Fall 2011—D3)	0	42	2
CDM	3605	Orthodontic Clinical Comanagement Program (continued from Fall 2011—D3)	0	30	1

Fall 2011—D4, Class of 2012			Contact	Laboratory	Credit Hours
CDM	4060	Practice Management	18	0	1
CDM	4120	Regional Board Prep Course (continued in Winter 2012—D4)			
CDM	4170	Oral Manifestations of Disease	18	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4240	Advanced Comprehensive Treatment Planning	18	0	1
CDM	4404H	Oral Medicine Honors (continued in Winter 2012—D4)			
CDM	4410	Clinical Fixed Prosthodontics II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4411	Clinical Removable Prosthodontics II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4500	Clinical Restorative Dentistry II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4501	Clinical Periodontology II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4505	Clinical Emergency Rotation (continued in Winter 2012—D4)			
CDM	4507	Clinical OMFS Rotation II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4611	Community Dentistry Rotation (continued in Winter 2012—D4)			
CDM	4621	Clinical Endodontics II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4650	Radiology Clinic II (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4700	Extramural Primary Care Rotations (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	4999	Advanced Techniques in Pain and Anxiety Control	18	0	1

CDM	403E	Advanced Elective in Endodontics (continued in Winter 2012—D4)			
CDM	400H	Honors Endodontics (continued in Winter 2012—D4)			
CDM	402H	Periodontal Honors (continued from Summer 2011—D4) (continued in Winter 2012—D4)			
CDM	410H	Honors Pediatric Dentistry (continued in Winter 2012—D4)			
CDM	412H	Honors Prosthodontics (continued in Winter 2012—D4)			
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued in Winter 2012—D4)			
CDM	427E	CAD/CAM Elective	8	16	1

<b>Winter 2012—D4, Class of 2012</b>			Contact	Laboratory	Credit Hours
CDM	4120	Regional Board Prep Course (continued from Fall 2011—D4)	0	72	1
CDM	4501	Clinical Periodontology II (continued from Fall 2011—D4)	0	0	2
CDM	4500	Clinical Restorative Dentistry II (continued from Fall 2011—D4)	0	0	11
CDM	4621	Clinical Endodontics II (continued from Fall 2011—D4)	20	28	2
CDM	4410	Clinical Fixed Prosthodontics II (continued from Fall 2011—D4)	0	0	11
CDM	4411	Clinical Removable Prosthodontics II (continued from Fall 2011—D4)	0	0	11
CDM	4020	Clinical Oral Medicine Case Presentations	18	0	1
CDM	4175	QA/Recare Clinical Rotation III (continued from Fall 2011—D4)	3	14	1
CDM	4505	Clinical Emergency Rotation (continued from Fall 2011—D4)	0	45	1
CDM	4507	Clinical OMFS Rotation II (continued from Fall 2011—D4)	0	0	1
CDM	4525	Clinical Pediatric Dentistry Rotation II (continued from Fall 2011—D4)	0	0	2
CDM	4611	Community Dentistry Rotation (continued from Fall 2011—D4)	0	0	1
CDM	4650	Radiology Clinic II (continued from Fall 2011—D4)	0	42	1



CDM	4700	Extramural Primary Care Rotations (continued from Fall 2011—D4)	0	0	7
CDM	400H	Honors Endodontics (continued from Fall 2011—D4)	10	0	1
CDM	402H	Periodontal Honors (continued from Fall 2011—D4)	42	4	3
CDM	414H	Honors Program in Orthodontics and Facial Orthopedics (continued from Fall 2011—D4)	36	0	2
CDM	4404H	Oral Medicine Honors (continued from Fall 2011—D4)	48	0	1
CDM	412H	Honors Prosthodontics (continued from Fall 2011—D4)	54	0	1
CDM	403E	Advanced Elective in Endodontics (continued from Fall 2011—D4)	14	0	0.5
CDM	425E	Forensic Odontology Elective	12	24	1.5
CDM	426E	Cone Beam CT Elective	4	0	0.5
CDM	410H	Honors Pediatric Dentistry (continued from Fall 2011—D4)	22	0	2

<b>Summer 2012—D2, Class of 2014</b>			Contact	Laboratory	Credit Hours
CDM	2999	Clinic Prerequisite Review	20	70	2

<b>Summer 2012—D1, Class of 2015</b>			Contact	Laboratory	Credit Hours
CDM	1016	Clinical Experience Rotation II (continued from Winter 2012—D1)	1	15	1
CDM	1201	Operative Dentistry Lecture III	6	0	0.5
CDM	1211	Operative Dentistry Laboratory III	0	18	0.5

## College of Dental Medicine Course Descriptions

### Interdisciplinary Biomedical Sciences

**Anatomy**—Chair and Professor: **G. R. Conover** | Professors: **L. Dribin, A. Mariassy, R. K. Yip** | Associate Professors: **C. Purvis, K. Tu** | Assistant Professor: **P. Greenman, N. Lutfi** | Instructor: **D. McNally**

#### CDM 1000—Anatomy Lecture/Laboratory

Human anatomy with an emphasis on the thorax, neck, and head. Lecture sessions, laboratory dissection and prosection, organogenesis of regions dissected. Radiological anatomy.

#### CDM 1030—Histology

Principles of cell biology, normal microscopic and submicroscopic anatomy of cells, and tissues. Correlated with gross anatomy and physiologic function. Microscopic anatomy of normal tissues and organs.

#### CDM 1130—Neuroanatomy Lecture/Laboratory

Study of the gross structure of the brain and spinal cord and the functional relationship among their parts. Emphasizes major motor and sensory pathways and integrative mechanisms of the central nervous system.

### Behavioral Science—Associate Professor: **A. Fins**

#### 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.

**Biochemistry**—Chair and Professor: **R. E. Block** | Professors: **E. E. Groseclose, K. V. Venkatachalam** | Assistant 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** | Professor: **D. Burris** | Associate Professor: **K. Davis** | Assistant Professor: **B. Mayi**

#### 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: **K. Khin** | Associate Professor: **B. Jones** | Assistant Professor: **A.B. Trif**

#### 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 Assistant Professor: **M. Parker** | Professor: **C. E. Reigel** | Associate Professors: **T. Panavelil, C. Powell, 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 Associate Professor: **W. Schreier** | Professors: **H. Mayrovitz, P. S. Taraskevich** | Associate Professor **Y. Zagvazdin**

#### CDM 1120—Physiology

Physical and chemical factors and processes responsible for the development, progression, and procreation of life; organ systems approach; cell function; membrane function; membrane translocation; electrophysiology;

muscle physiology; neurophysiology; and cardiovascular, renal, respiratory, gastrointestinal, endocrine, and nervous systems.

## **Division of Primary Care**

**Cariology and Restorative Dentistry**—Chair and Associate Professor: **A. Levitt Galka** | Associate Professors: **A. Brodie, P. Filker** | Assistant Professors: **K. Alston, C. Barnes, V. Bhoopathi, C. Bleich, A. Farhangpour, P. Fleisher, R. Gaines, C. Galperin, M. Georgescu, T. Gonzalez, H. Gordon, S. Haas, R. Jacobson, E. Kilinc, J. Kodish-Stav, P. Papatzimas, P. Pugliese, H. Quinton, R. Ramer, J. Schiuma, M. Schweizer, L. Shapiro, R. Vogel, L. Oliveira** | Adjunct Faculty: **S. Berger, L. Gordon Brown, M. Butler, J. Cegielski, E. Chiang, S. Colombo, A. Perez Diaz, E. Fellows, D. Fleischman, M. Friend, P. Goswami, M. Gutierrez, J. Heider, I. Kotch, H. Lehrer, H. Levine, N. Levy, A. Cardenas Mansur, S. Perlow, N. Proano-Wise, T. Quintana-White, R. Rohan, M. Scharmett, I. Vasquez, G. Wallach**

### **CDM 1010—Cariology**

This course is designed to introduce the student to the medical model of caries diagnosis and disease prevention. Course content includes the etiology of the caries process and the various modalities of the disease management. The roles of saliva, bacteria, and plaque in relationship to tooth demineralization will be emphasized. Lectures include utilization of state-of-the-art diagnostic tools, including Diagnodent™, transilluminators, magnification, and ozone applicators. Caries management by risk assessment (CaMBRA) and the formulation of preventive treatment plans, including chemotherapeutic agents, will be highlighted. The content in this course will be integrated with the content in the following courses: Dental Anatomy, Operative Dentistry, and Dental Biomaterials.

### **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 1080 and CDM 1092—Dental Anatomy Laboratory I and II**

In this course, characteristics differentiating each tooth will be taught through the use of wax carving and add-on techniques. Application of anatomic and internal root anatomy drawings and the sorting and identification of teeth will also be useful tools in mastering tooth morphology. Emphasis will be placed on teaching students how to develop their visual and psychomotor skills. The content in this course will be integrated with the content in the following courses: Cariology, Operative Dentistry, and Dental Biomaterials.

### **CDM 1090 and CDM 1091—Dental Anatomy Lecture I and II**

This course will provide the student with the understanding of basic dental terminology and tooth morphology. External and internal root anatomy, the anatomical and functional differences of teeth, and the application of this knowledge to various phases of dentistry will also be covered. In addition, the students will have an introduction to eruption sequences of teeth, comparative anatomy of permanent and primary dentitions, and dental anomalies. The content in this course will be integrated with the content in the following courses: Cariology, Operative Dentistry, and Dental Biomaterials.

### **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 1198/1200/1201 and CDM 1199/1210/1211—Operative Dentistry Lecture/Laboratory I, II, and III**

These courses introduce the student to the management of dental caries based on a medical model and coordinate these teachings with CDM 1010—Cariology, which runs simultaneously. The lecture course presents the topic of diagnosis and treatment of various lesions and other hard tissue defects, principles of direct restorative dentistry, and fundamental concepts in the practice of restorative dentistry. This course, in conjunction with the laboratory

course, provides the foundation for the student to utilize the same knowledge and techniques that will be used in clinical application. The content in this course will be integrated with the content in the following courses: Cariology, Dental Anatomy, and Dental Biomaterials.

#### **CDM 2025—IDG Operative 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—Axiom 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 2999—Clinical Prerequisite Review**

This course is designed to provide a review and a sequential, clinically applicable approach to comprehensive patient care, clinic management, and operations information/policies/protocols. The course will include an introduction of students to practice team leaders and patient care coordinators, recertification of BLS, and a review of discipline-based clinic competencies and experiences. Students will practice and review material learned in the D1 and D2 years with an emphasis on integration. The structure of the course includes multiple components, which, together, comprise CDM 2999.

#### **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**

The student will incorporate the knowledge gained from prior studies while treating patients in the dental clinics. The student will develop the essential skills necessary for comprehensive patient care including diagnosis and oral medicine, periodontology, endodontics, orthodontics, restorative dentistry, oral surgery, pediatric dentistry, radiology, and emergency dental care all under the direct supervision of faculty members.

#### **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**

#### **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.

**Diagnostic Sciences**—Chair and Professor: **M. A. Siegel** | Section Vice Chair and Professor: **P. Bradley** | Professors: **G. Conover, H. Remnick, I. Velez** | Assistant Professors: **M. Hogge, P. Levine, L. Mejia, T. Ward** | Adjunct Professors: **J. Arenas, J. Bloch, E. Choi, A. Duque, M. Gilbert, M. Lieberman, H. Lumerman, S. Puerto, D. Stern, M. Todd**

#### **CDM 1160—Oral Histology**

Oral histology is the basis of clinical dentistry. Students will be able to understand the logic and underlying basis for the restorative and surgical procedures they are about to be taught. After graduation they will be able to evaluate new clinical procedures by seeing if they, too, have a sound

histologic base. The student will know the microanatomy of the structures that make up the oral cavity as well as the clinical procedures that depend on them for their success. Uses blackboard, Kodachrome slides, and many models. Frequent reviews that require student participation will reinforce the didactic material. The Kodachrome slides that have been presented in the lectures have been duplicated and are held in the school library.

#### **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 2505—Radiology Preclinical Laboratory**

Preclinical laboratory course to prepare the student in intraoral and extraoral radiographic techniques. The student will demonstrate basic clinical skills in the fundamentals of dental radiography while producing an acceptable radiographic examination on a manikin. The importance of operator and patient protection standards when using ionizing radiation is emphasized.

### **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 that will be presented at the Broward County Medical Examiners Office. 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.

**Prosthodontics**—Section Chair and Professor: **S. C. Siegel** | Professors: **J. Antonelli, J. Thompson** | Associate Professors: **A. Gotlieb, L. Krasne** | Assistant Professors: **S. Balshi, R. Castellon, A. Despaigne, A. Godoy, M. Golberg, J.M. Hervas, C.J. Hsu, F. Jimenez, E. Lara, G. Leal, H. Lippman, M. Nahon, M. Pasciuta, T. Rangarajan, S. Rauschwerger, M. Romer, D. Skopp, R. Stanton** | Adjunct Faculty: **R. Acosta-Ortiz, T. Balshi, S. Berger, G. Bozzuti, W. Donaldson, C. Drago, A. Duque, J. Gartner, D. Godoy, S. Goldenberg, M. Greenberg, N. Guzman, K. Iglesias, D. Jackson, G. Kolos, R. Lichtman, M. Malo, D. Matthews, M. Mendelson, E. Neuwirth, M. Patten, M. Platt, M. Pomerantz, M. Radu, M.V. Rampertaap, S. Resnick, M. Richards, D. Rolfe, D. Roy, R. Sanchez, R. Selz, B. Sharpe, B. Shipman, Z. Staller, A. Warren, D. Wessel, G. Wolfinger** | Assistant Professor and Director of Postgraduate Prosthodontics: **M. Nahon** | Assistant Director: **M. Pasciuta**

#### **CDM 1100—Dental Biomaterials Lecture I**

At the end of this course, students will be able to understand the optimum performance requirements, properties, and handling characteristics for specific dental materials. They will understand the selection criteria based on clinical significance of the mechanical and physical properties of dental materials. The content in this course will be integrated with the content in the following courses: Cariology, Dental Anatomy, and Operative Dentistry.

#### **CDM 1220—Occlusion Lecture**

Occlusion is the branch of dentistry that relates to the form and function of the masticatory system. Dental students must have a broad understanding of embryology, histology, growth and development, head and neck anatomy, dental anatomy, and physiology. They will be responsible for incorporating the knowledge from current and previous courses to aid in their understanding of occlusion. This course will provide the dental student with basic information and knowledge in dental occlusion and its related topics. Through lectures, the dental student will attain a comprehensive understanding of the related areas of dental anatomy and occlusion. This course will introduce the concepts of anatomy and normal function of the stomatognathic system.

#### **CDM 1221—Occlusion Laboratory**

This course will provide the dental student with information and knowledge in dental occlusion and its related topics. Through preclinical procedures, the dental student will attain a comprehensive understanding of related areas of dental anatomy and occlusion. The beginning of the course will be dedicated to practical application of the basic concepts of occlusion in the laboratory. Toward the end, the course will be dedicated to the practical application (laboratory) of more advanced concepts of occlusion. This course will be held in the CDM Sim-lab.

#### **CDM 1229 and CDM 1230—Dental Biomaterials Laboratory I and II**

At the end of these courses, students will be able to understand the optimum performance requirements, properties, and handling characteristics of specific dental materials as well as understanding the selection criteria based on clinical significance of the mechanical and physical properties of dental medicine. The content in these courses will be integrated with the content in the following courses: Cariology, Dental Anatomy, and Operative Dentistry.

#### **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 cast fixed prosthodontic restorations.

#### **CDM 2090/CDM 2100—Removable Partial Prosthodontics Lecture/Laboratory**

These courses provide fundamental technical knowledge, concepts, and skills to appropriately diagnose, treatment plan, and restore oral conditions that require replacement of lost teeth and their associated structures using removable partial dentures.

#### **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 2102—Dental Biomaterials Laboratory II**

At the end of this course, the students will be able to understand the optimum performance requirements, properties and handling characteristics of several dental materials, as well as understand the clinical significance of the mechanical and physical properties of dental materials.

#### **CDM 2220/CDM 2230—Complete Denture Prosthodontics Lecture/Laboratory**

These courses prepare students to appropriately use the terminology and gain the fundamental technical knowledge, principles, and skills to replace lost teeth and their associated structures with complete dentures.

#### **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/Laboratory**

This course provides formal lecture presentations and practical laboratory projects to help prepare and familiarize students with esthetic dental procedures commonly performed by general dentists.

### **CDM 3200—Laboratory and Clinical Applications of Occlusion**

After completion of this clinic-laboratory course, the dental student should be able to perform impressions, obtain face bow record, 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, complete porcelain, or a combination of the two. Restorations on implants are an integral part of the 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 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 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, complete porcelain, or a combination of the two. 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 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.

### **CDM 427E—CAD/CAM Elective**

This lecture course in CAD/CAM restorative dentistry presents the theory of high-tech dentistry. Students will learn about the various systems for digital impression making and manufacture of restorations in the computer-assisted practice of the 21st century, including the Sirona (Cerec), E 4D (Lava), 3I Biomet, Cadent (Itero), Procera Forte (NobelBioCare), and Etkon Scanner (Straumann) Systems.

## **Division of Developmental Sciences**

Division Chief: **J. Kronmiller**

**Community Dentistry and AEGD**—Section Chair: **D. Ede-Nichols** | Assistant Professors: **S. Ellen, C. Pick, J. Rodriguez, E. Shehadeh, F. Slavichak, B. Waterman** | Clinical Instructor: **A. Bezerra** | Adjunct Faculty: **A. Burch, R. Cantor, R. Jabbar**

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 as they relate to their dental education and future practices. 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 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.

**Orthodontics**—Section Chair and Professor: **J. Kronmiller** | Interim Director of Predoctoral Orthodontics and Assistant Professor: **S. Real** | Professors: **A. Lifshitz, J. Burch, M. Meister** | Assistant Professors: **S. Kessel, S. Khatami, R. Singer** | Adjunct Faculty: **M. Cardenas, J. Coro, A. Kapit, N. Le, B. Matza, J. Morrish, D. Naffah, R. Shults, J. Singer, D. Tartakow** | Visiting Professors: **Z. Davidovich, S. Rosenstein** | Director for Postgraduate Program and Associate Professor: **P. Brown**

#### **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, Professor, and Director of Predoctoral Pediatric Dentistry: **R. Ocanto** | Director for Postgraduate Pediatric Dentistry: **W. Trevarthen** | Associate Professor: **W. Pena** | Assistant Professors: **H. Beaver, J. Larumbe, A. Noguera** | Adjunct Professors: **D. Arnold, S. Brener, Y. Gomez-Ruane, H. Hill, H. Schneider, D. Schnitt, R. Sherman, E. Stelnicki**

#### **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**

Behavioral and interpersonal components of working with children, basic information related to pediatric dentistry, concepts of facial and dental growth and development, and primary and permanent teeth.

#### **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) common oral lesions and recommended treatments, 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. 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) common oral lesions and recommended treatments, 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 Pediatric Dentistry**

### **Division of Surgical Sciences**

Division Chief: : **K. Namerow**

**Endodontics**—Section Chair and Professor: **K. Namerow** | Postgraduate Program Director: **O. Bolanos** | Professors: **S. Kuttler, P. Murray, S. Oliet, R. Uchin** | Predoctoral

Director and Associate Professor: **R. Seltzer** | Assistant Professors: **R. Gelman, M. Marchesan, T. Sayin** | Adjunct Faculty: **S. Berman, I. Epelman, M. Flax, S. Goldstein, A. Helfer, R. Herman, A. Lane, G. Mitchell, L. Mitchell, I. Moldauer, P. Ossa-Gomez, B. Porras, R. Powell, T. Roud, J. Sainsbury, J. Satovsky, J. Silberman, A. Skidmore, J. Slingbaum**

#### **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: **E. Lopez** | Predoctoral Director and Assistant Professor: **A. Ospina** | Postgraduate Research Director and Associate Professor: **S. McClure** | Adjunct Professors: **E. Blanck, L. Garvar, M. Harris, K. Kaner, R. Katz, K. Kim, M. Krohn, T. Koyama, J. McCain, P. Richman, A. Sclar, D. Smith, T. Splaver, S. Stewart** | 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 orthognathic 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.

**Periodontology**—Section Chair and Associate Professor: **W. Parker** | Assistant Professors: **D. Bronstein, T. Kang, S. Kukunooru, M. Roth** | Postgraduate Director and Assistant Professor: **M. Hernandez** | Instructors: **S. Sanders, E. Schwartz** | Adjunct Associate Professors: **M. Forrest, J. Ganeles, L. Garfinkel** | Adjunct Assistant Professors: **N. Dalal, N. DeTure, R. Eisenberg, I. Freedman, I. Garazi, B. Garcia, I. Ginsberg, D. Glassman, A. Horowitz, M. Liebman, F. Norkin, L. Ostroff, M. Rosenbluth, S. Ross, L. Shapiro** | Adjunct Instructors: **R. Charin, M. Cohen, J. Hernandez, L. Hochman, J. Kagan, L. Kiracofe, E. Mellman, J. Miller, N. Powell, S. Salzman, M. Sepe, R. Shamet, K. Wang, S. Weinstein** | Visiting Professor: **S. Stahl**

### **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**

Histopathology of periodontal lesions, root planing, early periodontitis, and moderate and advanced periodontitis. Histopathology of tooth mobility, injury and repair. Treatment of the early gingival/periodontal lesion. The rationale and implementation of maintenance procedures for establishing prolonged gingival health.

### **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 402H—Periodontal Honors**

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.

### **CDM 2501—Periodontology Clinic**

The purpose of this year in periodontology is to provide students with clinical experience to recognize periodontal disease of the hard and soft tissues and develop a process for formulating a properly sequenced and effective periodontal treatment plan, focusing on early to moderate periodontitis. In addition, students will be exposed to protocols relative to implant maintenance.

### **CDM 3030—Periodontology IV**

Treatment planning and options available for the treatment of early to moderate periodontitis. Etiology, histopathology, and treatment of refractory periodontitis, early periodontitis, and localized juvenile periodontitis.

### **CDM 3501—Clinical Periodontology I**

The purpose of this year in periodontology is to provide students clinical experience to recognize periodontal disease of the hard and soft tissues and develop a process for formulating a properly sequenced and effective periodontal treatment plan, focusing on early to moderate periodontitis. In addition, students will be exposed to protocols relative to implant maintenance.

### **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 periodontology is to provide students with clinical experience to recognize periodontal disease of the hard and soft tissues and develop a process for formulating a proper sequences and effective periodontal treatment plan, focusing on early to moderate periodontitis. Students will be exposed to protocols relative to implant maintenance. In addition, students will correlate interrelationships of periodontal medicine relative to low birth weight babies, cardiovascular disease, osteoporosis, and diabetes.

## Related Educational Programs

The College of Dental Medicine also offers the following programs:

### D.O./D.M.D. Collaborative Degree Program

In order to address the access to care issues and meet the needs of underserved populations, Nova Southeastern University's College of Dental Medicine and College of Osteopathic Medicine have structured a curriculum that provides students with an opportunity to receive a D.M.D. (Doctor of Dental Medicine) and D.O. (Doctor of Osteopathic Medicine) degree. This D.O./D.M.D. Collaborative Degree Program is symbiotic with the missions of both schools. Graduates of the dual program will provide health care that will address preventive medicine and general dentistry, as well as access to care issues, and meet the needs of rural and underserved populations.

### 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, with the doctor of dental medicine curriculum will enhance career prospects in government and private health care enterprises. This program will require 6–12 months of additional study beyond the four years needed for the D.M.D. 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.

### Predoctoral Honors Research Program

Students showing exceptional performance in basic sciences, laboratory, and clinical dentistry will be eligible for selection to the Predoctoral Honors Research Program. Under the supervision of faculty members, these students will gain familiarity with the scientific method and engage in laboratory and clinical research leading to preparation

and presentation of a scientific article. One credit per semester may be earned through this program.

### Predoctoral Honors Peer Tutoring

Students with exceptional academic records will be eligible to offer peer tutoring classes to predoctoral students in need of academic assistance. Peer tutors will receive transcript credit and an hourly wage for their time.

### Predoctoral Honors Clinical Participation Program

Students with exceptional academic records will be eligible for special clinical experiences in the third and fourth years of predoctoral study in endodontics, oral surgery, orthodontics, pediatric dentistry, and restorative dentistry. Selection of such participants will be at the discretion of the department chairperson.

## Research

The College of Dental Medicine in the Health Professions Division of Nova Southeastern University provides an active and collaborative research environment that is growing rapidly. The NSU College of Dental Medicine has full-time research faculty members that include D.D.S./D.M.D./Ph.D.s and basic science Ph.D.s. Additionally, there are other full-time clinical faculty members with advanced degrees that mentor our health professional postdoctoral students on research activities.

The NSU College of Dental Medicine is currently engaged in research areas that meet the national agenda such as diseases of the head and neck, craniofacial anomalies and healing, biomaterials, biomimetics and tissue engineering, clinical product testing, public health, and health services research, and diabetes. Our research program is also expected to attract, develop, and train scientists with an appreciation for research directed toward the needs of underserved and special care populations, including geriatrics, and to meeting health disparities in health care and health care delivery.

The continuous development of research infrastructure and research training programs within the College of Dental Medicine and the Health Professions Division significantly strengthens the research program at the dental college. The international experience of the faculty members and the opportunities for research exchange also add strength and diversity to the 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 predoctoral laboratory and clinic. An original research project must be completed by each student. Upon successful completion of the program requirements, trainees receive certificates in their respective specialties.

### **Postdoctoral Core Courses**

All postdoctoral students are required to take the following courses during their first year:

#### **CDM 5000—Advanced Dental Radiology**

Consideration of hard and soft tissue craniofacial imaging modalities, including MRI, tomography, and digital imaging.

#### **CDM 5004—Advanced Oral Histology and Embryology**

Cytological and developmental considerations in embryological, fetal, and neonatal human craniofacial growth and development.

#### **CDM 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 5010—Advanced Clinical Endodontics I**

This course offers clinical instruction and demonstration in the art of diagnosis and treatment planning. Collection and careful analysis of advanced diagnostic test results in consultation with other disciplines is emphasized.

**CDM 5118—Advanced Immunology Course**

This course will provide an advanced understanding of the human innate and adaptive immune systems that are relevant to dentistry and craniofacial research.

**CDM 5020—Advanced Didactic Endodontics I**

The biological and technical principles of isolation, access cavity preparations, irrigation, cleaning and shaping procedures, root canal obturation, and restoration of the endodontically treated tooth, as well as nonsurgical root canal retreatment, will be reviewed using a lecture and clinical demonstration format.

**CDM 5110—Advanced Clinical Endodontics II**

This course offers clinical instruction and demonstration of different treatment modalities for nonsurgical endodontics. It includes the use of sonic and ultrasonic devices, the dental operating microscope, digital radiography, and documentation.

**CDM 5115—Current Literature Review Seminar**

Monthly seminar 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 so that the residents can bring forward their classic literature knowledge.

**CDM 5120—Advanced Didactic Endodontics II**

This course reviews management of anxiety and pain control as well as the proper management of endodontic emergencies, including supplemental methods of anesthesia, management of related complications, recognition and management of emergency vs. urgency, and detailed pharmacologic supportive therapy.

**CDM 5125, CDM 5126—Classic Literature Review Seminar I and II**

These continual weekly seminars are devoted to review of endodontic 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 endodontic principles and practice.

**CDM 5030—Advanced Pulp Biology**

This course will provide an advanced education of the physiology and reactions of pulp biology.

**CDM 5031—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 5040—Advanced Didactic Endodontics III**

This course gives a detailed description of the effects of pulpal disease and endodontic procedures on the periodontium. Students will learn the different treatment

approaches for the different endodontic-periodontal lesions in conjunction with multidisciplinary consultations.

**CDM 5135, CDM 5145—Classic Literature Review Seminar III and IV**

These weekly seminars are designed to expand the student's knowledge in endodontics and other related specialties by critically analyzing the classic literature. Each student prepares a critical analysis of a paper identifying the strengths and weaknesses of the research methodology, analysis of results, author's agenda, and clinical significance. Students are exposed to a variety of advanced subjects, building on their Classic Literature I and II course, including microbiology, periradicular pathology, non-odontogenic pain management, practice management, ancillary procedures, and management of the medically compromised patient.

**CDM 5210—Advanced Clinical Endodontics III**

This course offers clinical instruction and demonstration for the proper management of traumatized teeth, including diagnosis, classification, treatment strategies, protocols, and prognosis. Careful consideration is given for the recognition and treatment of short- and long-term complications, i.e., pulp canal obliteration, surface, inflammatory, and replacement resorption.

**CDM 5140—Advanced Didactic Endodontics IV**

This course offers a detailed program in endodontic microsurgery including indications and contraindications of apical surgery, use of magnification and illumination, proper flap design, root-end resection, root-end management with ultrasonics, new root-end filling materials, hemisection, replantation, transplantation, and guided tissue regeneration.

**CDM 5030—Advanced Clinical Endodontics IV**

This course offers clinical instruction and demonstration in the use of various techniques for the management of the open apex, including long-term vs. short-term treatment approaches. Students will also be exposed to new regenerative pulp therapies.

**Postdoctoral Oral and Maxillofacial Surgery**

Nova Southeastern University offers a four-year accredited program in oral and maxillofacial surgery sponsored by the College of Dental Medicine. This clinical and didactic program is designed to meet the accreditation standards set forth by the Commission on Dental Accreditation of the American Dental Association and certification requirements of the American Board of Oral and Maxillofacial Surgery.

The program has been designed to give residents a broad academic and didactic experience in the complete spectrum of oral and maxillofacial surgery. To increase the scope of the residents' training and to maximize available clinic exposure, rotations through a multihospital network—

including two level 1 trauma centers and two outpatient clinics—will provide the core teaching sites of the program. Residents will gain experience in the full scope of oral and maxillofacial surgery with particular strengths in the areas of maxillofacial trauma, reconstruction, cleft and craniofacial surgery, cosmetic maxillofacial surgery, temporomandibular joint procedures, and implant surgery. Residents are assigned to formal rotations in anesthesia, medicine, general surgery, trauma surgery, plastics, and head and neck surgery.

The curriculum is designed to develop the clinical, academic, and communicative skills that will provide for diversified career options. 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 special board examination.

### **Postdoctoral Orthodontics**

The Department 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 in Dentistry (M.Sc.D.) program. Upon completion of all requirements, they will be awarded both an M.Sc.D. 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.

### **Postdoctoral Pediatric Dentistry**

The Department of Pediatric Dentistry offers a 24-month, postdoctoral training program in pediatric dentistry. The program is designed to prepare residents for specialty certification by the American Board of Pediatric Dentistry. 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. Unique and extensive experience in Naso-Alveolar Molding techniques is gained while preparing cleft lip and palate infants for their initial surgery.

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, 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.

### **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, and periodontal prosthetics. 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.

### Postdoctoral Prosthodontics

The 36-month postdoctoral program in prosthodontics is open to all dental school graduates. Internship or residency experience is preferred, but not required.

The program consists of a didactic core curriculum in basic sciences and behavioral sciences; a series of seminar presentations in prosthodontics, periodontology, and implant dentistry; and literature review seminars. Students will be prepared and encouraged to pursue the specialty certification of the American Board of Prosthodontics.

### Advanced Education in General Dentistry

The Department 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.

### 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, National Board Dental Examination scores (if taken), 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 materials listed following, by March 15, 2012, to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
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 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 foreign institutions must be evaluated for U.S. institution equivalence. This coursework must be evaluated by one of the services listed below.

Students should contact one of the following:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
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, and an official evaluation must be provided.

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 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 (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 2011–2012 (subject to change by the board of trustees without notice) is \$40,140. A Health Professions Division general access fee of \$145 is required each year. An NSU student services fee of \$750 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. Those master's degree candidates who are not currently students enrolled in one of the college's postdoctoral programs will be required to meet the College of Dental Medicine's Office of Admissions criteria. 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.

OR

Under special circumstances, college graduates showing unusual aptitude for oral biology may be admitted to that program. Such aptitudes shall include interest, previous science training beyond that required for admission to dental school, and outstanding grades. Such students must demonstrate

- previous academic performance consistent with the ability to perform at the graduate level (as measured by criteria such as a grade point average of 3.0 or higher in the last 60 semester hours of undergraduate or other graduate work

AND

- prerequisite coursework that includes college mathematics, biology, physiology, biochemistry, microbiology, chemistry, and physics

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. Applicants may also come from many other local or national universities, as our reputation grows.

3. Applicants must complete (as either dual-enrollment or master's degree-only candidates) and submit the application for admission to the program and submit a description of their proposed research projects.

### Application Procedures

Applicants must send all materials listed following, by March 15, 2012, to

Nova Southeastern University  
Enrollment Processing Services (EPS)  
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 foreign institutions must be evaluated for U.S. institution equivalence. This coursework must be evaluated by one of the services listed below.

Students should contact one of the following:

- World Education Services  
P.O. Box 745  
Old Chelsea Station  
New York, New York 10113-0745  
(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)  
[info@jsilny.com](mailto:info@jsilny.com)
- Educational Credential Evaluators  
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, and an official evaluation must be provided.

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 2011–2012 is \$450 per credit hour. Tuition for 2012–2013 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 \$750 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.



# 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  
Fellow, American Occupational Therapy Association

### Clarence L. Brumback

*Emeritus Professor, Community Medicine*  
A.B., University of Kansas, 1936  
M.D., University of Kansas, 1943  
M.P.H., University of Michigan, 1948  
Fellow, American College of Preventive Medicine

### Raúl R. Cuadrado

*Dean Emeritus, College of Allied Health and Nursing  
Professor, Public Health*  
S.B., Yale University, 1961  
B.S., Yale University, 1961  
M.P.H., Yale University, 1963  
Dr.P.H., University of Michigan, 1968  
Ph.D., *Honoris Causa* in Health,  
Universidad Central del Este, 2000

### William D. Hardigan

*Emeritus Dean, Pharmacy  
Professor, Pharmaceutical Sciences*  
B.S. (Pharm.), University of Wyoming, 1954  
M.S., University of Wyoming, 1959  
Ph.D., University of Arizona, 1973

### Stanley B. Kaye

*Emeritus Professor, Surgery*  
B.A., University of Arizona, 1949  
D.O., University of Health Sciences College of  
Osteopathic Medicine, 1954  
Fellow, American College of Osteopathic Surgeons

### Harold Kirsh

*Emeritus Professor, Surgery*  
D.O., Philadelphia College of Osteopathic Medicine, 1946  
Fellow, American Osteopathic College of Proctology

### Michael A. Longo

*Emeritus Professor, Surgery*  
B.S., St. John's University, 1942  
D.O., University of Health Sciences College of  
Osteopathic Medicine, 1946  
Fellow, American College of Osteopathic Surgeons

### Ferol Menks Ludwig

*Emeritus Professor, Occupational Therapy*  
B.S., Ohio State University, 1966  
M.S., Ohio State University, 1971  
Ph.D., University of Southern California, 1995  
Fellow, American Occupational Therapy Association

### Nancy Nashiro

*Emeritus Professor, Occupational Therapy*  
B.A., University of Hawaii, 1961  
B.S., University of Puget Sound, 1963  
M.Ed., University of Florida, 1968  
M.A., Southern Methodist University, 1982  
Ph.D., Southern Methodist University, 1986  
Fellow, American Occupational Therapy Association

### Seymour Oliet

*Emeritus Dean and Professor, Endodontics*  
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

### Robert L. Perraud

*Emeritus Professor, Family Medicine*  
B.S., Kent State University, 1950  
D.O., Kirksville College of Osteopathic Medicine, 1954

### Charles B. Radlauer

*Emeritus Professor, Surgery  
Adjunct Professor, Biomedical Informatics*  
M.D., George Washington University College of Medicine, 1961  
Fellow, American College of Surgeons

### Carol Niman Reed

*Emeritus Professor, Occupational Therapy*  
B.S., University of Iowa, 1968  
M.S., University of Texas, 1977  
Ed.D., Nova Southeastern University, 1998  
Fellow, American Occupational Therapy Association

### Arthur Snyder

*Emeritus Professor, Osteopathic Principles and Practice*  
D.O., Philadelphia College of Osteopathic Medicine, 1944

### Sigmund Stahl

*Emeritus Associate Dean and Professor, Dental Medicine*  
D.D.S., University of Minnesota School of Dentistry, 1947  
M.S., University of Illinois, 1949  
Fellow, American Association for the Advancement of Science  
Fellow, American College of Dentists  
Fellow, American Academy of Periodontology

## Full-time Faculty

### Stephen Abel

*Associate Dean, Extramural Affairs*  
*Assistant Professor, Diagnostic Sciences*  
B.A., Harvard University, 1974  
D.D.S., New York University, 1978  
Certificate—Periodontology, M.S., University of Minnesota, 1982

### Renee B. Alexis

*Associate Professor, Obstetrics and Gynecology*  
B.S., Jacksonville University, 1989  
M.D., University of Maryland School of Medicine, 1996

### Winston L. Alexis

*Assistant Professor, Obstetrics and Gynecology*  
B.S., Howard University, 1965  
M.D., Howard University College of Medicine, 1969

### Khadine Alston

*Assistant Professor, Cariology and Restorative Dentistry,*  
*Division of Primary Care*  
M.P.H., Florida International University, 2002  
D.D.S., New York University, 2006

### Jamie Althoff

*Assistant Professor, Optometry*  
B.S., Ferris State University, 2007  
O.D., Michigan College of Optometry, 2007

### Goar Alvarez

*Director of Pharmacy Services, Assistant Professor,*  
*Sociobehavioral and Administrative Pharmacy*  
B.S., Florida A&M University, 1975  
Pharm.D., Nova Southeastern University, 1994

### Deborah Amster

*Assistant Professor, Optometry*  
B.S., State University of New York, 1997  
O.D., New England College of Optometry, 2001  
Fellow, American Academy of Optometry  
Fellow, College of Optometrists in Vision Development

### Holly Anderson

*Assistant Professor, Pharmacy Practice*  
A.A., University of South Florida, 1978  
B.S., University of Georgia, 1981  
Pharm.D., Nova Southeastern University, 1999

### Stephanie Anderson

*Assistant Professor, Physician Assistant Studies*  
B.S., The Ohio State University, 1979  
M.D., Case Western Reserve University School of Medicine, 1983  
J.D., University of Miami School of Law, 1999

### Paula L. Anderson-Worts

*Associate Professor, Family Medicine*  
*Assistant Professor, Public Health*  
B.S., University of Miami, 1988  
D.O., Nova Southeastern University, 1994  
M.P.H., Nova Southeastern University, 2001

### Phyllis Anderson-Wright

*Instructor, Family Medicine*  
B.A., Rutgers College, 1976  
D.O., University of Medicine and Dentistry of New York, 1993

### Rais A. Ansari

*Assistant Professor, Pharmaceutical Sciences*  
B.S., Lucknow University—India, 1976  
M.S., Lucknow University—India, 1978  
Ph.D., Kanpur University—India, 1985

### John Antonelli

*Professor, Prosthodontics*  
D.D.S., New York University College of Dentistry, 1976  
Diplomate, American Board of Special Care Dentistry, 2004  
M.S., Nova Southeastern University, 2005  
Fellow, American Association of Hospital Dentistry

### Marlene Aramburu

*Instructor, Geriatrics*  
B.S., Nova Southeastern University, 2001  
D.O., Nova Southeastern University, 2007

### Barbara Arcos

*Assistant Professor, Family Medicine*  
B.S., University of Florida, 1980  
D.O., Nova Southeastern University, 1994

### Graciela Armayor

*Assistant Professor, Sociobehavioral and*  
*Administrative Pharmacy*  
Pharm.D., University of Florida, 1987  
M.S., Nova Southeastern University, 2006

### Cheryl G. Atherley-Todd

*Assistant Professor, Family Medicine*  
B.S., McGill University, 1971  
M.D., University of the West Indies School of Medicine, 1976

### Barbara Austen

*Assistant Professor, Physician Assistant Studies*  
B.S., University of Nebraska Medical Center, 1994  
M.S./M.P.A.S., University of Nebraska Medical Center, 1999

### Llalandó Austin

*Assistant Professor, Anesthesiologist Assistant*  
B.S., University of Central Florida, 2004  
M.H.Sc., Nova Southeastern University, 2008

### Kalumi Ayala

*Assistant Professor, Pharmacy Practice*  
Pharm.D., Nova Southeastern University, 2005

### Michael Bacigalupi

*Assistant Dean, Student Affairs*  
*Assistant Professor, Optometry*  
B.S., University of Houston, 1991  
O.D., University of Houston, 1993  
M.S., Nova Southeastern University, 2007  
Fellow, American Academy of Optometry

### Annette Bade

*Assistant Professor, Optometry*  
B.A., Emory University, 1987  
O.D., Southeastern University of the Health Sciences, 1993  
Fellow, American Academy of Optometry

### Camille Baldwin

*Assistant Professor, Nursing*  
B.S., West Texas A&M University, 1996  
M.S., Florida Atlantic University, 2006



**Stephanie L. Ballard**

*Assistant Professor, Pharmacy Practice*  
Pharm.D., University of Florida, 2008

**Tye Ed Barber**

*Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1987  
Ph.D., University of Florida, 1992  
D.O., Nova Southeastern University, 2006

**Curtis Barnes**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.M.D., University of Florida, 1994

**Barbara Barrett**

*Assistant Professor, Nursing*  
B.B.A., City University of New York, 1981  
B.S.N., Barry University, 1992  
M.S.N., A.R.N.P., Florida International University, 2001

**Mary Bartuccio**

*Assistant Professor, Optometry*  
B.S., Nova Southeastern University, 1995  
O.D., Nova Southeastern University, 1997  
Fellow, American Academy of Optometry  
Fellow, College of Optometrists in Vision Development

**Harvey Beaver**

*Assistant Professor, Pediatric Dentistry*  
D.D.S., New York University, 1961  
Fellow, American Academy of Pediatric Dentistry

**Erika Bell**

*Assistant Professor, Physician Assistant Studies*  
B.S., St. Leo's College, 1982  
M.S., University of Southern California, 1994  
M.P.A.S., University of Florida, 2000

**Sandra Benavides**

*Assistant Professor, Pharmacy Practice*  
Pharm.D., University of California, 2000

**Randall C. Bennett**

*Clinical Director and Assistant Professor  
Physician Assistant Program—Jacksonville*  
B.A., University of South Alabama, 1972  
A.S. and P.A., Hinds Community College, University of  
Mississippi Medical Center, 1974  
M.P.A.S., University of Nebraska, 2010

**Eulogio Besada**

*Associate Professor, Optometry*  
B.S., University of Puerto Rico, 1979  
M.S., University of Houston, 1982  
O.D., University of Houston, 1989  
Fellow, American Academy of Optometry

**Anjali Bhasin**

*Assistant Professor, Internal Medicine*  
M.D., Baroda Medical College, 1995

**Vinodh Bhoopathi**

*Assistant Professor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
B.D.S., MGR Medical University, India, 2000  
M.P.H., East Tennessee State University, 2005  
D.S., Boston University, 2011

**Hua Bi**

*Assistant Professor, Optometry*  
M.S., Peking University, 1998  
Ph.D., University of Houston, 2006  
O.D., University of Houston, 2006

**Glenn E. Bigsby III**

*Department Chair and Associate Professor,  
Physician Assistant Studies*  
B.S., Iowa State University, 1963  
D.O., Des Moines University's College of Osteopathic Medicine  
and Surgery, 1967  
Board Certified by American Osteopathic Board of  
Family Practice  
Qualifications in Geriatrics, American Osteopathic Board of  
Family Practice  
Fellow, American College of Osteopathic Family Physicians

**Gregory Black**

*Assistant Professor, Optometry*  
B.S., University of Southern Indiana, 1989  
O.D., Indiana University School of Optometry, 1996

**Mary Tischio Blackinton**

*Associate Director, Hybrid Entry-Level D.P.T. Program  
and Associate Professor*  
B.S./P.T., University of Maryland, 1983  
M.S., Nova University, 1991  
Ed.D., Nova Southeastern University, 2001  
Geriatric Clinical Specialist, APTA, 2009

**Cyril Blavo**

*Director and Professor, Public Health  
Professor, Pediatrics*  
B.S., Abilene Christian University, 1979  
M.S., Abilene Christian University, 1980  
D.O., Texas College of Osteopathic Medicine, 1984  
M.P.H. and T.M., Tulane University School of Public Health  
and Tropical Medicine, 1988  
Fellow, American College of Osteopathic Pediatricians

**Charles Bleich**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., University of Pennsylvania, 1960

**Ronald E. Block**

*Professor and Chair, Biochemistry*  
B.S., College of Charleston, 1963  
M.S., Clemson University, 1966  
Ph.D., Clemson University, 1969

**David R. Boesler**

*Associate Professor, Osteopathic Principles and Practice*  
B.A., LaSalle University, 1981  
M.S., Villanova University, 1983  
D.O., Des Moines University College of Osteopathic Medicine  
and Surgery, 1988

**Oscar R. Bolanos**

*Professor, Endodontics*  
M.S., University of Minnesota, 1976  
D.D.S., Temple University, 1981  
Certified, American Board of Endodontics

**George S. Bowen**

*Professor, Preventive Medicine*  
*Professor, Public Health*  
B.A., University of California, 1964  
M.D., The Regents of the University of California, 1968  
M.P.H., University of California, 1971

**Paul Bradley**

*Professor, Diagnostic Sciences*  
B.D.S., University of Birmingham, 1959  
M.B., B.S., University of London, 1966  
M.D., University of London, 1989  
F.D.S.R.C.S. (Eng), Royal College of Surgeons of England, 1985  
F.D.S.R.C.S. (Edin), Royal College of Surgeons of Edinburgh, 1985  
F.D.S.R.C.S. (Edin), Royal College of Surgeons of Edinburgh, 1988

**Natasha Bray**

*Assistant Professor, Internal Medicine*  
B.S., University of Tulsa, 1999  
D.O., Oklahoma State University College of Osteopathic Medicine, 2003

**Sandra Brener**

*Assistant Professor, Pediatric Dentistry,*  
*Division of Developmental Sciences*  
D.D.S., University of Buenos Aires, 1994  
M.S., Pediatric Dentistry, University of Buenos Aires, 1997  
Certification, Pediatric Dentistry, Nova Southeastern University, 2008

**Abby Brodie**

*Associate Dean, Curriculum and Educational Affairs*  
*Associate Professor, Cariology and Restorative Dentistry*  
B.S., University of Massachusetts, 1979  
D.M.D., University of Pennsylvania, 1983  
Fellow, American College of Dentists, 2007  
Fellow, International College of Dentists, 2007

**Diana Bronstein**

*Assistant Professor, Periodontology,*  
*Division of Surgical Sciences*  
D.D.S., University of Saarland, 2000  
M.S., Temple University, 2007  
Certificate—Periodontology, Temple University, 2007

**Paul Brown**

*Associate Professor and Director of Postgraduate Program,*  
*Orthodontics, Division of Developmental Sciences*  
D.D.S., Medical College of Virginia, Virginia Commonwealth University, 1984  
M.S., University of Detroit, School of Dentistry, 1986  
Certificate—Orthodontics, University of Detroit, School of Dentistry, 1986  
Oral Epidemiology, University of Michigan, School of Public Health, 2003

**Dawn Brown-Cross**

*Associate Professor, Physical Therapy*  
*Director, Entry-Level D.P.T. Program*  
B.S., Kean College, 1983  
M.B.A., University of South Florida, 1996  
Ed.D., Nova Southeastern University, 2000

**Lynne E. Bryant**

*Assistant Professor, Nursing*  
M.S.N., University of Pennsylvania, 1979  
Ed.D., Florida International University, 1997

**Robert Buchsbaum**

*Instructor, Pathology*  
B.A., Ohio State University College of Arts and Sciences, 1977  
M.D., Ohio State University College of Medicine, 1980

**James Burch**

*Professor, Orthodontics*  
D.D.S., Ohio State University, 1962  
M.S., Ohio State University, 1966  
Certificate—Ohio State University, 1966  
Certificate—Ohio State University, 1979

**T. Keith Burnham**

*Assistant Professor, Physician Assistant*  
*Program—Jacksonville*  
B.S.(Health Science), George Washington University, 1992  
B.S.(Physician Assistant), George Washington University, 1994  
M.P.A.S., University of Nebraska, 2000

**Donald E. Burris**

*Professor, Microbiology*  
B.S., Ohio University, 1976  
M.S., University of Pittsburgh, 1979  
Ph.D., Washington State University, 1986

**Karen L. Butler**

*Instructor, Correctional Medicine*  
B.S., University of Michigan, 1978  
J.D., Thomas M. Cooley Law School, 1983  
M.D., Ross University School of Medicine, 2000  
M.B.A., Keller Graduate School of Business Administration, 2003  
Ph.D., Kennedy Western University, 2008

**Joshua Caballero**

*Assistant Professor, Pharmacy Practice*  
B.A., University of Florida, 1997  
Pharm.D., University of Tennessee—Memphis, 2001

**W. Grady Campbell**

*Assistant Professor, Biochemistry*  
B.S., Emory University, 1991  
M.S., University of Tennessee, 1995  
Ph.D., University of Florida Medical School, 1998

**Jennifer Canbek**

*Assistant Professor, Physical Therapy*  
B.S. PT, Maryville University—Saint Louis, 1998  
Ph.D., Nova Southeastern University, 2011

**Ricardo C. Carrasco**

*Chair, Occupational Therapy Department—Tampa*  
E.T.C., Pasig Catholic College, 1964  
B.S.C., San Beda College, 1968  
B.S.OT., University of the Philippines, 1978  
M.S.Ed., University of the Philippines, 1982  
Ph.D., Union Institute and University, 1990  
Fellow, American Occupational Therapy Association, 1993

**Manuel J. Carvajal**

*Chair and Professor, Sociobehavioral and Administrative Pharmacy*  
B.A., Florida Atlantic University, 1966  
M.S.A., University of Florida, 1969  
Ph.D., University of Florida, 1974

**Kay L. Case**

*Assistant Academic Director and Assistant Professor, Physician Assistant Studies*  
B.S., University of Wisconsin—River Falls, 1971  
B.S./P.A., University of Wisconsin—LaCrosse/Mayo School of Health-Related Science, 2000  
M.P.A.S., University of Nebraska Medical Center, 2010  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Ana Maria Castejon**

*Associate Professor, Pharmaceutical Sciences*  
B.S.(Pharm), Central University of Venezuela, 1990  
Ph.D., Central University of Venezuela, 1997

**Rafael Castellon**

*Assistant Professor, Prosthodontics*  
D.D.S., University of Guadalajara, 1997  
M.S., University of Minnesota, 2002

**Ming-Shun Samuel Cheng**

*Associate Professor, Physical Therapy*  
B.S., National Taiwan University, 1993  
M.S. Massachusetts General Hospital Institute of Health Professions, 1999  
Sc.D., Boston University, 2004

**Rebecca M. Cherner**

*Assistant Professor, Family Medicine*  
B.S., University of Alabama, 1993  
D.O., Nova Southeastern University, 1997

**Nadine B. Chipon-Schoepp**

*Assistant Professor, Family Medicine*  
B.S., Florida International University  
M.S., Nova Southeastern University  
D.O., Nova Southeastern University, 2007

**Jennifer Cittadino**

*Assistant Professor, Nursing*  
R.N., St. Peter's School of Nursing, 1980  
M.S.N., Monmouth University, 2002

**Jodi Clark**

*Assistant Professor, Health Science*  
B.S., University of Miami, 1992  
M.D., University of Miami, 1996  
M.P.H., Florida International University, 2003

**Michelle Clark**

*Chair and Associate Professor, Pharmaceutical Sciences*  
B.A., Florida Atlantic University, 1990  
M.S., University of South Florida, 1995  
Ph.D., University of South Florida, 1996

**Kevin Clauson**

*Associate Professor, Pharmacy Practice*  
*Adjunct Associate Professor, Biomedical Informatics*  
Pharm.D., University of Tennessee—Memphis, 2000

**Melissa J. Coffman**

*Chair and Assistant Professor, Physician Assistant Department*  
B.S., Long Island University, 1997  
M.P.A., New York University, 2002  
Fellow, American Academy of Physician Assistants

**Peter M. Cohen**

*Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1993

**Stanley Cohen**

*Professor, Humanities*  
B.S., Rutgers University, 1950  
M.Ed., Temple University, 1955  
Ed.D., Temple University, 1965

**Joan Coke**

*Assistant Professor, Nursing*  
R.N., University Hospital School of Nursing, 1975  
M.P.H., Florida International University, 2001  
M.S.N./A.R.N.P. Adult, Florida International University, 2005

**Stephanie M. Collins**

*Assistant Professor, Physician Assistant Program—Jacksonville*  
B.H.S., University of North Florida, 2002  
M.H.P.A.S., Philadelphia University, 2004

**Rose M. Colón**

*Assistant Professor, Health Science*  
B.S. Psychology, University of Houston, 1992  
M.A. Psychology, University of Houston, 1995  
Ph.D., University of Houston, 1997

**Frances M. Colón Pratts**

*Clinical Assistant Professor, Pharmacy Practice*  
Pharm.D., University of Puerto Rico, 2006

**Angela P. Combs**

*Instructor, Dermatology*  
B.S., Nova Southeastern University, 2000  
D.O., Nova Southeastern University, 2006

**Luvencia Connor**

*Assistant Professor, Nursing*  
B.S.N., University of the Virgin Islands, 1991  
M.S.N., University of Phoenix, 2001

**Gary Conover**

*Director, College of Dental Medicine, Radiology*  
*Professor, Diagnostic Sciences*  
D.D.S., Temple University, 1966  
Certificate—Oral and Maxillofacial Radiology, Medical University of South Carolina, 1972  
Diplomate, American Board of Oral and Maxillofacial Radiology, 1981

**Gerald Conover**

*Professor and Chair, Anatomy*  
B.S., University of Michigan, 1964  
M.S., University of Michigan, 1967  
Ph.D., University of Michigan, 1969

**Nicole J. Cook**

*Assistant Professor, Public Health*  
B.A., Brandeis University, 1990  
M.P.A., New York University, 1995  
Ph.D., University of Miami, Miller School of Medicine, 2008

**Albert E. M. Coombs**

*Clinical Director and Assistant Professor*  
B.S., George Washington University, 1981  
B.S./P.A., George Washington University, 1984  
M.A., Beaver College, 1992  
Fellow, American Academy of Physician Assistants  
Fellow, American Counseling Association

**Rachel Anastasia Coulter**

*Associate Professor, Optometry*  
B.A., Duke University, 1983  
O.D., Pennsylvania College of Optometry, 1991  
Fellow, American Academy of Optometry  
Fellow, College of Optometrists in Vision Development  
Diplomate—Binocular Vision, Perception, and Pediatric Optometry, American Academy of Optometry

**Melanie A. Crandall**

*Associate Professor, Optometry*  
B.S., Southern College of Optometry, 1977  
O.D., Southern College of Optometry, 1977  
M.B.A., Nova Southeastern University, 2000  
Fellow, American Academy of Optometry

**Luigi Cubeddu**

*Professor, Pharmaceutical Sciences*  
M.D., Central University of Venezuela, 1964  
Ph.D., University of Colorado, 1974

**Jolanta Czerwinska**

*Assistant Professor, Pharmaceutical Sciences*  
M.A., University of Gdansk, 1981  
M.A., Ball State University, 1984  
Ph.D., University of Gdansk, 1993

**Rick D. Davenport**

*Assistant Professor, Occupational Therapy Department—Tampa*  
B.S.N., University of Florida, 1995  
M.H.S., University of Florida, 2000  
Ph.D., University of Florida, 2007

**Jackie Davie**

*Associate Professor, Audiology*  
B.S., The Pennsylvania State University, 1994  
M.S., The Pennsylvania State University, 1996  
Ph.D., The Pennsylvania State University, 2005

**Kelley L. Davis**

*Associate Professor, Microbiology*  
*Associate Professor, Public Health*  
B.A., University of Kansas, 1997  
Ph.D., University of Missouri, 2003

**Margaret Davis**

*Assistant Director, Clinical Labs*  
*Assistant Professor, Nursing*  
B.S., Troy State University, 1982  
M.A., University of Phoenix, 1996  
M.S.N., University of Phoenix, 2002  
D.H.Sc., Nova Southeastern University, 2008

**Richard E. Davis**

*Dean, College of Allied Health and Nursing*  
*Professor, Physician Assistant Studies*  
B.S./P.A., University of Oklahoma, 1981  
M.S., Troy State University, 1984  
Ed.D., Nova Southeastern University, 2001  
Fellow, American Academy of Physician Assistants

**Hilda M. DeGaetano**

*Associate Professor, Pediatrics*  
B.S., New York Institute of Technology, 1988  
D.O., New York College of Osteopathic Medicine, 1992

**Joseph S. DeGaetano**

*Professor, Family Medicine*  
B.A., New York Institute of Technology, 1988  
D.O., New York College of Osteopathic Medicine, 1992  
M.S., Nova Southeastern University, 2006

**Shannon Dehesa**

*Instructor, Optometry*  
B.S., University of California—Los Angeles, 2005  
O.D., New England College of Optometry, 2009

**Dominick P. DePaola**

*Associate Dean for Academic Affairs and Professor, Dental Medicine*  
D.D.S., New York University, 1969  
Ph.D., Massachusetts Institute of Technology, 1974

**Marcia Derby**

*Assistant Professor, Nursing*  
B.S.N., Florida Atlantic University, 2000  
M.S.N., University of Phoenix, 2005

**Teryl Ann Dever**

*Assistant Professor, Audiology*  
B.A., Wichita State University, 1999  
M.S., Lamar University, 2002  
Au.D., Pennsylvania School of Audiology, 2006

**Linda DeZago**

*Assistant Professor, Nursing*  
B.S.N., Florida Atlantic University, 2001  
M.S., Florida Atlantic University, 2006

**Lisa M. Deziel-Evans**

*Executive Associate Dean, Professional Program*  
*Associate Professor, Pharmacy Practice*  
B.S. (Pharm.), Mercer University School of Pharmacy, 1983  
Pharm.D., Mercer University School of Pharmacy, 1984  
Ph.D., Nova Southeastern University, 2000  
Fellow, American Society of Health-System Pharmacists

**Morton A. Diamond**

*Medical Director and Professor, Physician Assistant Studies*  
A.B., Cornell University, 1959  
M.D., State University of New York, 1963  
Fellow, American College of Physicians  
Fellow, American College of Cardiology  
Fellow, American Heart Association

**Brenda Diaz**

*Assistant Professor, Physician Assistant Studies*  
B.S., City University of New York/Harlem Hospital PA Program, 1989  
M.S., A.T. Still University, 2009  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Patricia Dittman**

*Director and Assistant Professor, Nursing*  
B.S.N., Salve Regina University, 1981  
M.S.N., Florida Atlantic University, 1995  
Ph.D., Florida Atlantic University, 2007

**Jon H. Dodds**

*Associate Professor, Public Health*  
B.S., State University of New York, 1969  
M.Ed., Temple University, 1971  
Ph.D., Syracuse University, 1975  
M.P.H., University of Miami, 1991

**Rachelle Dorne**

*Director and Associate Professor,  
Master of Occupational Therapy Program*  
B.S., University of Wisconsin, 1975  
M.Ed., University of Washington, 1979  
Ed.D., Tennessee State University, 2004

**Lori B. Dribin**

*Assistant Dean for Student Affairs  
Professor, Anatomy*  
B.A., Northwestern University, 1972  
M.S., Northwestern University, 1973  
Ph.D., Northwestern University, 1975

**Eva Duchnowski**

*Instructor, Optometry*  
B.S., Fordham University, 2004  
O.D., Nova Southeastern University, 2008

**Michelle C. Duhaney**

*Instructor, Geriatrics*  
B.S., Florida Atlantic University, 2003  
D.O., University of Medicine and Dentistry of New Jersey, 2007

**Sandee Dunbar**

*Chair and Professor, Occupational Therapy Department*  
B.S., Loma Linda University, 1982  
M.S., New York University, 1983  
D.P.A., Nova Southeastern University, 2002  
Fellow, American Occupational Therapy Association

**Thomas Dwork**

*Assistant Professor, Prosthodontics, Division of Primary Care*  
D.M.D., Fairleigh Dickinson University, 1987  
Certificate—Prosthodontics, Fairleigh Dickinson University, 1990

**Anthony J. Dyda, Jr.**

*Associate Professor, Program Director, M.H.Sc. Program*  
B.A., Point Park College, 1979  
B.S./P.A., United States Air Force/Oklahoma University, 1981  
M.P.A.S., University of Nebraska Medical Center, 1997  
D.H.Sc., Nova Southeastern University, 2006  
Distinguished Fellow, American Academy of Physician Assistants

**Martha S. Echols**

*Assistant Dean for Medical Education  
Assistant Professor, Internal Medicine*  
B.A., Cleveland State University, 1973  
M.Ed., Ashland University, 1991  
Ph.D., Ohio University, 1998

**Diane Ede-Nichols**

*Associate Professor and Section Chair, Community Dentistry,  
Division of Developmental Sciences  
Associate Professor, Public Health*  
D.M.D., Fairleigh Dickinson University College of Dental  
Medicine, 1987  
M.H.L., Nova Southeastern University, 2004

**Steven A. Ellen**

*Assistant Professor, Department of Community Dentistry,  
Special Needs*  
D.D.S., NYU College of Dentistry, 1974

**Troy Elmstrom**

*Assistant Professor, Physician Assistant Department*  
B.S., Nova Southeastern University, 2000  
M.P.H., Nova Southeastern University, 2000

**Shara Elrod**

*Assistant Professor, Pharmacy Practice*  
B.S., Texas A&M University, 2002  
Pharm.D., University of Texas—Austin, 2008

**Alexandra Espejo**

*Assistant Professor, Optometry*  
Optometra, Universidad de la Salle, Colombia, 1992  
O.D., Pennsylvania College of Optometry, 1996  
Fellow, American Academy of Optometry

**Rogério S. Faillace**

*Assistant Professor, Pediatrics*  
M.D., Fluminense Federal University, 1987  
B.S.N., Barry University, 1992

**Laura Falco**

*Assistant Professor, Optometry*  
B.S., State University of New York, 1995  
O.D., State University of New York, 1999  
Fellow, American Academy of Optometry

**Amir Farhangpour**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Creighton University, 1995

**Jennifer Fass**

*Clinical Assistant Professor, Pharmacy Practice*  
B.S., Nova Southeastern University, 2004  
Pharm.D., Nova Southeastern University, 2006

**Tracy Favreau**

*Instructor, Internal Medicine*  
B.S., Nova Southeastern University, 1996  
D.O., Nova Southeastern University, 2001

**Greg Fecho**

*Assistant Professor, Optometry*  
B.A., Florida Atlantic University, 1995  
O.D., Nova Southeastern University, 2001

**Harvey A. Feldman**

*Professor, Physician Assistant Studies*  
B.A., University of Pennsylvania, 1963  
M.D., University of Pennsylvania, 1967  
Fellow American College of Physicians American Society  
of Nephrology.

**Maria I. Fernandez**

*Professor, Preventive Medicine*  
*Professor, Public Health*  
B.A., Florida International University, 1978  
M.A., Michigan State University, 1981  
Ph.D., Michigan State University, 1986

**Raymond G. Ferrero III**

*Assistant Professor, Family Medicine*  
*Assistant Professor, Public Health*  
B.A., Florida State University, 1991  
J.D., Nova Southeastern University, 1995

**Phyllis Filker**

*Associate Professor, Cariology and Restorative Dentistry*  
D.M.D., University of Florida, 1980

**Richard Finkel**

*Clinical Assistant Professor, Pharmaceutical Sciences*  
B.S. (Pharm.), University of Florida, 1956  
Pharm.D., Southeastern University of the Health Sciences, 1992

**C. Richard Finley**

*Associate Professor and Associate Department Chair,*  
*Physician Assistant Studies*  
B.S.P.A., University of Oklahoma, 1982  
M.P.A.S., University of Nebraska, 1998  
Ed.D. Nova Southeastern University, 2006  
Distinguished Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Jay M. Fleisher**

*Associate Professor, Public Health*  
B.S., Richmond College, 1974  
M.S. College of Staten Island, 1977  
M.S., Columbia University, 1990  
Ph.D., New York Institute of Environmental Medicine, 1994

**Paul Fleisher**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Northwestern University, 1965

**Cynthia Fletcher**

*Interim Associate Chair, Director,*  
*and Assistant Professor, Nursing*  
B.S.N., Long Island University, 1977  
M.S.N., Hunter College, 1980  
Ph.D., University of Miami, 1996

**Jaime Jorge Flores**

*Instructor, Correctional Medicine*  
M.D., San Juan Bautista School of Medicine, 1996

**Rosebud Foster**

*Professor, Family Medicine*  
*Professor, Public Health*  
*Professor, Biomedical Informatics*  
B.S.N., Meharry Medical College, 1956  
M.S.N., Wayne State University, 1960  
Ed.D., University of Miami, 1976

**Joan Frater-Clarke**

*Assistant Professor, Nursing*  
M.P.H., Florida International University, 2000  
M.S.N./A.R.N.P., Florida International University, 2005

**Barry Frauens**

*Associate Professor, Optometry*  
B.S., Wilkes College, 1985  
O.D., Nova Southeastern University, 1996  
Fellow, American Academy of Optometry

**Erica Freidland**

*Chair and Associate Professor, Audiology*  
B.S., University of Florida, 1990  
M.S., Vanderbilt University, 1992  
Au.D., Nova Southeastern University, 2001

**Elizabeth Frenzel-Shepherd**

*Director, Experiential Education*  
*Assistant Professor, Pharmacy Practice*  
B.S. (Pharm.), Long Island University 1980  
M.B.A., Florida International University, 1987

**Linda Fritzinger-Hearn**

*Assistant Professor, Nursing*  
B.S.N., Nova Southeastern University, 2006  
M.S.N., Nova Southeastern University, 2009

**Mark Gabay**

*Assistant Professor, Pediatrics*  
B.S., University of Arizona, 1999  
D.O., Nova Southeastern University, 2005

**Patricia A. Gaffney**

*Assistant Professor, Audiology*  
B.A., The George Washington University, 2001  
M.S., University of Pittsburgh, 2003  
Au.D., University of Pittsburgh, 2005

**Rashondia E. Gaines**

*Assistant Professor, Cariology and Restorative Dentistry*  
*Director of Faculty Practice*  
B.A., Hampton University, 1994  
D.D.S., Virginia Commonwealth University/Medical College of Virginia School of Dentistry, 1998  
Certificate—AEGD, University of Missouri—Kansas City School of Dentistry, 1999

**Sandrine Gaillard-Kenney**

*Associate Professor and Chair, Department of Health Science*  
B.A., Université de la Sorbonne Nouvelle, 1995  
M.A., Université de la Sorbonne Nouvelle, 1997  
M.A., Université de la Sorbonne Nouvelle, 1998  
Ed.D., Nova Southeastern University, 2007

**Clark D. Galin**

*Executive Liaison, Implant Dentistry*  
*Executive Director, Continuing Education*  
*Associate Professor, Periodontology*  
D.D.S., Indiana University School of Dentistry, 1972  
Certificate—University of Illinois, 1974  
Fellow, American College of Dentists

**Audrey Galka**

*Chair and Associate Professor,*  
*Cariology and Restorative Dentistry*  
D.D.S., New York University, 1980

**Colpan K. Galperin**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., University of Istanbul, 1960  
Certificate, New York University, 1964

**Nathalie Garbani**

*Assistant Professor, Vascular Sonography*  
B.S., Emmanuel College, 1990  
M.S., University of Massachusetts—Lowell, 2001  
Ed.D., Nova Southeastern University, 2011

**Angela S. Garcia**

*Assistant Professor, Pharmacy Practice*  
B.A., University of Kansas, 1996  
Pharm.D., Nova Southeastern University, 2008

**Timothy P. Gauthier**

*Assistant Professor, Pharmacy Practice*  
Pharm.D., Northeastern University, 2008

**David M. Gazze**

*Clinical Assistant Professor, Pharmaceutical Sciences*  
B.S., University of Pittsburgh, 1980  
Ph.D., University of Pittsburgh, 1987

**Richard Gelman**

*Assistant Professor, Endodontics*  
D.M.D., University of Pittsburgh, 1971  
Certificate—Endodontics, Medical College of Virginia, 1979

**Michael Georgescu**

*Assistant Professor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
D.M.D., Boston University, 1987

**Deborah A. Gerbert**

*Program Director, Department Chair, and Assistant  
Professor, Physician Assistant Program—Jacksonville*  
B.S., Emory University, 1976  
B.S., University of Oklahoma, 1980  
M.S., University of North Florida, 1987

**Nadine Girgis**

*Assistant Professor of Optometry*  
B.A., Washington University of St. Louis, 1999  
O.D., Indiana University, 2003  
Fellow, American Academy of Optometry

**Mark L. Glover**

*Assistant Dean, Academic Policy and Management*  
*Associate Professor, Pharmacy Practice*  
B.S., North Carolina State University, 1985  
B.S., University of North Carolina, 1988  
Pharm.D., University of North Carolina, 1994

**Antonio Godoy**

*Assistant Professor, Prosthodontics, Division of Primary Care*  
D.D.S., Universidad de Carabobo, 1979  
M.S., University of Maryland, 1984  
Certificate—Maxillofacial Prosthodontics, University of  
Texas, 1990

**Kelly Goebel**

*Assistant Professor, Nursing*  
B.S.N., St. Joseph's College of Nursing, 1991  
M.S.N., Loyola University of Chicago, 2003  
D.N.P., University of South Florida, 2010

**Marvin J. Golberg**

*Assistant Professor, Prosthodontics*  
D.D.S., University of Maryland, 1956

**Abraham Lifshitz Goldberg**

*Professor, Orthodontics*  
D.D.S., University of Mexico, 1981  
M.S. Orthodontics, University of Iowa, 1982

**Tulia Gonzalez**

*Instructor, Cariology and Restorative Dentistry*  
D.M.D., University Colegio Odontologico Colombiano, 1987

**Harvey Gordon**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., George Town School of Dentistry, 1968

**Laurel A. Gorman**

*Associate Professor, Pharmacology*  
B.S., University of Florida, 1986  
Ph.D., Louisiana State Medical School, 1994

**Anton Gotlieb**

*Associate Professor, Prosthodontics*  
B.A., Syracuse University, 1969  
D.D.S., Temple University School of Dentistry, 1973  
M.S., Nova Southeastern University, 2005  
Fellow, International College of Dentists, 2002  
Fellow, American College of Dentists, 2006

**A. Alvin Greber**

*Executive Dean for Professional Affairs and  
Professor, Cardiology*  
B.A., University of Pennsylvania, 1954  
D.O., Philadelphia College of Osteopathic Medicine, 1958  
Fellow, American College of Osteopathic Internists

**Paul Greenman**

*Assistant Professor, Anatomy*  
D.P.M., Pennsylvania College of Podiatric Medicine, 1992

**Edye Elizabeth Groseclose**

*Professor, Biochemistry*  
*Assistant Professor, Public Health*  
B.S., University of Miami, 1965  
Ph.D., University of Miami School of Medicine, 1978

**Robert C. Grosz**

*Professor, Physician Assistant Studies*  
*Professor, Public Health*  
B.A., Adelphi University, 1964  
M.S., Adelphi University, 1966  
Ed.D., Nova University, 1974

**David Guadalupe**

*Assistant Professor, Anesthesiologist Assistant*  
B.S., Georgia State University, 1992  
M.M.Sc., Emory University

**Tatwig Guirguis**

*Assistant Professor, Internal Medicine*  
M.D., University of Alexandria Faculty of Medicine, 1974

**Steven Haas**

*Assistant Professor, Prosthodontics, Division of Primary Care*  
D.M.D., University of Pennsylvania, 1983  
Certificate—Advanced Graduated Studies in Prosthodontics,  
Boston University School of Graduate Dentistry, 1986  
J.D., Touro College Law Center, 1996

**Howard S. Hada**

*Assistant Dean for Academic Affairs  
Professor and Chair, Microbiology*  
B.A., University of Texas, 1974  
M.S., University of Texas, 1977  
Ph.D., University of Houston, 1981

**Teri Hamill**

*Professor, Audiology*  
B.A., University of Central Florida, 1982  
M.S., Florida State University, 1983  
Ph.D., Florida State University, 1986

**Janet K. Hamstra**

*Assistant Professor, Internal Medicine*  
B.A., Calvin College, 1980  
M.S., California State University, 1987  
Ed.D., University of California, 1996

**Jorge Han**

*Program Director and Assistant Professor,  
Vascular Sonography*  
M.D., University Cayetano Heredia, Lima, Peru, 1987

**Delia Harper-Celestine**

*Assistant Professor, Public Health*  
B.S., Brooklyn College City University of New York, 1991  
M.P.H., New York University School of Education, 1997

**Patrick Hardigan**

*Associate Professor, Public Health*  
B.S., Ferris State College, 1987  
M.B.A., University of Wyoming, 1991  
Ph.D., University of Wyoming, 1996

**Catherine Harrington**

*Associate Professor, Sociobehavioral and  
Administrative Pharmacy*  
B.S., Wayne State University, 1977  
Pharm.D., University of Michigan, 1987  
Ph.D., University of Michigan, 1993

**Nancy Borja Hart**

*Assistant Professor, Pharmacy Practice*  
A.A., University of Florida, 2001  
Pharm.D., University of Florida, 2005

**Robert T. Hasty**

*Assistant Professor, Internal Medicine*  
B.S., University of Miami, 1996  
D.O., Nova Southeastern University, 2000

**Robert M. Hawkes**

*Assistant Professor, Physician Assistant Studies*  
B.S., University of Southern Maine, 1989  
B.A., University of Southern Maine, 2000  
M.S./P.A., University of New England, 2007  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Lisa A. Heintskill**

*Instructor/Program Coordinator, Periodontology,  
Division of Surgical Sciences*  
M.H.Sc., Nova Southeastern University, 2007  
Ph.D., Nova Southeastern University, 2010

**Madeleine A. Hellman**

*Director and Associate Professor, Ph.D. Program  
Chair, Physical Therapy Department*  
B.S.P.T., Florida International University, 1980  
M.H.M., St. Thomas University, 1990  
Ed.D., Nova Southeastern University, 2001

**Rhonda R. Hendricks**

*Assistant Professor, Nursing*  
B.A., Indiana University, 1993  
R.N., A.S., Edison Community College, 1999  
M.S.N., Nova Southeastern University, 2008

**Maria A. Hernandez**

*Postdoctoral Associate Program Director and Assistant  
Professor, Periodontology*  
D.D.S., University of Carabobo, Valencia-Venezuela, 1998  
Certificate—Periodontics, University of Pennsylvania, School of  
Medicine, 2003  
Implant Fellowship, University of Pennsylvania, School of  
Medicine, 2004

**Jorge Hervas**

*Assistant Professor, Prosthodontics*  
D.D.S., Central University of Ecuador, 1998

**Cheryl J. Hill**

*Professor, Physical Therapy*  
B.S./P.T., Medical College of Virginia, 1973  
M.S., Nova University, 1979  
Ph.D., Nova Southeastern University, 2001

**Gary R. Hill**

*Assistant Professor, Internal Medicine*  
A.A., Brookdale Community College, 1971  
B.S., Glassboro State College, 1973  
D.O., Philadelphia College of Osteopathic Medicine, 1984

**Kimberly Hogan**

*Director and Assistant Professor, Nursing*  
B.S.N., University of South Alabama, 1995  
M.S.N., University of South Alabama, 2000

**Maritzabel Hogge**

*Assistant Professor, Oral and Maxillofacial Radiology,  
Diagnostic Sciences, Division of Primary Care*  
D.D.S., Pontificia Universidad Javeriana (Colombia), 1998  
M.S., University of North Carolina, 2008

**Lauren Hojdila**

*Assistant Professor, Anesthesiologist Assistant*  
B.A., Case Western Reserve University, 2001  
M.S., Case Western Reserve University, 2003

**Theodore L. Hollar**

*Assistant Professor, Public Health*  
B.A., Erskine College, 2000  
Ph.D., Florida Atlantic University, 2008

**Peter Holub**

*Associate Professor, Health Science*  
B.A., University of California—Berkeley, 1979  
B.S., California College of Podiatric Medicine, 1982  
D.P.M., California College of Podiatric Medicine, 1984  
M.S., Pennsylvania State University, 2002  
Ph.D., Nova Southeastern University, 2011



**James T. Howell**

*Professor, Rural Medicine*  
*Professor, Public Health*  
B.S., St. John's University, 1962  
M.D., New York Medical College, 1966  
M.P.H., Harvard University School of Public Health, 1972

**Myron Howell**

*Associate Professor, Family Medicine*  
B.S. (Pharm.), Philadelphia College of Pharmacy and Science, 1959  
D.O., Philadelphia College of Osteopathic Medicine, 1963

**Chiu-jen Hsu**

*Assistant Professor, Prosthodontics*  
B.D.S., China Medical College, Taichung, Taiwan, 1988  
D.D.S., New York University, 1992  
Certificate—AEGD, Lutheran Medical Center, 1993  
Certificate—Postgraduate Prosthodontics Program, Columbia University, 1995  
Certificate—Maxillofacial Prosthodontics Fellowship, Bronx VA Medical College, 1996

**Charles Huang**

*Assistant Professor, Pediatric Dentistry*  
Ph.D., Columbia University, 2001

**Max Ito**

*Director and Associate Professor,*  
*Occupational Therapy Ph.D. Program*  
B.S., University of Oklahoma, 1978  
M.S., Kansas State University, 1981  
Ph.D., University of Texas at Austin, 1994

**Robin J. Jacobs**

*Assistant Professor, Preventive Medicine, Psychiatry,*  
*Public Health, and Biomedical Informatics*  
B.S., University of New Mexico, 1991  
M.S.W., San Diego State University, 1997  
Ph.D., Florida International University, 2006

**Lawrence E. Jacobson**

*Vice Dean*  
*Professor, Neurology*  
B.S., Ursinus College, 1953  
D.O., Chicago College of Osteopathic Medicine, 1962

**Robert Jacobson**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., University of Pennsylvania, 1960

**Victor A. Jaffe**

*Assistant Professor, Family Medicine*  
B.S., Nova Southeastern University  
D.O., Nova Southeastern University, 2006

**Pamela B. Jaffey**

*Associate Professor, Physician Assistant Studies*  
A.B., Columbia University, 1981  
M.D., New York Medical College, 1986  
Fellow, American Society of Clinical Pathologists

**Andrea Janoff**

*Assistant Professor, Optometry*  
O.D., New England College of Optometry, 1986  
Fellow, American Academy of Optometry

**Erin Jenewein**

*Assistant Professor, Optometry*  
B.S., Saint Norbert College, 2003  
M.S., University of Wisconsin—Oshkosh, 2005  
Fellow, American Academy of Optometry

**Bai-Chuan Jiang**

*Professor, Optometry*  
B.S., Fuan University, 1966  
M.S., Shanghai Institute of Physiology, 1982  
Ph.D., Shanghai Institute of Physiology, 1986  
Fellow, American Academy of Optometry

**Diane John**

*Assistant Professor, Nursing*  
B.S.N., Florida Atlantic University, 2001  
M.S.N., Florida Atlantic University, 2003

**Kenneth E. Johnson**

*Associate Professor, Obstetrics/Gynecology*  
*Associate Professor, Public Health*  
B.S., Florida State University, 1981  
D.O., Southeastern University of the Health Sciences, 1991

**Broderick Jones**

*Associate Professor, Pathology*  
B.S., Tuskegee University, 1979  
M.S., Tuskegee University, 1982  
M.D., University of Miami, 1992

**Aline Joubert**

*Assistant Professor, Nursing*  
M.S.N., Florida International University, 2006

**Alan G. Kabat**

*Associate Professor, Optometry*  
B.A., Rutgers University, 1986  
B.S., Pennsylvania College of Optometry, 1987  
O.D., Pennsylvania College of Optometry, 1990  
Fellow, American Academy of Optometry

**Steven Kaltman**

*Section Chair and Professor, Oral and Maxillofacial Surgery,*  
*Division of Surgical Sciences*  
D.M.D., University of Pittsburgh, 1973  
M.D., University of Health Sciences, Antigua, 2000

**Umadevi Kandalam**

*Assistant Professor, Research*  
Ph.D., Andhra University, 1996  
M.S., Annamalai University, India, 1988

**Taeheon Kang**

*Assistant Professor, Periodontics*  
D.D.S., College of Dentistry, Seoul National University  
Korea, 1993  
M.S., Seoul National University Korea, 2000  
Certificate—Periodontics, University of Pennsylvania, 2003

**Pamela Kasyan-Itzkowitz**

*Assistant Professor and Academic Fieldwork Coordinator,*  
*Occupational Therapy*  
B.A., University of Florida, 1993  
M.S., Florida International University, 1997

**Sonia F. Kay**

*Assistant Professor, Occupational Therapy Program*  
B.S., University of Florida, 1975  
M.S., University of Florida, 1976  
Ph.D., Nova Southeastern University, 2002

**Julie B. Keena**

*Department Chair and Associate Professor,  
Physician Assistant Studies*  
B.A., Agnes Scott College, 1985  
M.M.Sc./P.A., Emory University, 1987  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Peter Keller**

*Executive Associate Dean for Academic  
and Clinical Resources*  
*Associate Professor, Cariology and Restorative Dentistry*  
D.D.S., New York University College of Dentistry, 1967  
Fellow, International College of Dentists  
Fellow, American College of Dentists, 1998

**Patricia E. Kelly**

*Professor, Health Science*  
*Director, Doctor of Health Science Program*  
B.A., State University of New York—Binghamton, 1973  
P.A., Stanford University Medical Center, 1980  
M.H.S., University of California, 1982  
Ed.D., Nova Southeastern University, 2000

**Steven Kelner**

*Associate Dean of Institutional Affairs*  
*Professor, Endodontics*  
D.M.D., University of Pennsylvania, 1979  
Certificate—Endodontics, University of Pennsylvania, 1986  
M.S. Marketing, Roosevelt University, 1996

**Brianna Kent**

*Associate Chair and Assistant Professor, Health Science*  
B.S.N., University of St. Thomas, 1979  
M.S., University of Houston, 1984  
Ph.D., Nova Southeastern University, 2006

**Stanley Kessel**

*Assistant Professor, Orthodontics*  
D.D.S., Ohio State University, 1946  
Certificate—Orthodontics, Ohio State University, 1950

**Nile M. Khanfar**

*Interim Director, Palm Beach Pharmacy Program*  
*Assistant Professor, Sociobehavioral and  
Administrative Pharmacy*  
B.S., Northwestern State University, 1987  
M.B.A., University of Louisiana, 2001  
Ph.D., University of Louisiana, 2005

**Shiva Khatami**

*Assistant Professor, Orthodontics,  
Division of Developmental Science*  
D.D.S., Shahid Beheshti University of Medical Science, 2001  
Certificate—Orthodontics and Dentofacial Orthopedics,  
University of Rochester, 2009  
Ph.D., University of British Columbia, CN, 2010

**Maung Aung Khin**

*Professor and Chair, Pathology*  
B.S., Rangoon University, 1957  
M.B., Rangoon University, 1957  
Ph.D., University of Liverpool, 1965

**M. Kathleen Khin**

*Professor, Pathology*  
B.S./M.B., Rangoon University, 1957  
D.C.P., University of London, 1965  
D.Path., Royal College of Physicians, Royal College of  
Surgeons—England, 1965

**Evren Kilinc**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Ege University, 1998  
Ph.D., Ege University, 2006

**David King**

*Assistant Professor, Nursing*  
*Assistant Professor, Physician Assistant Studies*  
Ph.D., University of South Florida, 2000

**JoAnn Kleier**

*Director and Professor, Nursing Program*  
A.A.S., Shelby State Community College, 1982  
B.S.N., University of South Florida, 1985  
M.S.N., University of Miami, 1988  
Ed.D., Florida International University, 1997  
Ph.D., Barry University, 2002

**Jodi Kodish-Stav**

*Director, Informatics*  
*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Emory University, 1982  
Fellow, Academy of General Dentistry

**Morey J. Kolber**

*Associate Professor, Physical Therapy*  
B.H.S., University of Miami, 1993  
M.S.P.T., University of Miami, 1995  
Ph.D., Nova Southeastern University, 2007

**David Kotun**

*Administrative Director of Clinical Education,  
Physician Assistant Studies*  
B.S., Oklahoma University, 1985  
M.S., University of Nebraska, 1998  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants  
Fellow, Society of Air Force Physician Assistants  
Fellow, American College of Clinicians

**Lawrence Krasne**

*Associate Professor, Prosthodontics*  
D.D.S., St. Louis University, 1954  
Fellow, International College of Dentistry  
Fellow, Royal Society of Health

**Jan E. Kronmiller**

*Division Chief, Division of Developmental Sciences*  
*Section Chair and Professor, Orthodontics*  
B.S., Ohio State University, 1978  
D.D.S., Ohio State University, 1978  
Certificate—Pediatric Dentistry, Oregon Health and Science  
University, 1980  
Certificate—Orthodontics, University of Connecticut, 1991  
Ph.D., University of Connecticut, 1991  
Fellow, American College of Dentists, 1995  
Fellow, International College of Dentists, 1996

**Simha Kukunooru**

Assistant Professor, Periodontology,  
Division of Surgical Sciences  
D.D.S., Rajiv Gandhi University, India, 2002  
M.S., University of Alabama, 2010  
Certificate—Periodontology, University of Alabama, 2010

**Andrew M. Kusienki**

Assistant Professor, Sports Medicine  
B.S., St. Joseph University, 1996  
D.O., Lake Erie College of Osteopathic School of Medicine, 2001

**Sergio Kuttler**

Associate Dean for Advanced Education Programs  
Associate Professor, Endodontics  
D.D.S., Universidad Tecnologica de Mexico, D.F., 1978  
Certificate—Endodontics, University of Southern California, 1984  
Fellow, International College of Dentists

**Francisco Laboy III**

Instructor, Sports Medicine  
B.S., City College of New York, 1995  
D.O., Philadelphia College of Osteopathic Medicine, 2007

**Carlos Ladeira**

Associate Professor, Physical Therapy  
B.S. PT, Universidade Federal de Minas Gerais, 1987  
M.S. PT, University of Alberta, 1991  
Ed.D., Nova Southeastern University, 2007  
Fellow, American Association of Orthopedic Manual  
Physical Therapists

**L. Leanne Lai**

Professor, Sociobehavioral and Administrative Pharmacy  
B.S. (Pharm.), Kaohsiung Medical College, Taiwan, 1990  
Ph.D., University of Maryland, 1996

**Lorilee Landgraf**

Academic Director and Assistant Professor,  
Physician Assistant Studies  
B.S., University of Nebraska Medical Center, 1992  
M.P.A.S., University of Nebraska Medical Center, 1997  
M.Ed., University of West Florida, 2004

**Heidi Anderson Lane**

Assistant Professor, Internal Medicine  
B.S., East Carolina University, 1976  
M.Ed., East Carolina University, 1980  
Ed.D., East Carolina University, 2005

**Elaine D. Lara**

Assistant Professor, Prosthodontics  
D.M.D. equivalent degree, Odontologo, Universidad Central de  
Venezuela, 1999  
Certificate—Prosthodontics, Nova Southeastern University, 2003

**Jose Larumbe**

Assistant Professor and Director, Pediatric Dentistry  
D.D.S., Universidad Tecnologica de Mexico, D.F., 1975  
Certificate—Pediatric Dentistry, University of Boston, 1979

**Cynthia Last**

Professor, Behavioral Science  
Ph.D., State University of New York—Albany, 1982

**Jean J. Latimer**

Associate Professor, Pharmaceutical Sciences  
B.A., Cornell University, 1982  
Ph.D., State University of New York—Buffalo, 1989

**Harold E. Laubach**

Dean, College of Medical Sciences  
Professor, Microbiology  
Professor, Public Health  
B.S., Southwestern Oklahoma State University, 1968  
M.S., Oklahoma State University, 1975  
Ph.D., Oklahoma State University, 1977

**Adrienne Lauer**

Assistant Professor, Occupational Therapy  
B.S., Thomas Jefferson University, 1988  
M.S., Barry University, 1995  
Ed.D., Nova Southeastern University, 2001

**Janet L. Leasher**

Associate Professor, Optometry  
Associate Professor, Public Health  
Director of Community Outreach, Optometry  
B.S., Pacific University, 1983  
O.D., Pacific University, 1986  
M.P.H., Tulane University, 1999  
Fellow, American Academy of Optometry

**Susan Ledbetter**

Associate Professor, Family Medicine  
B.A., University of Florida, 1992  
D.O., Philadelphia College of Osteopathic Medicine, 1999

**Roni Cohen Leiderman**

Affiliated Professor, Child Development Specialist  
Clinical Professor, Pediatrics  
B.S., Boston University, 1972  
M.S., Lesley College, 1974  
Ph.D., Nova University, 1986

**Sean Leonard**

Assistant Professor/Psychometrician, Sociobehavioral and  
Administrative Pharmacy  
B.A., Miami University, 1993  
M.S., Nova Southeastern University, 1995  
Ph.D., Nova Southeastern University, 2001

**Philip Levine**

Assistant Professor, Forensic Odontology,  
Diagnostic Sciences, Division of Primary Care  
M.A., George Peabody College, 1957  
D.D.S., University of Tennessee, 1962  
M.S., Troy State University, 1995

**Leonard A. Levy**

Professor, Family Medicine  
Professor, Biomedical Informatics  
Professor, Public Health  
B.A., New York University, 1956  
D.P.M., New York College of Podiatric Medicine, 1961  
M.P.H., Columbia University School of Public Health, 1967

**Charles Lewis**

Assistant Professor, Health Science  
B.A., Newberry College, 1969  
P.A., Duke University, 1971  
M.P.H., University of South Carolina School of Public  
Health, 1982  
D.H.Sc., Nova Southeastern University, 2009

**Randy Lichtman**

Instructor, Prosthodontics, Division of Primary Care  
D.D.S., Northwestern University, 1984

**Fred Lippman**

Chancellor, Health Professions Division  
Professor, Community Medicine  
Professor, Public Health  
B.S. (Pharm.), Columbia University College of Pharmacy, 1958  
Ed.D., Nova Southeastern University, 2003

**Hal Lippman**

Associate Dean, Admissions and Student Affairs  
Assistant Professor, Prosthodontics  
D.D.S., University of New York, 1975

**Bini Litwin**

Associate Professor, Physical Therapy  
Director, T-D.P.T. Program  
B.S./P.T., State University of New York, 1966  
M.B.A., Barry University, 1990  
Ph.D., Nova Southeastern University, 2005

**John E. Long**

Medical Director and Assistant Professor, Physician Assistant  
Program—Jacksonville  
M.D., George Washington University, 1987  
Diplomate, American Board of Emergency Medicine, 1995  
Fellow, American College of Emergency Physicians  
Fellow, American Academy of Emergency Medicine

**Eustorgio A. Lopez**

Associate Professor and Postgraduate Program Director,  
Oral and Maxillofacial Surgery  
D.D.S., University of Sao Paulo, Brazil, 1977  
M.D., University of Miami, 1995  
Certificate—OMFS, Jackson Memorial Hospital/University of  
Miami, 1990

**David S. Loshin**

Dean, College of Optometry  
Professor, Optometry  
B.S., Rochester Institute of Technology, 1971  
M.S., Ohio State University, 1974  
O.D., Ohio State University, 1975  
Ph.D., Ohio State University, 1977  
Fellow, American Academy of Optometry

**Jennie Q. Lou**

Director and Professor, Biomedical Informatics  
Professor, Internal Medicine  
Professor, Public Health  
B.H.Sc., McMaster University, 1984  
M.D., Shanghai Medical University, 1987  
M.Sc., McMaster University, 1992

**Ferol Ludwig**

Professor, Occupational Therapy  
B.S., Ohio State University, 1966  
M.S., Ohio State University, 1971  
Ph.D., University of Southern California, 1995  
Fellow, American Occupational Therapy Association

**Nicholas Lutfi**

Associate Professor, Anatomy  
B.S., Central University of Venezuela, 1981  
M.S., Barry University, 1996  
D.P.M., Barry University, 1997

**Anastasio Tassos Lymperopoulos**

Assistant Professor, Pharmaceutical Sciences  
B.S., University of Patras, 1998  
M.S., University of Patras, 2000  
Ph.D., University of Patras, 2004

**Leah Lyons**

Assistant Professor, Physiology  
B.S., Florida Atlantic University, 1997  
Ph.D., University of Miami, 2005

**Barbara J. MacDougall**

Assistant Professor, Nursing  
A.D.N., Miami-Dade Community College, 1984  
B.S.N., University of Miami, 1989  
M.S.N., Florida International University, 1994

**Andrés Malavé**

Dean, College of Pharmacy  
Professor, Pharmaceutical Sciences  
B.S., University of Puerto Rico, 1972  
M.S., Purdue University, 1981  
Ph.D., Purdue University, 1983

**Lillian Arce-De Malavé**

Assistant Professor, Pharmaceutical Sciences  
Pharm.D., Nova Southeastern University, 2001

**Melissa Marchesan**

Associate Professor, Endodontics, Division of  
Surgical Sciences  
D.D.S., University of Sao Paulo, 1998  
Certificate—Endodontics, University of Ribeirao Preto, 2001  
M.S., University of Sao Paulo, 2008  
Ph.D., University of Sao Paulo, 2008

**Andrew T. Mariassy**

Professor, Anatomy  
Assistant Professor, Public Health  
B.S., University of California, 1969  
M.S., University of California 1972  
Ph.D., University of California, 1980

**Julie Marin**

Academic Facilitator/Instructor, Pharmaceutical Sciences  
B.S., UPR Rio Piedras Campus, 1985  
Pharmacy Technician, National College Bayamón,  
Puerto Rico, 1988  
Pharm.D., Nova Southeastern University, 2006

**Jehan Marino**

Assistant Professor, Pharmacy Practice  
Pharm.D., Northeastern University, 2004

**William H. Marquardt**

Associate Dean, Physician Assistant Education  
Associate Professor, Physician Assistant Department  
B.S., University of Nebraska, 1976  
M.A., Central Michigan University, 1979  
Distinguished Fellow, American Academy of Physician Assistants

**Luis Martinez**

Instructor, Sports Medicine  
B.S., University of Miami  
D.O., Philadelphia College of Osteopathic Medicine, 2008

**Ana Karina Mascarenhas**

Associate Dean for Research  
Division Chief, Division of Primary Care  
Professor, Public Health  
B.D.S., Goa Dental College and Hospital, 1985  
D.D.S., University of Bombay, 1986  
M.S., University of Michigan, 1992  
M.P.H., University of Michigan, 1992  
D.P.H., University of Michigan, 1995  
Ph.D., University of Michigan, 1995

**Hady Masri**

Assistant Professor, Geriatrics  
B.S., University of Miami, 1999  
M.S., Nova Southeastern University, 2001  
D.O., Nova Southeastern University, 2005

**Bindu S. Mayi**

Assistant Professor, Microbiology  
B.Sc., University of Bombay, 1988  
M.Sc., University of Bombay, 1991  
Ph.D., University of Missouri, 1998

**Harvey N. Mayrovitz**

Professor, Physiology  
B.S., Drexel University, 1962  
M.S., Drexel University, 1966  
Ph.D., University of Pennsylvania, 1974

**Odo K. McCallum**

Clinical Director and Assistant Professor,  
Physician Assistant Studies  
Adjunct Assistant Professor, Public Health  
B.S., Florida International University, 2000  
M.P.H., Maastricht University, 2004

**Heather McCarthy**

Assistant Professor, Osteopathic Principles and Practice  
B.S., Florida Southern College, 1999  
D.O., Nova Southeastern University, 2004

**Maxwell McClure**

Instructor, Psychiatry  
D.O., Lake Erie College of Osteopathic Medicine, 2008

**Shawn McClure**

OMFS Postgraduate Associate Professor and  
Director of Research  
D.M.D., Temple University, 1999  
M.D., State University of New York, 2002

**Jane McLaughlin-Middlekauff**

Assistant Professor, Pharmacy Practice  
Pharm.D., Drake University, 2001

**Hugh M. McLean**

Associate Dean, Research and Graduate Education  
Associate Professor, Pharmaceutical Sciences  
B.S., State University of New York—Brockport, 1977  
M.S., Florida A&M University, 1988  
Ph.D., Florida A&M University, 1991  
Pharm.D., Creighton University, 2007

**Debra A. McNally**

Instructor, Anatomy  
B.S., Barry University, 1988  
M.S., Barry University, 2004

**Lina Mejia**

Assistant Professor, Oral and Maxillofacial Radiology,  
Diagnostic Sciences  
D.D.S., CES, Medellin, Columbia, 1999  
Advance Graduate Program in Oral Medicine, University of  
California, 2009

**Arnold Melnick**

Professor, Pediatrics  
Professor, Public Health  
Professor, Medical Communications  
A.B., Temple University, 1941  
D.O., Philadelphia College of Osteopathic Medicine, 1945  
M.A., Temple University, 1948  
M.Sc., Philadelphia College of Osteopathic Medicine, 1953  
Fellow, American College of Osteopathic Pediatricians  
Fellow, American College of Osteopathic Obstetricians  
and Gynecologists

**Gary J. Merlino**

Assistant Professor, Internal Medicine  
B.A., University of South Florida, 1986  
D.O., Southeastern University of the Health Sciences, 1992

**Angela Mesa-Taylor**

Assistant Professor, Physician Assistant Department  
B.S., University of Miami, 1999  
M.S., University of Florida, 2002

**Kristi Messer**

Assistant Professor, Public Health  
B.A., University of Wisconsin, 1990  
M.P.H., University of North Carolina—Chapel Hill, 1994  
M.S.W., University of North Carolina—Chapel Hill, 1995

**Miriam Metzner**

Academic Facilitator and Clinical Assistant Professor,  
Pharmacy Practice  
Pharm.D., University of Missouri, 1998

**Rafael Miguel**

Assistant Professor, Anesthesiologist Assistant  
M.D., Universidad de Cadiz, 1981

**Jane Miller**

Instructor, Periodontology  
A.S., Miami Dade Community College, 1987  
B.S., Nova Southeastern University, 2006

**Timothy Miller**

Assistant Professor, Anesthesiologist Assistant  
B.S., Medical College of Georgia, 2001  
M.H.Sc., Nova Southeastern University, 2008

**Melissa Misko**

Instructor, Optometry  
B.S., Case Western Reserve, 2004  
O.D., Illinois College of Optometry, 2008  
Fellow, American Academy of Optometry

**Christopher Mitchell**

Assistant Professor and Director,  
Bachelor of Health Science Programs  
B.A., Lynchburg College, 1989  
M.S., Nova Southeastern University, 1999

**Mary Ellen Mitchell-Rosen**

*Assistant Professor, Nursing*  
B.S.N., University of Delaware, 1977  
M.S.N., University of Phoenix, 2001

**Vicenta Montgomery**

*Assistant Professor, Physician Assistant Studies*  
B.S., University of Central Florida, 2002  
M.M.S., Nova Southeastern University, 2008

**Peter Murray**

*Director, Biological Research*  
*Associate Professor, Endodontics*  
Ph.D., University of Birmingham, 2000

**Max Nahon**

*Assistant Professor and Director, Postgraduate Prosthodontics,*  
*Division of Primary Care*  
D.D.S., State University of New York—Buffalo, 1977  
Certificate—Prosthodontics, Medical College of Georgia, 2000

**Perla Najman**

*Assistant Professor, Optometry*  
B.A., Universidad de las Americas, 1976  
O.D., Nova Southeastern University, 1999

**Kenneth Namerow**

*Division Chief, Division of Surgical Sciences,*  
*Associate Professor and Chair, Endodontics*  
D.D.S., Fairleigh Dickinson University, 1985  
Certificate—Endodontics, Columbia University, 1972

**Howard Neer**

*Professor, Family Medicine*  
B.A., Miami University, 1949  
D.O., Chicago College of Osteopathic Medicine, 1954  
Fellow, American College of Osteopathic Family Physicians

**Guy M. Nehrenz**

*Executive Associate Dean,*  
*College of Allied Health and Nursing*  
*Professor, Health Science Department*  
B.S., University of St. Francis, 1989  
M.A., University of Phoenix, 1992  
Ed.D., Nova Southeastern University, 1995

**Ariela Neuman**

*Associate Professor, Occupational Therapy Program*  
B.A., Haifa University, 1983  
M.A., New York University, 1990  
Ph.D., New York University, 2003

**Doris B. Newman**

*Associate Professor, Osteopathic Principles and Practice*  
B.S., Texas Women's University, 1986  
D.O., University of New England College of Osteopathic  
Medicine, 1998

**Hoi Kee Ng**

*Assistant Professor, Physician Assistant*  
*Program—Jacksonville*  
B.S., University of Central Florida, 1996  
B.S., University of Florida, 1998  
M.P.A.S., University of Florida, 1998

**Enrique A. Nieves**

*Assistant Professor, Pharmaceutical Sciences*  
B.S.(Pharm), University of Puerto Rico, 1977  
M.S., University of Florida, 1982  
Ph.D., University of Florida, 1982

**Leah Nof**

*Professor, Physical Therapy*  
M.S., University of Wisconsin, 1978  
Ph.D., Florida State University, 1994

**Alberto Noguera**

*Assistant Professor, Pediatric Dentistry,*  
*Division of Developmental Sciences*  
D.D.S., Javeriana University, Colombia, 1986  
Certificate—Advanced Education, Nova Southeastern  
University, 2006  
Certificate—Advanced Education Dentistry II, Nova  
Southeastern University, 2007  
Certificate—Pediatric Dentistry, Nova Southeastern  
University, 2009

**Romer A. Ocanto**

*Section Chair and Professor, Pediatric Dentistry,*  
*Division of Developmental Sciences*  
M.S.P.H., Boston University, 1984  
M.Ed., University of Florida, 1985  
D.D.S., Creighton University, 2000  
Fellow, American College of Dentists, 2007

**Terry Ogilby**

*Director and Associate Professor, Nursing*  
B.S.N., University of South Florida, 1990  
M.S.N., University of South Florida, 1994  
M.P.H., University of South Florida, 1998  
Ph.D., Capella University, 2004

**Pamela R. Oliver**

*Associate Professor, Optometry*  
B.A., University of Pennsylvania, 1986  
M.S., Nova Southeastern University, 1998  
O.D., State University of New York, 1990  
Diplomate, American Academy of Optometry

**Luana Oliveira**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Federal University of Uberlandia, Brazil, 1995

**Robert Oller**

*Professor, Family Medicine*  
*Professor, Public Health*  
B.A., University of California, 1965  
D.O., Kirksville College of Osteopathic Medicine, 1969

**Hamid Omidian**

*Assistant Professor, Pharmaceutical Sciences*  
B.S., Tehran Polytechnique University, 1987  
M.S., Tehran Polytechnique University, 1990  
Ph.D., Brunel University, 1997

**William Orr**

*Director and Assistant Professor, Anesthesiologist Assistant*  
B.S., Albany State, 1993  
M.M.Sc., Emory University, 1996

**Blanca Ortiz**

Assistant Professor, Pharmacy Practice  
B.S., University of Puerto Rico, 1993  
M.S., University of Puerto Rico, 1998  
Pharm.D., Nova Southeastern University, 2003

**Ana Ospina**

Predoctoral Director and Assistant Professor, Oral and Maxillofacial Surgery  
D.D.S., University of Medellin, Colombia, 1997

**Melba Ovalle**

Medical Director, Assistant Program Director, and Associate Professor, Physician Assistant Studies  
B.S., Pace University, 1978  
M.D., Boston University, 1982

**Raymond Ownby**

Professor, Psychiatry  
Professor, Biomedical Informatics  
Professor, Public Health  
B.A., Ohio University, 1973  
M.D., Northeastern Ohio University College of Medicine, 1974  
Ph.D., Kent State University, 1980  
M.B.A., University of Miami, 2002

**Edward E. Packer**

Professor, Pediatrics  
B.A., Rutgers University, 1971  
D.O., Philadelphia College of Osteopathic Medicine, 1976

**Thomas A. Panavelil**

Professor, Pharmacology  
B.S., University of Kerala, India, 1979  
M.Sc., National Dairy Research Institute, India, 1983  
Ph.D., University of Miami School of Medicine, 1998

**Naushira Pandya**

Professor, Geriatrics  
M.D., University College & Middlesex Medical School, 1979

**Frederick A. Paola**

Medical Director and Professor, Physician Assistant Studies  
B.S., Stony Brook University, 1980  
M.D., Yale University School of Medicine, 1984  
Diplomate, American Board of Internal Medicine, 1987  
J.D., New York University School of Law, 1991

**Panayotis Papatzimas**

Assistant Professor, Cariology and Restorative Dentistry  
D.D.S., Virginia Commonwealth University, 1991

**Michael Parker**

Associate Professor and Chair, Pharmacology  
B.A., University of San Diego, 1990  
Ph.D., University of Miami School of Medicine, 1999

**William Parker**

Section Chair, Director and Associate Professor, Periodontology, Division of Surgical Sciences  
D.D.S., Medical School of Virginia School of Dentistry, 1977  
Certificate—Periodontics, Naval Postgraduate Dental School, Maryland, 1984  
Diplomate, American Board of Periodontology, 1989

**Robert H. Parkes**

Instructor, Preventive Medicine  
M.D., University of the West Indies, 2003

**Marianna Pascuita**

Assistant Professor, Prosthodontics  
D.D.S., University of Venezuela, 1998

**Kyrus E. Patch**

Associate Chair, Academic Director, and Assistant Professor, Physician Assistant Studies  
B.S./P.A., Alderson-Broaddus College, 1977  
M.S., Alderson-Broaddus College, 2007  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Arnie Patrick**

Assistant Professor, Optometry  
B.A., Brooklyn College, 1975  
A.A.S., New York City Community College, 1977  
O.D., Nova Southeastern University, 1994

**Michael Patten**

Assistant Professor, Prosthodontics, Division of Primary Care  
D.D.S., University of Iowa, 1968  
Master in Comprehensive Training, University of Florida, 1984

**Nicole Patterson**

Assistant Professor, Optometry  
B.S., Loras College, 1998  
A.A.S., New York City Community College, 1977  
O.D., Southern College of Optometry, 2002  
Fellow, American Academy of Optometry

**Cathy Peirce**

Director, Dr.OT Program  
Assistant Professor, Occupational Therapy  
B.S., Ohio State University, 1974  
M.A., University of Southern California, 1984  
Ph.D., Nova Southeastern University, 2002

**John C. Pellosie, Jr.**

Director, Graduate Education, College of Osteopathic Medicine  
Assistant Professor, Preventive Medicine  
Assistant Professor, Public Health  
D.O., Philadelphia College of Osteopathic Medicine, 1978  
M.P.H., University of Texas School of Public Health, 1984  
Fellow, American Osteopathic College of Occupational and Preventive Medicine

**William Pena**

Associate Professor, Pediatric Dentistry, Division of Developmental Sciences  
D.M.D., Nova Southeastern University, 2006  
M.S., University of California, 2009  
Certificate—Advanced Education in Pediatric Dentistry, University of California, 2009

**Dennis H. Penzell**

Associate Professor, Internal Medicine  
B.S., University of Maryland, 1974  
D.O., New York College of Osteopathic Medicine, 1981

**Alina M. Perez**

Associate Professor, Public Health  
B.S., Florida Medical College, 1985  
M.S.W., Barry University, 1988  
J.D., University of Miami, 1996  
M.P.H., University of South Florida, 2008

**Marisa Perez**

Assistant Professor, Optometry  
B.S., University of California, 2001  
O.D., University of California—Berkeley, 2006  
Fellow, American Academy of Optometry

**Alexandra Perez Rivera**

Assistant Professor, Sociobehavioral and  
Administrative Pharmacy  
Pharm.D., Nova Southeastern University, 2005  
M.S., University of Illinois—Chicago, 2008

**Bruce B. Peters**

Professor, Pediatrics  
B.A., Northwestern University, 1979  
D.O., Chicago College of Osteopathic Medicine, 1984

**Stephen Pfister**

Associate Professor, Physical Therapy  
Director, Allied Health and Nursing Clinics  
B.S., University of Wisconsin, 1993  
M.S., University of Pittsburgh, 1998

**Ingrid Pichardo-Murray**

Assistant Professor, Physician Assistant Studies  
B.S., Judson College, 1992  
B.S., Florida International University, 1996  
M.P.A.S., University of Florida, 2001

**Carrigan Pick**

Assistant Professor, Community Dentistry, Division of  
Developmental Sciences  
D.M.D., Harvard School of Dental Medicine, 2009

**Joseph J. Pizzimenti**

Associate Professor, Optometry  
B.A., Drew University, 1985  
O.D., Illinois College of Optometry, 1989  
Fellow, American Academy of Optometry

**Ioana Popovici**

Assistant Professor, Sociobehavioral and  
Administrative Pharmacy  
B.Sc., Babes-Bolyai University—Romania, 1997  
M.A., Florida International University, 2003  
Ph.D., Florida International University, 2007

**Charles Powell**

Associate Professor, Pharmacology  
B.S., Florida State University, 1983  
M.S., Florida A&M University, 1988  
Ph.D., Florida A&M University, 1996

**Peter R. Pugliese**

Assistant Professor, Cariology and Restorative Dentistry  
B.S., Ohio State University, 1960  
D.D.S., Ohio State University College of Dentistry, 1964

**Cheryl Purvis**

Associate Professor, Anatomy  
B.S., University of South Carolina, 1986  
Ph.D., University of Kentucky College of Medicine, 1998

**Donald Pyle**

Instructor, Psychiatry  
B.S., York College of Pennsylvania, 2005  
D.O., West Virginia School of Osteopathic Medicine, 2010

**Nicole Quint**

Clinical Faculty, Occupational Therapy  
B.S., University of Missouri, 1994  
M.O.T., Nova Southeastern University, 2003  
Dr.OT, Nova Southeastern University, 2011

**Harvey Quinton**

Assistant Professor, Cariology and Restorative Dentistry  
D.D.S., Howard University, 1978

**Yasmin Qureshi**

Assistant Professor, Osteopathic Principles and Practice  
B.S., Victoria University, 2000  
M.S., Victoria University, 2002  
M.P.T., Florida International University, 2006  
D.P.T., A.T. Still University of Health Sciences, 2009

**Silvia Rabionet**

Associate Professor, Sociobehavioral and  
Administrative Pharmacy  
B.A., Mount Holyoke College, 1979  
Ed.M., Harvard University, 1980  
Ed.D., Harvard University, 2002

**John Rafalko**

Associate Professor, Physician Assistant Studies  
B.S., Towson State University, 1984  
A.A./P.A., Essex Community College, 1986  
M.S., Towson State University, 1992  
Ed.D., Nova Southeastern University, 2007  
Fellow, American Academy of Physician Assistants

**Robert Ramer**

Assistant Professor, Cariology and Restorative Dentistry  
D.D.S., New Jersey College, 1965

**Arif M. Rana**

Assistant Professor, Biomedical Informatics  
B.A., Rutgers University, 1997  
M.S., University of Medicine and Dentistry of New Jersey, 2000  
M.Ed., Rutgers University, 2006  
Ph.D., University of Medicine and Dentistry of New Jersey, 2011

**Sarah Ransdell**

Associate Professor, Health Science  
B.A., University of Kentucky, 1983  
M.S., University of Florida, 1985  
Ph.D., University of Florida, 1987

**Hugh G. Rappa**

Associate Department Chair, Academic Director, and  
Professor, Physician Assistant Program—Jacksonville  
B.S., Queens College, 1978  
M.D., University of Padua, Italy, 1991  
Fellow, American Association of International Physicians  
Fellow, American Educators of Radiological Sciences  
Member, Pi Alpha Honor Society  
Member, Alpha Eta Society

**Appu Rathinavelu**

Associate Dean, Institutional Planning and Development  
Associate Professor, Pharmaceutical Sciences  
B.S., University of Madras, 1978  
M.S., University of Madras, 1980  
M.Phil., University of Madras, 1981  
Ph.D., University of Madras, 1985



**Mutasem Rawas-Qalaji**

Assistant Professor, *Pharmaceutical Sciences*  
B.Pharm., King Saud University, 1995  
Ph.D., University of Manitoba, 2006

**Sergio Real-Figueroa**

Interim Predoctoral Director and Assistant Professor,  
*Orthodontics*  
Dentistry, University of Catolica, Columbia, 1991  
Orthodontics, University of Catolica, Argentina, 1995

**Kimberly Kay Reed**

Associate Professor, *Optometry*  
B.S., Auburn University, 1986  
O.D., University of Alabama College of Optometry, 1990  
Fellow, American Academy of Optometry

**Charles E. Reigel, Jr.**

Professor, *Pharmacology*  
B.A., Northeast Louisiana University, 1975  
M.S., Northeast Louisiana University, 1978  
Ph.D., Northeast Louisiana University, 1983

**Herbert Remnick**

Professor, *Diagnostic Sciences*  
D.D.S., Columbia University, 1947

**José A. Rey**

Associate Professor, *Pharmaceutical Sciences*  
Pharm.D., University of Florida College of Pharmacy, 1991

**Sherrol Reynolds**

Associate Professor, *Optometry*  
B.A., University of Florida, 1991  
O.D., Nova Southeastern University, 1996  
Fellow, American Academy of Optometry

**Erin Rice**

Clinical Assistant Professor, *Pharmacy Practice*  
Pharm.D., Nova Southeastern University, 2007

**Kenya M. Rivas-Valasquez**

Assistant Professor, *Geriatrics*  
M.D., University of Los Andes, 1993

**Kaye Robertson**

Assistant Professor, *Family Medicine*  
M.S., University of Illinois, 1972

**Jacqueline Rodena**

Assistant Professor, *Optometry*  
B.S., Florida State University, 1999  
O.D., Nova Southeastern University, 2004  
Fellow, American Academy of Optometry

**Julie Rodman**

Assistant Professor, *Optometry*  
B.A., Brandeis University, 1994  
O.D., New England College of Optometry, 1998  
Fellow, American Academy of Optometry

**Andres Rodriguez**

Assistant Professor, *Prosthodontics, Division of Primary Care*  
D.D.S., Pontificia Universidad Javeriana (Colombia), 1989  
Dental Laboratory Technology, University of Texas Health  
Science Center—San Antonio, 2003  
Certificate—Prosthodontics, University of Minnesota, 2006

**Jorgelin Rodriguez**

Assistant Professor, *Community Dentistry, Division of  
Developmental Sciences*  
D.M.D., Nova Southeastern University, 2006

**Cecilia F. Rokusek**

Professor, *Family Medicine*  
Professor, *Public Health*  
B.A., Mount Marty College, 1975  
M.S., University of Nebraska, 1976  
Ed.D., University of South Dakota, 1983

**Mark A. Romer**

Assistant Director, *Predoctoral Clinics*  
Instructor, *Prosthodontics*  
D.D.S., Medical College of Virginia, 1970  
Fellow, American College of Dentists, 2002  
Fellow, International College of Dentists, 2004

**Irving Rosenbaum**

Executive Dean for Administration,  
*Health Professions Division*  
Professor, *Public Health*  
B.A., State University of  
New York at Buffalo, 1971  
M.P.A., University of New York, 1974  
D.P.A., Nova University, 1984  
Ed.D., Nova Southeastern University, 2006

**Rebecca Rosenthal**

Associate Professor, *Physical Therapy*  
Director, *Clinical Education, Entry-Level D.P.T. Program*  
B.S. PT, Sargent College, 1976  
M.S., University of Michigan, 1978  
J.D., Nova University, 1990

**Jill A. Ross**

Assistant Professor, *Family Medicine*  
B.A., Florida Atlantic University, 1999  
D.O., Nova Southeastern University, 2007

**Mark Roth**

Assistant Professor, *Periodontology*  
D.D.S., New York University, 1967  
Certificate—Periodontics, New York University, 1975

**Linda S. Rouse**

Assistant Professor, *Optometry*  
Chief Operations Officer, *The Eye Care Institute*  
B.S., Stetson University, 1988  
O.D., Illinois College of Optometry, 1992  
Fellow, American Academy of Optometry

**Marcella Rutherford**

Interim Associate Dean, *Associate Chair—Academic  
Affairs, and Associate Professor, Nursing*  
B.H.S., Florida Atlantic University, 1990  
M.B.A., Florida Atlantic University, 1997  
M.S., Florida Atlantic University, 2003  
Ph.D., Florida Atlantic University, 2007

**Jay M. Rumsey III**

Associate Professor, *Optometry*  
B.S., University of West Florida, 1969  
O.D., University of Houston, 1979  
Fellow, American Academy of Optometry

**Susan Ryan**

*Assistant Professor, Physician Assistant Studies*  
B.S./P.A., Stony Brook University, 2001  
M.P.A.S., University of Nebraska Medical Center, 2009

**Jesus Sanchez**

*Associate Professor, Sociobehavioral and Administrative Pharmacy*  
B.A., Universidad de Granada (Spain), 1993  
M.A., University of Miami, 1995  
Ph.D., University of Miami, 2001

**Mara R. Sanchez**

*Assistant Professor, Physician Assistant Studies*  
B.S., University of Florida, 1997  
M.M.S., Nova Southeastern University, 2004  
Fellow, American Academy of Physician Assistants

**Susan Sanders**

*Hygienist, Periodontology, Division of Surgical Sciences*  
Miami Dade Community College, 1990

**Mark Sandhouse**

*Associate Professor, Osteopathic Principles and Practice*  
B.S., University of Miami, 1981  
D.O., Southeastern University of the Health Sciences, 1988

**Nisaratana Sangasubana**

*Assistant Professor, Sociobehavioral and Administrative Pharmacy*  
B.S., Chulalongkorn University School of Pharmacy, 1993  
M.S., University of Wisconsin—Madison School of Pharmacy, 2002  
Ph.D., University of Wisconsin—Madison School of Pharmacy, 2003

**Edwin Santini**

*Assistant Professor, Pharmaceutical Sciences*  
B.S., Interamerican University of Puerto Rico, 1997  
Ph.D., Ponce School of Medicine, 2004

**Michelle Saydar**

*Assistant Professor, Anesthesiologist Assistant*  
B.S., Georgia Institute of Technology  
M.M.Sc., Emory University

**Tamer Cem Sayin**

*Assistant Professor, Endodontics*  
D.D.S., Hacettepe University, 2000  
Ph.D., Hacettepe University, 2007

**Judith P. Schaffer**

*Assistant Professor, Family Medicine*  
B.A., Boston University, 1976  
D.O., West Virginia School of Osteopathic Medicine, 1985

**Debbie Glasser Schenk**

*Affiliated Professor, Child Development Specialist*  
B.A., Wellesley College, 1987  
M.S., Nova University, 1991  
Ph.D., Nova Southeastern University, 1996

**Zoanne Schinas**

*Assistant Professor, Optometry*  
B.S., Florida International University, 1999  
O.D., Nova Southeastern University, 2004

**James Schiuma**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., New York University College of Dentistry, 1965

**Dorothy Schmuhl**

*Assistant Professor, Nursing*  
A.D.N., Macomb College, 1986  
B.S.N., University of Phoenix, 2005  
M.S.N., Walden University, 2009

**Wayne A. Schreier**

*Professor and Chair, Physiology*  
B.S., Southern Illinois University, 1977  
M.S., University of California—Los Angeles, 1987  
Ph.D., University of California—Los Angeles, 1991

**Robin Schugar**

*Assistant Professor, Physician Assistant Department*  
B.S., University of Arizona, 1991  
M.S., Arcadia University, 1999  
Fellow, American Academy of Physician Assistants

**Ellen Schwartz**

*Instructor, Periodontology, Division of Surgical Sciences*  
B.S., St. Petersburg College, 2008

**Mark Schweizer**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., University of Maryland, 1982

**Sandi D. Scott-Holman**

*Assistant Professor, Family Medicine*  
B.S., Barry University, 1976  
D.O., Southeastern University of the Health Sciences, 1993

**Matthew Seamon**

*Associate Professor, Pharmacy Practice*  
A.S., Nassau Community College, 1992  
B.A., Florida Atlantic University, 1994  
Pharm.D., University of Michigan, 1998

**Kenneth Seger**

*Associate Professor, Optometry*  
B.S., University of California—Berkeley, 1973  
O.D., University of California—Berkeley, 1975  
M.Sc., University of Manchester, 1982  
Fellow, American Academy of Optometry

**Robert Seltzer**

*Director of Predoctoral Endodontics*  
*Associate Professor, Endodontics*  
D.M.D., University of Pennsylvania, 1972  
Certificate—Endodontics, University of Pennsylvania, 1976

**Josephine Shallo-Hoffmann**

*Professor, Optometry*  
B.A., Columbia University, 1975  
M.A., Rutgers University, 1978  
Ph.D., Rutgers University, 1984  
Fellow, American Academy of Optometry

**David B. Shapiro**

*Instructor, Psychiatry*  
B.A., Rhodes College, 1981  
J.D., University of Memphis, 1984  
D.O., Touro University, 2010

**Laurence Shapiro**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., New York University, 1975

**Daniel E. Shaw**

*Associate Professor, Psychiatry*  
*Associate Professor, Biomedical Informatics*  
B.S., University of Florida, 1974  
M.Ed., University of Florida, 1975  
Ed.S., University of Florida, 1978  
Ph.D., University of Florida, 1981

**Diana Shechtman**

*Associate Professor, Optometry*  
B.S., University of Florida, 1994  
O.D., Nova Southeastern University, 1998  
Fellow, American Academy of Optometry

**Eyad Shehadeh**

*Assistant Professor and*  
*Director, Community Dentistry*  
D.D.S., Damascus University, 1999  
Certificate—AEGD, Nova Southeastern University, 2004

**Elizabeth Sherman**

*Assistant Professor, Pharmacy Practice*  
B.A., New College of Florida, 2001  
Pharm.D., Nova Southeastern University, 2007

**Michael Siegel**

*Professor and Section Chair, Diagnostic Sciences,*  
*Division of Primary Care*  
*Professor, Dermatology*  
D.D.S. Baltimore College of Dental Surgery, 1979  
Certificate—Prosthodontics, Baltimore College of  
Dental Surgery, 1992  
M.S., University of Maryland, 1995  
Fellow, Academy of General Dentistry, 1986  
Fellow, American College of Dentists, 2000  
Fellow, Pierre Fauchard Academy, 2001  
Fellow, International College of Dentists, 2006

**Sharon Siegel**

*Section Chair and Associate Professor, Prosthodontics,*  
*Division of Primary Care*  
D.D.S., Baltimore College of Dental Surgery, 1979  
Certificate—Prosthodontics, Baltimore College of  
Dental Surgery, 1992  
M.S., University of Maryland, 1995  
Fellow, Academy of General Dentistry, 1986  
Fellow, American College of Dentists, 2000  
Fellow, Pierre Fauchard Academy, 2001  
Fellow, International College of Dentists, 2006

**Anthony J. Silvagni**

*Dean, College of Osteopathic Medicine*  
*Professor, Family Medicine*  
*Clinical Professor, Pharmacy Practice*  
*Professor, Public Health*  
B.S. (Pharm.), Philadelphia College of Pharmacy and  
Science, 1963  
M.S. (Pharm.), Philadelphia College of Pharmacy and  
Science, 1966  
Pharm.D., Philadelphia College of Pharmacy and Science, 1970  
D.O., Philadelphia College of Osteopathic Medicine, 1982  
Fellow, American College of Osteopathic Family Physicians  
Fellow, American Foundation for Pharmaceutical Education

**John Silver**

*Assistant Professor, Nursing*  
B.S.N., Florida Atlantic University, 1998  
M.S.N., Florida Atlantic University, 1999  
Ph.D.(FINL), Florida Atlantic University, 2010

**Stanley L. Simpson**

*Associate Professor, Family Medicine*  
B.S., Temple University, 1959  
D.O., Philadelphia College of Osteopathic Medicine, 1974

**Richard Singer**

*Assistant Professor, Orthodontics*  
D.M.D., Washington University  
M.S., Orthodontics, St. Louis University

**Devada Singh-Franco**

*Assistant Professor, Pharmacy Practice*  
B.S. (Pharm.), Arnold & Marie Schwartz  
College of Pharmacy, 1995  
Pharm.D., Arnold and Marie Schwartz  
College of Pharmacy, 2000

**Feroza Sircar-Ramsewak**

*Academic Facilitator and Instructor, Pharmaceutical Sciences*  
B.S., Long Island University, 1973  
M.S., St. John's University, 1980  
Pharm.D., Albany College of Pharmacy, 2004

**Elliot M. Sklar**

*Assistant Professor, Public Health*  
B.A., Concordia University, 2003  
M.S., Florida International University, 2006  
Ph.D., Florida International University, 2008

**Frank Slavichak**

*Assistant Professor and Director, Community Dentistry*  
D.D.S., Ohio State University, 1977

**Debbie Slipkovich**

*Assistant Professor, Nursing*  
M.S.N., Youngstown State University, 2006

**Kristen Smethurst**

*Assistant Professor and Clinical Director,*  
*Physician Assistant Program—Orlando*  
B.A., Rollins College, 1996  
M.P.A.S., University of Florida, 2003

**Donna J. Smith**

*Assistant Professor, Physician Assistant*  
*Program—Jacksonville*  
A.S., Morehead State University, 1980  
P.A., University of Kentucky, 1983  
B.S., University of Kentucky, 1990  
M.P.A.S., University of Nebraska, 2010

**Kristina Smith-Beekhuizen**

*Associate Professor, Physical Therapy*  
B.S., University of Miami, 1992  
M.S., University of Miami, 1997  
Ph.D., University of Miami, 2004

**Samuel K. Snyder**

*Associate Professor, Nephrology*  
A.B., Princeton University, 1973  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Donald Sokolik**

*Assistant Professor and Medical Director,  
Anesthesiologist Assistant*  
B.A., Washington University, 1968  
M.D., Emory University, 1971

**Lisa B. Soontupe**

*Associate Professor, Nursing*  
B.S., State University of New York, 1975  
M.A., New York University, 1977  
Ed.D., Nova Southeastern University, 2010

**Brenda Soto-Torres**

*Assistant Professor, Sociobehavioral and  
Administrative Pharmacy*  
B.S., University of Puerto Rico, 1989  
M.P.H.E., University of Puerto Rico, 1993  
Ph.D., University of Missouri—Columbia, 1998  
M.S., Nova Southeastern University, 2009

**Joseph W. Sowka**

*Professor, Optometry*  
B.S., Cornell University, 1985  
B.S., Pennsylvania College of Optometry, 1987  
O.D., Pennsylvania College of Optometry, 1989  
Diplomate, American Academy of Optometry

**Janet Sparker**

*Assistant Professor, Physician Assistant Studies*  
B.A./P.A., Lake Erie College, 1979  
B.S., Nursing Ursuline College, 1991  
Fellow, American Academy of Physician Assistants  
Fellow, Florida Academy of Physician Assistants

**Robert C. Speth**

*Professor, Pharmaceutical Sciences*  
B.A., Western Maryland College, 1968  
M.A., Connecticut College, 1972  
Ph.D., Vanderbilt University, 1976

**Sally Jo Spooner**

*Assistant Professor, Nursing*  
M.S.N., University of Phoenix, 2004  
Ph.D., Nova Southeastern University, 2008

**Peter A. Sprague**

*Assistant Professor, Sports Medicine*  
B.S., Quinnipiac College, 1993  
D.P.T., University of St. Augustine for the Health Sciences, 2009

**Jennifer Steinberg**

*Assistant Professor, Pharmacy Practice*  
Pharm.D., University of Florida, 2005

**Debra C. Steinkohl**

*Assistant Professor, Family Medicine  
Assistant Professor, Public Health*  
B.S./B.A., University of Florida, 1984  
M.H.S.A., Florida International University, 1985

**Debra Feingold Stern**

*ACCE Coordinator, Part-time Entry-Level D.P.T. Program  
Associate Professor, Physical Therapy  
Associate Professor, Public Health*  
B.S./P.T., State University of New York at Buffalo, 1974  
M.S.M., Rollins College, 1977  
D.B.A., Nova Southeastern University, 2003

**Sabrina Stern**

*Assistant Professor, Nursing*  
B.A., University State of New York, 1990  
M.S.N., University of Phoenix, 2005

**Michael Stout**

*Assistant Professor, Anesthesiologist Assistant*  
B.S., University of Florida, 2002  
M.M.Sc., Emory University, 2006

**Linda Strommen**

*Associate Chair and Program Director, Nursing*  
Diploma R.N., St. Cloud Hospital School of Nursing, 1979  
B.S.N., College of St. Benedict's, 1983  
M.S.N., St. Joseph's College, 2002  
Ed.D., Nova Southeastern University, 2010

**Gabriel P. Suci**

*Associate Professor, Public Health*  
Ph.D., Romanian Academy, 1999  
M.S.P.H., University of South Carolina of Public Health, 2001

**P. Stephen Taraskevich**

*Professor, Physiology*  
B.A., University of California—Los Angeles, 1967  
M.A., University of California—Los Angeles, 1969  
Ph.D., University of California—Los Angeles, 1973

**Burak Taskonak**

*Associate Professor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
Ph.D., University of Florida, 2004  
D.D.S., Indiana University, 2007

**Yin Tea**

*Assistant Professor, Optometry*  
B.S., University of California—Los Angeles, 1995  
O.D., Southern California College of Optometry, 1999  
Fellow, American Academy of Optometry

**David L. Thomas**

*Professor, Surgery  
Professor, Public Health*  
A.B., University of Miami, 1966  
M.D., University of Miami School of Medicine, 1970  
J.D., Stetson University College of Law, 1995

**Jeffrey Thompson**

*Professor, Prosthodontics, Division of Primary Care*  
Ph.D., University of Florida, 1995

**Patricia Toribio**

*Assistant Professor, Vascular Sonography*  
B.A., University of Peru, 1998  
B.H.Sc., Nova Southeastern University, 2006  
M.H.Sc., Nova Southeastern University, 2007

**Luz Torres Flores**

*Academic Facilitator/Instructor, Pharmaceutical Sciences*  
B.S. Pharm, University of Puerto Rico, 1989  
Pharm.D., Nova Southeastern University, 2006

**Annelyn Torres-Reverón**

*Assistant Professor, Pharmaceutical Sciences*  
B.S., University of Puerto Rico, 1999  
Ph.D., State University of New York, 2005

**Melissa Tovin**

*Assistant Professor, Physical Therapy*  
B.S., New York University, 1988  
M.A., Columbia University, 1993  
Ph.D., Georgia State University, 1999

**William Trevarthen**

*Postgraduate Director and Associate Professor,  
Pediatric Dentistry*  
D.M.D., University of Louisville, 1963  
Certificate—Pediatric Dentistry, Children's Hospital, 1972  
Diplomate, American Board of Pediatric Dentistry, 1990

**Almos Bela Trif**

*Associate Professor, Pathology*  
M.D., University of Medicine and Pharmacy, Romania, 1976  
J.D., University Al I. Cuza Iasi, Romania, 1984  
Ph.D., University of Medicine and Pharmacy, 1995

**Khin M. Tu**

*Associate Professor, Anatomy*  
*Associate Professor, Public Health*  
M.B.B.S., University of Mandalay, Myanmar, 1965  
M.Ch., University of Liverpool, Great Britain, 1972  
Fellow, Royal Australian College of Surgery  
Fellow, Royal College of Surgery, Edinburgh, Scotland  
Fellow, Royal College of Surgery, Great Britain

**Julie Tyler**

*Associate Professor, Optometry*  
B.A., Creighton University, 1992  
O.D., Indiana University School of Optometry, 1996  
Fellow, American Academy of Optometry

**Robert Uchin**

*Dean, College of Dental Medicine*  
*Professor, Endodontics*  
D.D.S., Temple University School of Dentistry, 1957  
Diplomate, American Board of Endodontics  
Fellow, American Association of Endodontics  
Fellow, American College of Dentists, 1982  
Fellow, International College of Dentists, 1983

**Michael Ulm**

*Assistant Professor, Physician Assistant Studies*  
B.S./P.A., University of Oklahoma, 1995  
J.D., Oklahoma City University School of Law, 2006

**Daniel J. Vacca**

*Clinical Pharmacist/Instructor, Sociobehavioral and  
Administrative Pharmacy*  
B.S., University of Pittsburgh, 1993  
M.B.A., Clarion University, 2002

**Jorge Varela**

*Academic Facilitator and Instructor, Pharmaceutical Sciences*  
B.S., University of Florida, 1983  
B.S.A., University of Florida, 1985  
Pharm.D., University of Florida, 1989

**Ines Velez**

*Professor and Director, Diagnostic Sciences*  
D.D.S., COC Columbia, 1979  
Certificate—University of Florida, 1984  
M.S., Universidad de los Andes Bogota, 1989  
M.S., Academy of Laser Dentistry USA, 1997  
Diplomate, American Board of Oral and  
Maxillofacial Pathology, 2000  
Fellow, American Academy of Oral Pathology, 1984

**K.V. Venkatachalam**

*Professor, Biochemistry*  
B.S., Washington State University, 1983  
M.S., Washington State University, 1985  
Ph.D., Texas A&M University, 1991

**Rick Vogel**

*Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., New York University, 1979

**Lori Vollmer**

*Assistant Professor, Optometry*  
B.A., University of South Florida, 1990  
O.D., Nova Southeastern University, 2002  
Fellow, American Academy of Optometry

**Heidi Wagner**

*Professor, Optometry*  
B.S., Ohio State University, 1984  
O.D., Ohio State University, 1986  
Diplomate, American Academy of Optometry

**Robert Wagner**

*Associate Chair, Director, and Assistant Professor,  
Anesthesiologist Assistant*  
B.S., Florida A&M University, 1987  
M.M.Sc., Emory University, 1991  
M.P.H., University of Massachusetts, 2004

**Elaine M. Wallace**

*Executive Associate Dean for Academics*  
*Professor, Osteopathic Principles and Practice*  
B.S., University of Mississippi, 1976  
D.O., University of Health Sciences College of  
Osteopathic Medicine, 1980  
M.S., University of Kansas, 2003

**Jacqueline Reese Walter**

*Assistant Professor, Occupational Therapy Program*  
B.S., Keuka College, 1997  
Ph.D., Nova Southeastern University, 2010

**Donald Walters**

*Associate Professor, Pharmacology*  
B.S., St. Louis College of Pharmacy, 1980  
Ph.D., University of Louisville, 1986

**Thomas Ward**

*Assistant Professor, Oral Medicine,  
Division of Diagnostic Science*  
D.M.D., University of Florida, 1989  
M.P.H., Barry University, 2009

**Barry Waterman**

*Assistant Professor, Community Dentistry*  
D.M.D., Tufts University, 1976

**Sally A. Weiss**

*Director and Professor, Nursing*  
B.S.N., American University, 1972  
M.S.N., University of Miami, 1986  
Ed.D., Florida International University, 1997

**Marline Whigham**

*Assistant Professor, Nursing*  
B.S.N., Florida Atlantic University, 2002  
M.S.N., University of Phoenix, 2007

**Albert W. Whitehead**

*Assistant Dean, Clinical Services and Admissions,  
College of Osteopathic Medicine  
Assistant Professor, Family Medicine*  
B.S., University of Nevada, 1985  
D.M.D., University of Pittsburgh, 1990  
M.Ed., University of Pittsburgh, 1994  
M.B.A., University of Pittsburgh, 1998

**Diane Whitehead**

*Director and Professor, Nursing Department*  
B.S.N., Florida State University, 1966  
M.S.N., University of Miami, 1986  
Ed.D., Florida International University, 1997

**Danny G. Whu**

*Instructor, Preventive Medicine*  
B.S., Florida International University, 1994  
M.D., University Central Caribe School of Medicine, 2000

**Margaret L. Wilkinson**

*Assistant Professor, Community Medicine  
Assistant Professor, Public Health*  
M.A., Michigan State University, 1967  
Ph.D., Kent State University, 1989

**J. Keith Williams**

*Assistant Professor, Physician Assistant Studies*  
B.A., Western Connecticut State University, 1976  
B.S., University of Florida, 1983  
M.P.A.S., University of Nebraska, 2005  
Fellow, American Academy of Physician Assistants

**Stanley H. Wilson**

*Associate Dean, Academic Affairs,  
College of Allied Health and Nursing  
Associate Professor, Physical Therapy*  
B.S. PT, Howard University, 1981  
M.S., St. Thomas University, 1984  
Ed.D., Florida International University, 2000

**Kristin Winston**

*Assistant Professor, Occupational Therapy Program*  
B.S., University of New Hampshire, 1985  
M.S., University of Vermont, 1990  
Ph.D., Nova Southeastern University, 2008

**William R. Wolowich**

*Chair and Assistant Professor, Pharmacy Practice*  
B.Sc. (Pharm.), University of Manitoba, 1988  
Pharm.D., State University of New York—Buffalo, 1993

**Christopher E. Woodruff**

*Associate Professor, Optometry*  
B.S., Ohio State University, 1981  
O.D., Ohio State University, 1986  
M.B.A., Nova Southeastern University, 2003  
Fellow, American Academy of Optometry

**Albert D. Woods**

*Associate Professor, Optometry*  
B.A., Western Washington University, 1982  
M.S., Florida Institute of Technology, 1986  
B.S., Pennsylvania College of Optometry, 1987  
O.D., Pennsylvania College of Optometry, 1990  
Fellow, American Academy of Optometry

**Rick K. Yip**

*Professor, Anatomy*  
B.S., Southern Illinois University, 1975  
M.S., University of Arkansas, 1980  
Ph.D., Medical College of Wisconsin, 1985  
M.B.A., Nova Southeastern University, 2005

**Samuel Yoders**

*Director, Cardiovascular Sonography Program—Tampa  
Assistant Professor, Vascular Sonography*  
B.S., University of Akron, 1985  
B.H.Sc., Nova Southeastern University, 2006  
M.H.Sc., Nova Southeastern University, 2008

**Yuri Zagvazdin**

*Associate Professor, Physiology*  
B.S., Tyumen State University, 1982  
Ph.D., Sechenov Institute of Evolutionary Physiology &  
Biochemistry, National Academy of Sciences, 1989

**Antonia Zapantis**

*Associate Professor, Pharmacy Practice*  
A.A., Broward Community College, 1997  
Pharm.D., Nova Southeastern University, 2001  
M.S., University of Kansas, 2003

**Bin Zhang**

*Associate Professor, Optometry*  
M.D., Nanjing University, 1995  
M.S., Nanjing University, 1997  
Ph.D., University of Houston, 2003

**Michelle Jamongjit Zhao**

*Assistant Professor, Pharmacology*  
B.A., University of Texas, 2002  
Ph.D., University of Texas, 2006

**Steven B. Zucker**

*Professor, Family Medicine  
Professor, Public Health  
Professor, Community Dentistry*  
B.A., University of Pennsylvania, 1969  
D.M.D., University of Connecticut School of  
Dental Medicine, 1973  
M.Ed., University of Hartford, 1973

**Adjunct/Clinical/Visiting Faculty****Stephen D. Aaron**

*Clinical Assistant Professor, Orthodontics*  
D.M.D., Fairleigh Dickinson University College of  
Dental Medicine, 1976

**Elizabeth M. Aarons**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of Florida, 2001  
M.D., University of Miami School of Medicine, 2005

**Mick Abae**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Fairleigh Dickinson University, 1977  
M.S., Fairleigh Dickinson University, 1979  
M.D., New York Medical College, 1984

**Nuzhat A. Abbasi**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Fatima Jinnah Medical College, 1973

**Omar Abdo**

*Clinical Assistant Professor, Restorative Dentistry*  
D.D.S., University of Jordan, 1992

**Ibrahim Abi-Rafeh**

*Clinical Assistant Professor, Psychiatry*  
B.S., American University of Beirut, 1983  
M.D., Universidad Tecnologica de Santiago, 1986

**Anthony A. Abouhanna**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of South Florida, 1992  
D.O., Nova Southeastern University, 2002

**Michael A. Abrahams**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., University of Bristol, 1970  
M.D., University of the West Indies, 1974

**Susan Abramson**

*Visiting Assistant Professor, Research*  
Ph.D., University of Miami, 1994

**Jose J. Abreu**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., University of Miami, 1984  
M.D., Thomas Jefferson Medical College, 1988

**John L. Abt**

*Clinical Associate Professor, Family Medicine*  
B.A., Boston University, 1979  
D.O., New York College of Osteopathic Medicine, 1983

**Amarilis Acevedo**

*Clinical Associate Professor, Psychiatry*  
B.A., University of Puerto Rico, 1981  
M.A., University of California, 1985  
Ph.D., University of California, 1989

**Miguel A. Acevedo-Segui**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Puerto Rico, 1984  
M.D., University of Puerto Rico School of Medicine, 1988

**Felix N. Acholonu**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., City College of New York, 1976  
M.S., Columbia University, 1976  
M.D., State University of New York College of Medicine, 1981

**Ronald T. Ackerman**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.A., Hofstra University, 1974  
M.D., Medical Universidad de Guadalajara, 1978

**Rodolfo Acosta**

*Adjunct Assistant Professor, Prosthodontics*  
D.D.S., University of Valle, 1992

**Manuella Adrian**

*Adjunct Assistant Professor, Public Health*  
B.A., McGill University, 1968  
M.Sc., University of Pittsburgh, 1973

**Shino B. Aguilera**

*Clinical Assistant Professor, Dermatology*  
B.S., University of California, 1993  
D.O., Western University of Health Sciences, 1999

**Sultan S. Ahmed**

*Clinical Associate Professor, Family Medicine*  
M.D., Dacca University, Bangladesh, 1978  
P.A., Bayley Seton Hospital, 1988

**Jorge L. Ajuria**

*Clinical Assistant Professor, Nephrology*  
B.A., University of Rochester, 1987  
M.D., Temple University School of Medicine, 1998

**Alan B. Aker**

*Clinical Adjunct Instructor, Optometry*  
M.D., New York Medical College, 1976  
Ophthalmology, North Shore University Hospital, 1980

**Asfa S. Akhtar**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Alabama, 1994  
D.O., Nova Southeastern University, 2000

**Palghat M. Alamelu**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Calcutta, 1969  
D.C.H., University of Calcutta, 1973  
D.T.C., Liverpool, 1982

**Lourdes A. Alamo**

*Clinical Assistant Professor, Pediatrics*  
M.D., Ponce School of Medicine, 1995

**Arthur L. Albers**

*Clinical Assistant Professor, Urology*  
B.A., University of South Florida, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Oscar A. Alea**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Central del Este, 1986

**Hassan Ali**

*Clinical Assistant Professor, Nephrology*  
M.D., University of the West Indies, 1978

**Syed A. Ali**

*Clinical Assistant Professor, Pediatrics*  
M.D., Dow Medical College, 1992

**Syed Imran Ali**

*Clinical Assistant Professor, Cardiology*  
M.D., Dow Medical College, 1992

**Mary Alkire**

*Adjunct Faculty Member, Nursing*  
B.S.N., Northern Michigan University, 1973  
M.S.N., University of Minnesota, 1978  
Ed.D., University of Minnesota, 1999

**Joseph D. Allgeier**

*Clinical Assistant Professor, Family Medicine*  
B.S., St. Bonaventure University, 1990  
D.O., Philadelphia College of Osteopathic Medicine, 1994

**Alina M. Alonso**

*Clinical Assistant Professor, Preventive Medicine*  
B.S., Barry University, 1978  
M.D., Universidad Autonoma de Ciudad Juarez, 1984

**Noel Alonso**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of Miami, 1992  
M.S., Barry University, 1994  
M.D., St. George's University School of Medicine, 1998

**Raul Alonso**

*Clinical Assistant Professor, Cardiology*  
M.D., University of Miami School of Medicine, 1995

**Barnet I. Alpert**

*Clinical Associate Professor, Family Medicine*  
B.S., City University of New York—Brooklyn College, 1963  
D.O., Chicago College of Osteopathic Medicine, 1967

**Carol Alterman**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
A.S., Santa Fe Community College, 1982

**Donald H. Altman**

*Clinical Professor, Pediatrics*  
A.B., Washington University, 1946  
B.S., University of Missouri, 1948  
M.D., University of Tennessee, 1950

**Lynda Altman**

*Clinical Assistant Professor, Family Medicine*  
B.S., Adelphi University, 1980  
M.D., Ross University School of Medicine, 1986

**Raul A. Alvarez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad de Cadiz, 1983

**Ricardo S. Alvarez**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., Universidad Autonoma de Guadalajara, 1977

**Carl Amko**

*Clinical Assistant Professor, Surgery*  
M.D., Mahidol University, 1968

**Laura M. Amon**

*Adjunct Assistant Professor, Physician Assistant Studies*  
B.S./P.A., Saint Francis College, 1989  
M.S., Alderson-Broaddus College, 1995  
Fellow, American Academy of Physician Assistants

**Vibhuti A. Ansar**

*Clinical Assistant Professor, Family Medicine*  
M.D., American University of the Caribbean School of  
Medicine, 2001

**Maryellen Antonetti**

*Adjunct Assistant Professor, Physician Assistant Studies*  
*Adjunct Assistant Professor, Public Health*  
B.S./P.A., Nova Southeastern University, 1996  
M.P.H., Nova Southeastern University, 1996  
Fellow, American Academy of Physician Assistants

**Frances J. Aquino**

*Clinical Instructor, Internal Medicine*  
M.D., Cadiz University, 1984

**Alberto Aran**

*Clinical Associate Professor, Optometry*  
B.S., Spring Hill College, 1976  
M.D., Tulane University, 1982

**Marc A. Arel**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Miami School of Medicine, 1977  
B.A., University of Miami, 1992

**Joseph J. Arena**

*Clinical Assistant Professor, Internal Medicine*  
M.D., St. George's University School of Medicine, 1987

**Jorge A. Arenas**

*Adjunct Assistant Professor, Diagnostic Sciences,  
Division of Primary Care*  
D.M.D., Nova Southeastern University, 2006

**Charles A. Arkin**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Tennessee School of Medicine, 1964

**Dan Arnold**

*Clinical Assistant Professor, Pediatric Dentistry*  
D.D.S., University of Kentucky College of Dentistry, 1968  
M.S., University of Nebraska, 1970

**Frances Aronovitz**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of Texas, 1973  
M.S., Florida International University, 1975  
M.S.N., University of Miami, 1981  
Ph.D., University of Miami, 1984

**Judith D. Aronson-Ramos**

*Clinical Assistant Professor, Pediatrics*  
B.A., Dartmouth College, 1982  
M.D., University of Miami School of Medicine, 1990

**Jose F. Arrascue**

*Clinical Assistant Professor, Nephrology*  
M.D., Cayetano Medical University, 1973

**Steven L. Attermann**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Union College, 1979  
D.O., University of Medicine and Dentistry of New Jersey, 1984

**Liliana M. Awan**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad Iberoamericano, 1998

**Glen K. Axelson**

*Clinical Instructor, Pathology*  
B.S., Michigan State University, 1997  
M.S., Barry University, 1999  
D.O., Chicago College of Osteopathic Medicine, 2003

**Ardem M. Aydur**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Hacettepe University, 1992



**George P. Azar, Jr.**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.A., Villanova University, 1978  
M.D., Ross University School of Medicine, 1984

**Hanan Azer**

*Adjunct Faculty, Physician Assistant Studies*  
A.A., Lehigh Carbon Community College, 1996  
Pharm.D., Temple University, 2000  
Consultant Pharm Degree, University of Florida, 2001

**Kara Bacchus**

*Clinical Assistant Professor, Optometry*  
B.S., Stetson University, 1991  
O.D., Southern College of Optometry, 1995

**Sergio Badel**

*Clinical Instructor, Psychiatry*  
M.D., Universidad Del Norte, 2001

**Douglas M. Baird**

*Clinical Assistant Professor, Family Medicine*  
D.O., Kirksville College of Osteopathic Medicine and Surgery, 1965

**Barbara Bajaj**

*Physical Therapy*  
B.S. PT, Northeastern University, 1972  
M.S. PT, University of Miami, 1994

**Matt Dane Baker**

*Adjunct Faculty Member, Health Science*  
B.S., Drexel University, 1983  
Certificate—Physician Assistant, Drexel University, 1983  
B.A., Richard Stockton College, 1983  
M.S., St. Joseph's University  
D.H.Sc., Nova Southeastern University, 2007

**Cathy M. Balbin**

*Clinical Assistant Professor, Anesthesiology*  
D.O., Southeastern University of the Health Sciences, 1987

**Gilda Baldwin**

*Adjunct Assistant Professor, Health Science*  
M.M.S., Nova Southeastern University, 2002  
D.H.Sc., Nova Southeastern University, 2006

**Emilio Balias**

*Clinical Assistant Professor, Optometry*  
O.D., University of Houston College of Optometry, 1991

**Anaisys M. Ballesteros**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida International University, 1994  
D.O., Texas College of Osteopathic Medicine, 1999

**Pami L. Ball-Pella**

*Clinical Assistant Professor, Family Medicine*  
B.S., Worcester State College, 1995  
B.S.N., Pace University, 2000  
M.S.N., Pace University, 2001

**Stephen Balshi**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
M.S., Drexel University, 2005

**Thomas Balshi**

*Adjunct Professor, Prosthodontics, Division of Primary Care*  
D.D.S., Temple University, 1972

**Venkataraman Balu**

*Clinical Assistant Professor, Cardiology*  
M.D., University of Madras School of Medicine, 1966

**Roxanne Bamond**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Florida, 1984  
M.S., Nova Southeastern University, 1994  
Ph.D., Nova Southeastern University, 2000

**Ahmed H. Barhoush**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., University of Cairo, 1966

**Elizabeth J. Barice**

*Clinical Assistant Professor, Preventive Medicine*  
*Adjunct Assistant Professor, Public Health*  
B.S., University of Florida, 1963  
M.D., Stanford University, 1976  
M.P.H., Harvard University, 1980

**Douglas H. Barlow**

*Clinical Assistant Professor, Pediatrics*  
B.A., Amherst College, 1984  
M.D., New York University, 1989

**Luis Barreras**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., University of Florida, 1976  
M.D., University of Miami, 1981

**Luis F. Barroso**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.S., Havana University, 1957  
D.O., College of Osteopathic Medicine and Surgery, 1969

**Terrence J. Barry**

*Clinical Assistant Professor, Orthopedic Surgery*  
A.B., Harvard College, 1952  
M.D., Cornell University Medical College, 1963

**Nabil A. Barsoum**

*Clinical Associate Professor, Family Medicine*  
M.D., Cairo University, 1972

**Hal J. Bashein**

*Clinical Assistant Professor, Urology*  
B.S., University of Georgia, 1981  
D.O., Southeastern University of the Health Sciences, 1986

**Alan S. Bassin**

*Clinical Assistant Professor, Surgery*  
B.A., Vanderbilt University, 1989  
M.D., University of Miami School of Medicine, 1994

**Dipesh Batra**

*Clinical Assistant Professor, Pediatrics*  
M.D., Government Medical College and Hospital, 1994

**Patricia A. Baumann**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Cornell University, 1987  
M.S., University of Miami, 1990  
D.O., Nova Southeastern University, 1994

**Michael W. Bays**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Ferris State University, 1978  
D.O., Michigan State University, 1986

**David Begleiter**

*Clinical Instructor, Family Medicine*  
M.D., State University of New York Medical Center, 2003

**Carlos Bejar**

*Clinical Assistant Professor, Nephrology*  
M.D., Universidad Central del Este, 1987

**Francisco E. Belette**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., Haverford College, 1982  
M.D., University of Illinois, 1986

**Laura E. Bell**

*Clinical Instructor, Family Medicine*  
B.S., St. Leo's College, 1982  
M.S., University of Southern California, 1994  
M.P.A., University of Florida, 2000

**Michael D. Bell**

*Clinical Assistant Professor, Surgery*  
B.A., Cornell University, 1981  
M.D., Dartmouth Medical School, 1985

**Roberta Benefield**

*Clinical Assistant Professor, Family Medicine*  
A.R.N.P., University of Miami, 1977

**Alyn L. Benezette**

*Clinical Assistant Professor, Neurology*  
B.S., Michigan State University, 1978  
D.O., Michigan State University College of Osteopathic Medicine, 1981

**Shaughn C. Bennett**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1974  
M.S., Florida International University, 1982  
D.O., Southeastern University of the Health Sciences, 1986

**Robert L. Bentz II**

*Clinical Associate Professor, Ophthalmology*  
B.S., Ohio State University, 1974  
D.O., Philadelphia College of Osteopathic Medicine, 1978

**Don H. Bercuson**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Northwestern University, 1971  
M.D., University of Miami School of Medicine, 1975

**Stephen Berger**

*Adjunct Assistant Professor, Cariology and Restorative Dentistry*  
D.D.S., Georgetown University, 1973

**Charles Berlin**

*Adjunct Professor, Audiology*  
B.A., City University of New York—Brooklyn College  
M.S., City University of New York—Brooklyn College  
Ph.D., City University of New York—Brooklyn College

**Arthur L. Berman**

*Clinical Instructor, Internal Medicine*  
B.A., Washington and Jefferson College, 1977  
D.O., Kirksville College of Osteopathic Medicine, 1981

**Stuart A. Berman**

*Adjunct Faculty, Endodontics*  
D.D.S., Fairleigh Dickinson University, 1966  
Certificate—Endodontics, Columbia University, 1972

**Ernest G. Bertha**

*Clinical Associate Professor, Pediatrics*  
B.A., Rutgers College, 1978  
M.D., Far Eastern University, 1984  
M.B.A., University of South Florida, 1996

**Sandra Bertman**

*Clinical Associate Professor, Medical Humanities*  
B.A., Vassar College, 1958  
Ed.M., Boston University, 1964  
Ph.D., The Union Institute, 1988

**Stephen A. Besh**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., Louisiana State University, 1986  
M.D., Louisiana State University Medical School, 1990

**Charles A. Bevis**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Florida State University, 1963  
M.D., Bowman Gray School of Medicine, 1969

**Anthony Bezerra**

*Adjunct Clinical Instructor, Community Dentistry, Division of Developmental Science*  
D.D.S., University of Mexico Americana del Norte, 2000  
Certificate—Dental Medicine, Nova Southeastern University, 2007

**Hetel Bhakta**

*Clinical Instructor, Optometry*  
B.S., University of Manchester, UK, 2003  
O.D., New England College of Optometry, 2008

**Nisha Bhatt**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Rutgers University School of Business, 2000  
M.D., Tufts University School of Medicine, 2004

**Michael M. Bibliowicz**

*Clinical Assistant Professor, Otorhinolaryngology*  
B.S., University of Florida, 1979  
D.O., Ohio University College of Osteopathic Medicine, 1984

**Daniel R. Bieda**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Washington, 1987  
D.O., Nova Southeastern University, 1997

**Tony Bien-Aime**

*Clinical Assistant Professor, Family Medicine*  
M.D., State University of Haiti, 1983

**Philippe A. L. Bilger**

*Adjunct Assistant Professor, Public Health*  
B.S., Emory University, 1977  
D.D.S., Emory University School of Dentistry, 1981  
M.P.H., University of Miami School of Medicine, 1991

**David N. Bimston**

*Clinical Assistant Professor, Surgery*  
B.A., Washington University, 1988  
M.D., New York University School of Medicine, 1992

**Benham Birgani**

*Clinical Assistant Professor, Family Medicine*  
B.A., The Union Institute, 1988  
D.O., Southeastern University of the Health Sciences, 1993

**Allan J. Birnbaum**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Rutgers State University, 1975  
D.O., College of Osteopathic Medicine and Surgery, 1979

**Wayne Bizer**

*Clinical Professor, Ophthalmology*  
B.A., University of Louisville, 1966  
D.O., Chicago College of Osteopathic Medicine, 1972  
Fellow, American Osteopathic College of Ophthalmology

**Eugene Blanck**

*Clinical Assistant Professor, Oral and Maxillofacial Surgery*  
D.D.S., University of Pennsylvania, 1959

**Jonathan Bloch**

*Clinical Assistant Professor, Diagnostic Sciences*  
D.M.D., Washington University School of  
Dental Medicine, 1985

**Barry M. Blumenthal**

*Clinical Assistant Professor, Family Medicine*  
B.S., Touro College, 1978  
Ph.D., Columbia Pacific University, 1984  
D.O., Southeastern University of the Health Sciences, 1991

**David Boden**

*Adjunct Associate Professor, Periodontology,  
Division of Surgical Sciences*  
D.D.S., University of Michigan, 1981  
M.S., University of Michigan, 1985

**Kevin M. Boehm**

*Clinical Instructor, Family Medicine*  
B.S., Michigan State University, 1997  
M.S., Barry University, 1999  
D.O., Nova Southeastern University, 2005

**David Bohorquez**

*Clinical Assistant Professor, Family Medicine*  
B.S., Fairleigh Dickinson University, 1990  
D.O., Philadelphia College of Osteopathic Medicine, 1997

**Edgar Bolton**

*Clinical Professor, Pulmonary Medicine*  
B.S., Central Michigan University, 1965  
D.O., Philadelphia College of Osteopathic Medicine, 1969

**Robert L. Boltuch**

*Clinical Assistant Professor, Family Medicine*  
B.A., Duke University, 1980  
D.O., New England College of Osteopathic Medicine, 1984

**Fortuna Borrego**

*Adjunct Faculty Member, Nursing*  
B.S.N., Florida International University, 1997  
M.S.N., University of Phoenix, 2001

**Steven Borzak**

*Clinical Associate Professor, Cardiology*  
A.B., Oberlin College, 1980  
M.D., University of Illinois College of Medicine, 1984

**Kenneth Boyle**

*Clinical Assistant Professor, Optometry*  
B.S., University of Florida, 1984  
M.B.A., University of Florida, 1989  
O.D., Nova Southeastern University, 1994

**Gabriela Bozutti**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., University of Buenos Aires, 1994  
Certificate—Prosthodontics, Nova Southeastern University, 2009

**Bradley J. Bradford**

*Clinical Professor, Pediatrics*  
B.S., Fordham University, 1968  
M.D., University of Maryland School of Medicine, 1972

**Chauntay Y. Bradley**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Tennessee, 1993  
M.D., Meharry Medical College, 2003

**Howard Braverman**

*Clinical Associate Professor, Optometry*  
B.S., University of Miami, 1968  
O.D., University of Houston, 1972

**Stanley Braverman**

*Clinical Associate Professor, Optometry*  
B.S., University of Miami, 1968  
M.D., University of Miami School of Medicine, 1972

**Ginge Brien**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida International University, 1990  
M.D., Sackler School of Medicine, 1995

**Richard J. Brietstein**

*Clinical Professor, Geriatrics*  
B.S., Long Island University, 1967  
D.P.M., Ohio College of Podiatric Medicine, 1971

**Steve E. Bronsburg**

*Adjunct Instructor, Biomedical Informatics*  
B.S., College of Misericordia, 1986  
M.H.S.A., Florida International University, 1999  
M.S., Nova Southeastern University, 2003  
Ph.D., Nova Southeastern University, 2011

**Kevin Broome**

*Clinical Assistant, Optometry*  
O.D., Nova Southeastern University, 1998

**Karl S. Brot**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of Toronto, 1977

**Glennon A. Brown**

*Clinical Assistant Professor, Anesthesiology*  
B.S., University of Florida, 1991  
M.D., State University of New York Health  
Science Center, 1995

**Juanita M. Brown**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida Southern College, 1982  
D.O., Southeastern University of the Health Sciences, 1991

**William E. Bruno, Jr.**

*Clinical Associate Professor, Pediatrics*  
B.S., University of Miami, 1964  
M.D., University of Miami School of Medicine, 1968

**John R. Bucholtz**

*Clinical Assistant Professor, Family Medicine*  
B.A., Washington and Jefferson College, 1978  
D.O., Philadelphia College of Osteopathic Medicine, 1982

**Christopher M. Buckley**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Kentucky, 1995  
D.O., Pikeville College of Osteopathic Medicine, 2003

**Efren Buitrago**

*Clinical Assistant Professor*  
M.D., Universidad Nacional De Colombia, 1989

**Allan Burch**

*Adjunct Assistant Professor, Community Dentistry,  
Division of Developmental Science*  
D.D.S., Medical College of Virginia, 1967

**Jon P. Burdzy**

*Clinical Assistant Professor, Family Medicine*  
B.A., Purdue University, 1993  
D.O., Nova Southeastern University, 1998

**Janine E. Burgher-Jones**

*Clinical Assistant Professor, Family Medicine*  
B.S., Georgia State University, 1982  
M.D., Medical College of Georgia, 1986

**Timothy M. Burke**

*Clinical Instructor, Family Medicine*  
B.S., University of Florida, 1996  
D.O., Nova Southeastern University, 2002

**Cathy A. Burnweit**

*Clinical Associate Professor, Surgery*  
B.A., Dartmouth College, 1977  
M.D., Harvard Medical School, 1981

**Lisa L. Burroughs**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of the Virgin Islands, 1993  
M.D., Boston University School of Medicine, 1998

**Darin L. Bush**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of New England, 1995  
D.O., University of New England College of  
Osteopathic Medicine, 2000

**Rathna Bushan**

*Clinical Assistant Professor, Pediatrics and Rural Medicine*  
M.D., University of Kerala, 1972

**Louis J. Butera**

*Clinical Assistant Professor, Neurology*  
B.S., Temple University, 1967  
D.O., Philadelphia College of Osteopathic Medicine, 1978

**Mark Butler**

*Adjunct Faculty, Cariology and Restorative Dentistry*  
D.D.S., New York University, 1966

**Alberto Caban-Aleman**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Central del Este, 1980

**Angel R. Cadig**

*Clinical Assistant Professor, Pediatrics*  
B.S., The Ohio State University, 1972  
M.D., University of Zaragoza, 1979

**Ann Calabro-Raimondi**

*Clinical Assistant Professor, Internal Medicine*  
B.S., St. John's University, 1982  
M.D., New York University School of Medicine, 1986

**George L. Caldwell, Jr.**

*Clinical Assistant Professor, Orthopedic Surgery*  
M.D., Bowman Gray School of Medicine, 1988

**Richard H. Callari**

*Clinical Assistant Professor, Otolaryngology*  
B.A., Boston University, 1981  
M.D., Medical College of Virginia, 1985

**Aldo A. Calvo**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida International University, 1992  
D.O., Nova Southeastern University, 1996

**Pablo J. Calzada**

*Adjunct Associate Professor, Public Health*  
D.O., Southeastern University of the Health Sciences, 1993  
M.P.H., University of South Florida, 2001

**Eric S. Cameron**

*Clinical Assistant Professor, Pediatrics*  
B.A., Washington Square College, 1967  
M.D., State University of New York, 1971

**Maureen Campbell**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1985  
D.O., Southeastern University of the Health Sciences, 1986

**Shawn P. Cannon**

*Clinical Assistant Professor, Internal Medicine*  
B.S., New York Institute of Technology, 1988  
D.O., New York College of Osteopathic Medicine, 1992

**Jeffrey B. Cantor**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Muhlenberg College, 1983  
M.D., University of Medicine and Dentistry of New Jersey, 1987

**Ronald Cantor**

*Adjunct Assistant Professor, Community Dentistry*  
D.D.S., Medical College of Virginia, 1960

**G. Patricia Cantwell**

*Clinical Professor, Pediatrics*  
B.S., College of St. Elizabeth, 1974  
M.D., Wake Forest University, 1981

**Mariaelena P. Carballo**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1981  
D.O., Nova Southeastern University, 1998

**Marianela Cardenas**

*Adjunct Assistant Professor, Orthodontics,  
Division of Developmental Sciences*  
D.D.S., University of Mexico Americana del Norte, 2000  
Certificate—Dental Medicine, Nova Southeastern  
University, 2007

**Angelica Cardenas Mansur**

*Adjunct Instructor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
D.M.D., Nova Southeastern University, 2003

**Lyssette Cardona**

*Adjunct Assistant Professor, Public Health*  
B.S., University of Puerto Rico, 1979  
M.D., University of Puerto Rico Medical School, 1983  
M.P.H., Tulane University School of Public Health and  
Tropical Medicine, 1988  
M.H.S.A., Barry University, 2005

**Stephanie A. Carlin**

*Clinical Assistant Professor, Pediatrics*  
B.A., College of the Holy Cross, 1996  
D.O., Nova Southeastern University, 2002

**Cesar W. Carralero**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1988  
D.O., Nova Southeastern University, 1999

**Dominic Carreira**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.A., University of Notre Dame, 1995  
M.D., University of Illinois, 2000

**Maria J. Carreon**

*Clinical Assistant Professor, Infectious Disease*  
B.S., University of the Philippines, 1979  
M.D., University of the Philippines College of Medicine, 1983

**Eddy H. Carrillo**

*Clinical Assistant Professor, Surgery*  
M.D., La Universidad de San Carlos, 1977

**Ingrid D. Carter**

*Clinical Assistant Professor,  
Osteopathic Principles and Practice*  
B.S., Florida State University, 1995  
D.O., Western University Health Sciences College of  
Osteopathic Medicine, 2002

**Alberto A. Casaretto**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Tufts University, 1991  
M.D., Tufts University School of Medicine, 1995

**James H. Caschette**

*Clinical Associate Professor, Otorhinolaryngology*  
B.A., University of Buffalo, 1959  
D.O., Philadelphia College of Osteopathic Medicine, 1963

**Terrence D. Case**

*Adjunct Professor, Vascular Sonography*  
P.A., Dartmouth Medical School, 1974  
B.A., Goddard College, 1979  
M.Ed., Harvard University, 1980  
Fellow, Society of Vascular Ultrasound, 2007

**Cheryl L. Case-Diaz**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Miami, 2001

**Patrick Casimir**

*Adjunct Instructor, Biomedical Informatics*  
B.S., Nova Southeastern University, 2001  
M.S., Nova Southeastern University, 2010

**Thomas A. Castillenti**

*Clinical Assistant Professor, Surgery*  
B.A., Washington and Jefferson College, 1976  
D.P.M., Illinois College of Podiatric Medicine, 1980  
D.O., Chicago College of Osteopathic Medicine, 1984

**Ricardo R. Castillo**

*Clinical Instructor, Psychiatry*  
B.A., National Institute of Panama, 1958  
M.D., National University of Mexico School of Medicine, 1968

**Joseph D. Catino**

*Clinical Assistant Professor, Surgery*  
M.D., American University of the Caribbean, 1999

**Jaroslav Cegielski**

*Assistant Professor, Cariology and Restorative Dentistry*  
B.S., University of Nebraska, 1996  
D.M.D., Nova Southeastern University, 2002

**Daniel S. Cervonka**

*Adjunct Faculty, Health Science*  
B.S., Roger Williams College, 1987  
B.S., Yale University School of Medicine, 1989  
C.A.S., Nova Southeastern University, 1998  
M.P.A.S., University of Nebraska, 2003  
D.H.Sc., Nova Southeastern University, 2007

**Kerry E. Chamberlain**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., Oral Roberts University, 1979  
D.O., Kirksville College of Osteopathic Medicine, 1983

**Joseph C. Chan**

*Clinical Associate Professor, Infectious Disease*  
B.A., University of California College of  
Letters and Sciences, 1973  
M.D., University of California School of Medicine, 1977

**Igor Chaplik**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Miami, 1994  
D.O., Nova Southeastern University, 2000

**Ronnie Charin**

*Adjunct Hygienist, Periodontology*  
R.D.H., Fairleigh Dickinson University, 1967

**Jean-Baptiste L. Charlot**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., Universite D'Etat D'Haiti, 1969

**David G. Chase**

*Clinical Assistant Professor, Pulmonary Medicine*  
M.D., University of Mississippi, 1976

**Hope M. Chema**

*Clinical Assistant Professor, Family Medicine*  
M.D., Far Eastern University, 1989

**Yat-Min Chen**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., National Taiwan University, 1981

**Eric S. Chenven**

*Clinical Assistant Professor, Urology*  
B.A., Brandeis University, 1992  
M.D., Albert Einstein College of Medicine, 1996

**C. Lynn Chevalier**

*Adjunct Faculty Member, Health Science*  
B.S., College of St. Rose, 1977  
M.S., The State University at Albany, 1980  
Graduate Certificate—Public Health, University of North Carolina—Chapel Hill, 2001  
M.P.H., University of Massachusetts—Amherst, 2004  
D.H.Sc., Nova Southeastern University, 2007

**Joseph I. Chi**

*Clinical Instructor, Internal Medicine*  
B.S., Tulane University, 1984  
M.D., Tulane School of Medicine, 1988

**Eva Chiang**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.D.S., Havana University, Cuba, 1991

**Michael A. Chizner**

*Clinical Professor, Cardiology*  
B.A., New York University, 1970  
M.D., Cornell University Medical College, 1974

**Eun Choi**

*Adjunct Assistant Professor, Oral and Maxillofacial Radiology, Diagnostic Sciences, Division of Primary Care*  
M.S.D., Seoul National University (South Korea), 1995  
D.D.S., Nova Southeastern University, 2009

**Michael P. Choi**

*Clinical Assistant Professor, Surgery*  
B.S., Tulane University, 1993  
D.O., Nova Southeastern University, 1999

**Rajiv R. Chokshi**

*Clinical Assistant Professor, Internal Medicine*  
M.B.B.S., B.J. Medical College, 1976

**Nicholas M. Cifelli**

*Clinical Assistant Professor, Family Medicine*  
B.A., Rutgers University, 1964  
M.D., George Washington University, 1968

**Ari Ciment**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Rush University Medical College, 2001

**Stephen J. Cina**

*Clinical Professor, Pathology*  
B.A., Johns Hopkins University, 1988  
M.D., Vanderbilt University School of Medicine, 1992

**Frederick W. Clarkson**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1966  
D.O., Kirksville College of Osteopathic Medicine, 1970

**Kevin A. Clauson**

*Adjunct Associate Professor, Biomedical Informatics*  
B.S., University of Tennessee, 1995  
Pharm.D., University of Tennessee, 2000

**Romulo Clavelo**

*Clinical Instructor, Family Medicine*  
M.D., Instituto Superior Ciencias, 1986

**Joshua Cleland**

*Adjunct Faculty, Ph.D. Program, Physical Therapy*  
B.S., Notre Dame College, 1998  
M.P.T., Notre Dame College, 2000  
Ph.D., Nova Southeastern University, 2006

**Jamie L. Clute**

*Clinical Assistant Professor, Pediatrics*  
B.S., Baldwin-Wallace College, 1995  
M.D., Medical University of Ohio, 1999

**William L. Cody**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Memphis State University, 1972  
M.D., University of Tennessee Center of Health Sciences, 1982

**Julio Coello**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.M.H., Ciclo Educativo Tarquil, 1967  
M.D., Saint James Catholic University of Guayaquil, 1975

**Jules J. Cohen**

*Clinical Assistant Professor, Family Medicine*  
B.A., Temple University, 1961  
D.O., Philadelphia College of Osteopathic Medicine, 1965

**Marla Cohen**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S. Dental Hygiene, Miami Dade School of Dental Hygiene, 1976

**Robert A. Cohen**

*Clinical Assistant Professor, Family Medicine*  
D.O., Des Moines University College of Osteopathic Medicine, 1980  
B.S., University of Pittsburgh, 1997

**Steven D. Cohen**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Loyola Stritch School of Medicine, 1974

**Steven W. Cohen**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1987  
D.O., Southeastern University of the Health Sciences, 1991

**Victoria Coleman-Miller**

*Clinical Assistant Professor, Preventive Medicine*  
B.A., Marymount College, 1973  
J.D., Nova University, 1987

**Douglas Colman**

*Clinical Assistant Professor, Family Medicine*  
B.S., Michigan State University, 1975  
D.O., Des Moines College of Osteopathic Medicine & Surgery, 1978

**Viviana Colmegna**

*Clinical Assistant Professor, Psychiatry*  
M.D., National University of La Plata, 1982

**Salvatore Colombo**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.M.D., Nova Southeastern University, 2010

**Felton E. Combest, Jr.**

*Clinical Instructor, Family Medicine*  
B.S., Delta State University, 1974  
M.D., University of Mississippi Medical Center, 1978

**Robert Comperatore**

*Clinical Associate Professor, Surgery*  
M.D., University of Buenos Aires, 1971

**Alex R. Constantinescu**

*Clinical Associate Professor, Pediatrics*  
M.D., Medical Institute Timisoara, 1985

**Jennifer M. Contin**

*Clinical Assistant Professor, Family Medicine*  
M.D., Instituto Universitario de Ciencias, 1998

**Robert B. Contrucci**

*Clinical Associate Professor, Otorhinolaryngology*  
B.S., St. John's University, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Gail Austin Cooney**

*Clinical Assistant Professor, Neurology*  
B.A., Wesleyan University, 1974  
M.D., Mayo Medical School, 1978

**Joseph C. Corcoran**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., University of Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1986

**Frederick A. Corder**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Henderson State University, 1989  
M.D., University of Arkansas College of Medical Sciences, 1994

**Jorge C. Coro**

*Adjunct Assistant Professor, Orthodontics*  
B.S., University of Miami, 1975  
D.M.D., University of Florida, 1979  
M.S., University of Tennessee, 1981  
Diplomate, American Board of Orthodontics

**Loreta Costa**

*Adjunct Faculty, Health Science*  
B.A., Florida Atlantic University, 2001  
M.S., Nova Southeastern University, 2003

**Arthur M. Cowden II**

*Clinical Assistant Professor, Family Medicine*  
D.O., Southeastern University of the Health Sciences, 1985

**Linda S. Cox**

*Clinical Associate Professor, Internal Medicine*  
B.A., Boston University College of Liberal Arts, 1978  
M.D., Northwestern University School of Medicine, 1985

**Shawn H. Cox**

*Clinical Assistant Professor, Family Medicine*  
B.S., Oakwood College, 1995  
M.D., University of Tennessee, 1999

**Eridia Coy**

*Adjunct Faculty Member, Nursing*  
B.S.N., Florida International University, 1990  
M.S.N., University of Phoenix, 2000

**Richard A. Crocco**

*Clinical Assistant Professor, Psychiatry*  
B.S., Ohio State University, 1959  
M.D., Ohio State University Medical School, 1963

**Brian J. Cross**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Westminster College, 1992  
D.O., Ohio University College of Osteopathic Medicine, 1996

**Stella Cross**

*Clinical Assistant Professor, Family Medicine*  
A.D.N., Union University, 1971  
B.S.N., University of Alabama, 1975  
M.S.N., Medical College of Georgia, 1977  
Ph.D., Southwest University, 1990

**William T. Crow**

*Clinical Professor, Family Medicine*  
D.O., Texas College of Osteopathic Medicine, 1987

**Marissa O. Cruz**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Wisconsin, 1999  
M.P.H., University of Illinois, 2001  
D.O., Arizona College of Osteopathic Medicine, 2005

**Robert S. Csere**

*Clinical Assistant Professor, Surgery*  
A.B., Rutgers College, 1972  
D.O., University of Health Sciences College of Osteopathic Medicine, 1976

**Marc E. Csete**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Boston University, 1979  
M.D., University of Miami School of Medicine, 1983

**Robert Cueli**

*Clinical Assistant Professor, Nephrology*  
M.D., Autonoma University, 1982

**Ramon Cuevas-Trisan**

*Clinical Assistant Professor, Physical Medicine and Rehabilitation*  
B.S., Tulane University School of Engineering, 1988  
M.D., University of Puerto Rico School of Medicine, 1992

**Robert F. Cullen, Jr.**

*Clinical Associate Professor, Pediatrics*  
B.A., College of the Holy Cross, 1959  
M.D., Seton Hall College of Medicine and Dentistry, 1963

**Beatriz Cunill-DeSautu**

*Clinical Assistant Professor, Pediatrics*  
B.S., Florida International University, 1996  
M.D., University of Medicine and Dentistry of New Jersey, 2001

**Linda Cupo**

*Adjunct Faculty Member, Nursing*  
B.S.N., Florida International University, 1995  
M.S.N./A.R.N.P., Florida International University, 1997

**Denice C. Curtis**

*Adjunct Faculty, Health Science*  
D.M.D., Central University of Quito, Ecuador, 1980  
M.P.H., University of Kansas Medical Center, 1996  
D.H.Sc., Nova Southeastern University, 2010

**Mike Cusnir**

*Clinical Assistant Professor, Hematology/Oncology*  
M.D., Pontificia Universidad Javeriana, 1994

**Adam R. Cutler**

*Clinical Assistant Professor, Pediatrics*  
B.S., State University of New York, 1984  
M.D., Sackler School of Medicine, 1989

**Albert Dabbah**

*Clinical Assistant Professor, Surgery*  
B.A., University of Maryland, 1982  
M.S., University of Maryland, 1984  
M.D., University of Maryland School of Medicine, 1987

**Nilesh Dalal**

*Clinical Assistant Professor, Periodontology*  
D.M.D., Nova Southeastern University, 2000

**Matthew J. D'Alessio**

*Clinical Assistant Professor, Surgery*  
B.S., College of Agriculture & Life Sciences, 1992  
M.D., University of Florida College of Medicine, 1996

**Michael T. Dalley**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York, 1998  
D.O., University of Medicine and Dentistry of New Jersey, 2002

**Harold L. Dalton**

*Clinical Assistant Professor,  
Physical Medicine and Rehabilitation*  
B.S., University of Florida, 1986  
M.S., University of Florida, 1988  
D.O., Nova Southeastern University, 1996

**Margarette Damas**

*Clinical Instructor, Family Medicine*  
B.A., New York University, 1990  
D.O., Georgetown University School of Medicine, 1995

**Roscoe G. Dandy**

*Adjunct Professor, Public Health*  
B.A., California State University, 1970  
M.P.H., University of Pittsburgh, 1974  
Dr.P.H., University of Pittsburgh, 1981

**Randy Danielsen**

*Adjunct Faculty, Health Science*  
B.S., University of Utah, 1978  
M.P.A.S., University of Nebraska, 1997  
Ph.D., The Union Institute, 2002

**Brad L. Dansky**

*Clinical Assistant Professor, Psychiatry*  
B.S., University of Connecticut, 1980  
M.D., University of the Health Sciences School of  
Medicine, 1984

**Douglas W. David**

*Clinical Assistant Professor, Family Medicine*  
B.S., Ohio State University, 1977  
M.S., Ohio State University, 1980  
D.O., Ohio University College of Osteopathic Medicine, 1987

**Edward Davis**

*Clinical Assistant Professor, Neurology*  
B.S., Purdue University, 1972  
D.O., Philadelphia College of Osteopathic Medicine, 1978

**Jean W. Davis**

*Adjunct Faculty, Health Science*  
B.S., Rutgers University, 1992  
M.S., Rutgers University, 1994  
Ed.D., Nova Southeastern University, 1998

**Lance G. Davis**

*Clinical Instructor, Pathology*  
B.A., Chaminade University, 1978  
M.D., American University of the Caribbean, 1987

**Robert Davis**

*Clinical Assistant Professor, Optometry*  
O.D., Pennsylvania College of Optometry, 1970

**Mark H. Dawson**

*Clinical Assistant Professor, Family Medicine*  
M.D., Louisiana State University School of Medicine, 1976  
M.B.A., Louisiana State University, 1995

**Juan M. D'Brot**

*Clinical Assistant Professor, Pulmonary Medicine*  
Cayetano Heredia University Medical School, 1980

**Antonio F. DeFilippo**

*Clinical Assistant Professor, Psychiatry*  
B.S., University of Miami, 1987  
M.D., University of South Florida College of Medicine, 1991

**Hector M. Delgado**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida International University, 1985  
D.O., Southeastern University of the Health Sciences, 1990

**Margarita Delgado**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Central Florida, 1990  
D.O., Des Moines University College of  
Osteopathic Medicine, 1995

**Pallavi B. Deliwala**

*Clinical Assistant Professor, Pediatrics*  
M.D., Seth G.S. Medical College, 1969

**Jessica M. De Leon**

*Adjunct Assistant Professor, Public Health*  
B.S., University of Florida, 1989  
M.A., University of Florida, 1992  
Ph.D., University of Florida, 2000



**Alejandro Del Valle**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Boston University Sargent College of Allied Health Profession, 1997  
D.O., New York College of Osteopathic Medicine, 2001

**Brian DenBeste**

*Clinical Assistant Professor, Optometry*  
O.D., Illinois College of Optometry, 1980

**William Denton**

*Adjunct Instructor, Optometry*  
O.D., Michigan College of Optometry, 2000

**Vladimir Derenoncourt**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1989  
D.O., Nova Southeastern University, 1996

**James A. Derrenbacker, Jr.**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1980  
M.S., University of South Florida, 1983  
D.O., Texas College of Osteopathic Medicine, 1990

**Alfred A. DeSimone**

*Clinical Assistant Professor, Orthopedic Surgery,  
Sports Medicine*  
M.D., University of Miami, 1989

**Albert Despaigne**

*Adjunct Instructor, Periodontology,  
Division of Surgical Sciences*  
D.M.D., New York University, College of Dentistry, 1977

**Lesly Desrouleaux**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., City University of New York, 1977  
M.D., Albert Einstein College of Medicine, 1981

**Christopher DeTure**

*Clinical Assistant Professor, Periodontology*  
D.M.D., University of Florida, 1996

**Karl Marx Dhana**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Miami School of Medicine, 1988  
B.S., Florida International University, 1993

**Jorge L. Diaz**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Florida International University, 1988  
M.S., Florida International University, 1991  
D.O., Nova Southeastern University, 1996

**Leslie E. Diaz**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad Central del Este, 1985

**Maria A. Diaz**

*Clinical Instructor, Internal Medicine*  
B.S., Barry University, 1988  
Pharm.D., University of Florida, 1992  
D.O., Nova Southeastern University, 1998

**Tony Diaz**

*Clinical Instructor, Orthopedic Surgery*  
B.A., University of Miami, 1988  
D.O., Southeastern University of the Health Sciences, 1992

**Robert L. DiGiovanni**

*Clinical Assistant Professor, Internal Medicine*  
B.A., The Johns Hopkins University, 1978  
D.O., Kirksville College of Osteopathic Medicine, 1982

**Allan J. Dinnerstein**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Tufts University, 1960  
M.D., Albert Einstein College of Medicine, 1964

**Oliver R. DiPietro**

*Clinical Assistant Professor, Internal Medicine*  
B.S., McGill University, 1976  
M.D., University of Sherbrooke Medical School, 1980

**Steve Dischiavi**

*Adjunct Faculty, Physical Therapy*  
B.S., Slippery Rock University, 1995  
M.S., PT, State University of New York Health Science Center—Syracuse, 1997

**Jordan J. Ditchek**

*Clinical Associate Professor, Radiology*  
B.S., Massachusetts Institute of Technology, 1991  
M.D., Cornell University Medical College, 1995

**Michelle A. Doldren**

*Adjunct Assistant Professor, Public Health*  
B.S., Howard University, 1999  
M.P.H., University of South Florida, 2001

**Manny Dominguez**

*Adjunct Assistant Professor, Biomedical Informatics*  
B.S., Tampa College, 1992  
M.B.A., University of Sarasota, 1994  
Ph.D., Nova Southeastern University, 2000

**William Donaldson**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., University of Maryland, 1965

**Theresa Doolittle**

*Adjunct Assistant Professor, Physician Assistant Studies*  
B.A., University of California, 1982  
M.P.H., Northeastern University, 1996  
D.H.Sc., Nova Southeastern University, 2008

**David W. Dorton**

*Clinical Assistant Professor, Dermatology*  
B.S., University of South Florida, 1986  
D.O., Southeastern University of the Health Sciences, 1991

**James Doty**

*Clinical Assistant Professor, Surgery*  
B.S., University of Massachusetts, 1992  
M.D., Boston University School of Medicine, 1996

**Barry Doublestein**

*Clinical Assistant Professor, Family Medicine  
Southeast Regional Coordinator, Nova Southeastern  
University College of Osteopathic Medicine*  
B.A., Albion College, 1976  
M.A., Northeast Missouri State University, 1986  
D.S.L., Regent University, 2009

**Marilyn Douglas**

*Clinical Instructor, Occupational Therapy*  
B.S., University of Florida, 1990

**Jeffrey Dresner**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Rensselaer Polytechnic Institute, 1976  
M.S., State University of New York, 1978  
M.D., New York Medical College, 1982

**Martin J. Drost**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Iowa State University, 1990  
M.D., Southern Illinois University School of Medicine, 1994

**Joanna Drowos**

*Clinical Assistant Professor, Preventive Medicine*  
*Adjunct Assistant Professor, Public Health*  
B.S., University of Miami, 1999  
M.P.H., Nova Southeastern University, 2002  
D.O., Nova Southeastern University, 2004

**Ana M. Duarte**

*Clinical Associate Professor, Dermatology*  
B.S., University of Miami, 1983  
M.D., University of Miami School of Medicine, 1988

**Robert H. Dudley**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1993  
M.D., University of Miami School of Medicine, 1997

**Michael Dufek**

*Clinical Associate Professor, Optometry*  
B.S., Pennsylvania State University, 1983  
O.D., Pennsylvania College of Optometry, 1987

**James R. Duke**

*Clinical Associate Professor, Internal Medicine*  
M.D., Tulane University School of Medicine, 1960

**George T. Duncan**

*Adjunct Faculty, Health Science*  
B.S., University of Miami, 1970  
M.S., Florida Atlantic University, 1983  
Ph.D., Florida International University, 1996

**Stephanie Duncan-Garcia**

*Clinical Assistant Professor, Family Medicine*  
B.A., Immaculata College, 1995  
D.O., Philadelphia College of Osteopathic Medicine, 1999

**Gladys Dupuy**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
D.O., Nova Southeastern University, 1997

**Alexander D. Duque**

*Adjunct Assistant Professor, Oral and Maxillofacial  
Radiology, Diagnostic Sciences, Division of Primary Care*  
D.D.S., San Martin University (Colombia), 1995

**Richard Dycus II**

*Adjunct Assistant Professor, Physician Assistant Studies*  
B.S., Stetson University, 1993  
M.B.S., Barry University, 1995  
D.O., Nova Southeastern University, 2000

**Robert Easton**

*Clinical Adjunct Instructor, Optometry*  
O.D., University of Houston, 1982

**Albert H. Eaton**

*Clinical Assistant Professor, Family Medicine*  
B.S., Oregon College of Education, 1979  
M.Div., Bethel Theological Seminary, 1984  
Ph.D., Scholae Psychologicae Fullerianae, 1995

**Pamela Ebmeier**

*Clinical Assistant Professor, Optometry*  
O.D., University of Missouri at St. Louis, 1992  
Pharm.D., University of Puerto Rico College of Pharmacy, 1998

**John Echternach**

*Adjunct Professor, Ph.D. Program, Physical Therapy*  
B.S., Westchester University, 1953  
M.S., University of Maryland, 1965  
Ed.D., College of William and Mary, 1976

**Christina M. Ecker**

*Clinical Assistant Professor, Pediatrics*  
B.S., Long Island University, 1994  
D.O., Nova Southeastern University, 2005

**Rachel S. Eidelman**

*Clinical Assistant Professor, Cardiology*  
B.S., Texas Lutheran College, 1992  
M.D., University of Texas Medical Branch—Galveston, 1997

**Robert J. Eisenberg**

*Adjunct Assistant Professor, Periodontology,  
Division of Surgical Sciences*  
D.D.S., Columbia University, 1976

**Emad E. Ekladios**

*Clinical Assistant Professor, Family Medicine*  
M.D., Ain Shams University, 1980

**Richard A. Elias**

*Clinical Assistant Professor, Cardiology*  
M.D., Columbia University, 1955

**Aparna Eligeti**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
*Clinical Assistant Professor, Rural Medicine*  
B.S., University of Florida, 1993  
M.D., University of Florida College of Medicine, 1997

**Trevor E. Elmquist**

*Clinical Assistant Professor, Ophthalmology*  
B.A., University of South Florida, 1974  
M.S., University of South Florida, 1977  
D.O., University of Health Sciences College of  
Osteopathic Medicine, 1981

**Nabil El Sanadi**

*Clinical Professor, Family Medicine*  
B.A., Case Western Reserve University, 1976  
M.D., Ohio State University, 1979

**Norbert N. Engelman III**

*Clinical Assistant Professor, Family Medicine*  
B.S., Ohio State University, 1984  
D.O., Ohio University College of Osteopathic Medicine, 1990

**Glenn H. Englander**

*Clinical Assistant Professor, Internal Medicine*  
B.S., State University of New York at Buffalo, 1977  
M.D., University of Vermont, 1982

**Christine Englestad**

*Clinical Instructor, Preventive Medicine*  
B.S., University of Maryland, 1973  
M.S., Florida Atlantic University, 2001

**Ingrid Epelman De Dora**

*Adjunct Assistant Professor, Endodontics*  
D.D.S., University of Buenos Aires, 1993  
Certificate—Endodontics, University of Buenos Aires, 2002  
Certificate—Endodontics, Nova Southeastern University, 2009

**Rudy Escarri**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Miami School of Medicine, 1993

**David Esguerra**

*Clinical Assistant Professor, Dermatology*  
B.A., Emory University, 1992  
D.O., University of New England College of  
Osteopathic Medicine, 1997

**Miriam Estevez**

*Clinical Instructor, Pediatrics*  
M.D., Havana University, 1981

**Helen Ewing**

*Adjunct Associate Professor, Health Science*  
B.S.N., University of Calgary, 1990  
M.S.N., University of Calgary, 1995  
D.H.Sc., Nova Southeastern University, 2004

**Miriam Farag**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 2005  
Fellow, American Academy of Optometry

**David Farcy**

*Clinical Assistant Professor, Family Medicine*  
B.A., Texas Tech University, 1996  
M.D., Universidad Autonoma de Guadalajara, 2000

**Ronald B. Fauer**

*Clinical Assistant Professor, Urology*  
B.A., Franklin and Marshall College, 1966  
M.D., Columbia University College of Physicians and  
Surgeons, 1970

**Sue Fee**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of South Florida, 1990  
M.S.N., University of South Florida, 1994

**Michael D. Feldman**

*Clinical Assistant Professor, Family Medicine*  
B.S., Temple University Pharmacy School, 1983  
D.O., Southeastern University of the Health Sciences, 1987

**Edward Fellows**

*Clinical Assistant Professor, Cariology and  
Restorative Dentistry, Division of Primary Care*  
D.D.S., McGill University, 1962

**Berta G. Ferman**

*Clinical Assistant Professor, Preventive Medicine*  
M.D., College of Medical Science, 1976  
M.P.H., University of Miami, 1990

**Lisa A. Ferreira**

*Clinical Assistant Professor, Pediatrics*  
B.A., College of Holy Cross, 1984  
D.O., Philadelphia College of Osteopathic Medicine, 1989

**Bradley S. Feuer**

*Clinical Professor, Family Medicine*  
B.S., University of Miami, 1980  
D.O., New York College of Osteopathic Medicine, 1986  
J.D., University of Miami School of Law, 1990

**Charles Ficco**

*Clinical Assistant Professor, Optometry*  
B.A., The Colorado College, 1989  
O.D., Nova Southeastern University, 1995

**Steven Fields**

*Clinical Associate Professor, Internal Medicine*  
B.A., Brown University, 1978  
M.D., Hahnemann University, 1982

**Howell Findley**

*Adjunct Instructor, Optometry*  
O.D., University of Alabama College of Optometry, 1981

**Jaime Fine**

*Adjunct Professor, Occupational Therapy*  
B.S., University of Florida, 1994  
M.S., University of Florida, 1996

**Allen Finkelstein**

*Clinical Assistant Professor, Family Medicine*  
D.O., West Virginia College of Osteopathic Medicine, 1981

**Mark S. Finkelstein**

*Clinical Assistant Professor, Radiology*  
B.A., University of Miami, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Ana I. Fins**

*Visiting Assistant Professor, Behavioral Science*  
M.S., University of Miami, 1990  
Ph.D., University of Miami, 1994

**Marsha J. Fishbane**

*Clinical Assistant Professor, Pediatrics*  
*Adjunct Assistant Professor, Public Health*  
B.S., Pennsylvania State University, 1970  
M.D., Jefferson Medical College, 1972

**Mark Fisher**

*Adjunct Instructor, Optometry*  
O.D., Illinois College of Optometry, 1982

**Mark S. Fishman**

*Clinical Assistant Professor,  
Physical Medicine and Rehabilitation*  
B.A., Clark University, 1997  
D.O., New York College of Osteopathic Medicine, 2001

**Michael Flax**

*Clinical Associate Professor, Endodontics*  
D.D.S., Georgetown University School of Dentistry, 1980  
Diplomate, American Board of Endodontics

**Dirk Fleischman**

*Adjunct Clinical Instructor, Cariology and Restorative Dentistry, Division of Primary Care*  
D.D.S., Howard University, 1981

**Douglas E. Flemons**

*Clinical Professor, Family Medicine*  
M.A., University of British Columbia, 1986  
Ph.D., Nova University, 1989

**Frank Foderaro**

*Adjunct Faculty, Health Science*  
B.S., Marietta College, 1985  
D.C., Southern California University of Health Science, 1989  
M.S., National University, 1999

**Julie Formoso-Onofrio**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad Central del Este, 1980

**Larry Forness**

*Adjunct Faculty, Health Science*  
A.B., University of Notre Dame, 1968  
B.A., LaSalle Extension University, 1974  
M.A., Duke University, 1972  
M.B.A., LaSalle University, 1989  
LL.M., Washington University School of Law, 1997

**Mark Forrest**

*Clinical Associate Professor, Periodontology*  
D.M.D., New York University College of Dentistry, 1967

**Blakley A. Fowler**

*Clinical Instructor, Pediatrics*  
B.S., University of North Alabama, 2003  
M.S., University of Mississippi, 2001  
M.D., University of Mississippi School of Medicine, 2007

**Carmen B. Fox**

*Adjunct Assistant Professor, Public Health*  
B.S.P.A., Nova Southeastern University, 1996  
M.P.H., Nova Southeastern University, 1996  
Fellow, American Academy of Physician Assistants

**Richard L. Fox**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Michigan State University, 1991  
D.O., Michigan State University College of Osteopathic Medicine, 1995

**Rosalyn R. Frazier**

*Adjunct Instructor, Public Health*  
B.S., DePaul University, 1991

**Ira Freedman**

*Clinical Assistant Professor, Periodontology*  
D.M.D., University of Pennsylvania College of Dental Medicine, 1982

**Samuel M. Freedman**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of Miami, 1984  
M.D., University of South Florida, 1988

**Barry Freeman**

*Adjunct Faculty, Audiology*  
Ph.D., Michigan State University, 1975  
M.S., Emerson College, 1970  
B.S., Boston University, 1967

**Christopher Frey**

*Adjunct Instructor, Optometry*  
O.D., Nova Southeastern University, 1997

**Sabrina Friedman**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of Phoenix, 1994  
M.S.N./A.R.N.P., University of Southern California, 1996  
Ed.D., Nova Southeastern University, 2005

**Michael Friend**

*Adjunct Clinical Instructor, Cariology and Restorative Dentistry, Division of Primary Care*  
D.M.D., University of Pennsylvania, School of Dental Medicine, 2001

**Martin J. Frisosky**

*Clinical Assistant Professor, Surgery*  
B.A., Michigan State University, 1969  
M.A., Wayne State University, 1972  
D.O., Kansas City College of Osteopathic Medicine, 1979

**Jason H. Frost**

*Clinical Associate Professor, General Surgery*  
D.O., New York College of Osteopathic Medicine, 1987

**Jarrod M. Frydman**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1995  
D.O., Lake Erie College of Osteopathic Medicine, 1999

**Michael L. Funk**

*Adjunct Assistant Professor, Physician Assistant Studies*  
B.S./P.A., Nova Southeastern University, 1996  
M.P.H., Nova Southeastern University, 1996  
Fellow, American Academy of Physician Assistants

**Roberto S. Gabitto**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Tulane University, 1999  
D.O., Philadelphia College of Osteopathic Medicine, 2005

**Michelle D. Gagnon-Blodgett**

*Clinical Assistant Professor, Geriatrics*  
B.A., Florida International University, 1992  
M.S., Nova Southeastern University, 1995  
Psy.D., Nova Southeastern University, 1998

**Mirta Galante**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad De Buenos Aires, 1986

**Robin S. Gall**

*Adjunct Faculty, Health Science*  
B.S., University of Central Florida, 1991  
Ph.D., Emory University, 1996

**Lisa Galluzzo**

*Clinical Assistant Professor, Optometry*  
B.S., Adelphi University, 1990  
O.D., State University of New York, 1993

**Jason Galster**

*Adjunct Faculty, Audiology*  
B.S., Purdue University, 1999  
M.S., Purdue University, 2001  
Ph.D., Vanderbilt University, 2007

**Jose E. Gamez**

*Clinical Instructor, Psychiatry*  
B.S., Colegio Javier, 1975  
M.D., Universidad de Panama, 1982

**Alice Gandell**

*Adjunct Faculty, Occupational Therapy*  
B.S., University of Illinois at Chicago, 1964

**Jeffrey Ganeles**

*Adjunct Associate Professor, Periodontology*  
D.M.D., Boston University, 1983  
Certificate—Periodontics, University of Pennsylvania, 1987

**Richard Gans**

*Adjunct Professor, Audiology*  
B.A., University of Tampa, 1972  
M.S., University of South Florida, 1978  
Ph.D., Ohio State University, 1983

**Anasuya G. Gaonkar**

*Clinical Assistant Professor, Pediatrics*  
B.A., Southern Illinois University, 1973  
M.S., Southern Illinois University, 1975  
M.D., Kamatak University, 1983

**Isaac Garazi**

*Clinical Assistant Professor, Periodontology*  
D.M.D., Boston University Goldman School of  
Graduate Dentistry, 1983

**Bibiana Garcia**

*Adjunct Assistant Professor, Periodontology,  
Division of Surgical Sciences*  
D.D.S., Colombian Odontological College, 1995

**Robert A. Gardner**

*Clinical Assistant Professor, Surgery*  
M.D., State University of New York Medical Center, 1962  
B.A., University of Rochester, 1966

**Meir Gare**

*Clinical Assistant Professor, Cardiology*  
B.S., Hebrew University of Jerusalem, 1987  
M.D., Hebrew University of Jerusalem, 1992

**Leonard Garfinkel**

*Clinical Assistant Professor, Periodontology*  
D.D.S., Georgetown University School of Dentistry, 1971

**Lawrence I. Garter**

*Clinical Assistant Professor, Pediatrics*  
B.S., Emory University, 1985  
M.D., University of Miami School of Medicine, 1991

**Judith Gartner**

*Assistant Professor, Prosthodontics*  
D.D.S., Universidad Central de Venezuela, 1993  
Certificate—Prosthodontics, Harvard University, 1997  
M.M.Sc., Harvard University, 1997  
D.M.D., Nova Southeastern University, 2001

**Lanny Garver**

*Clinical Assistant Professor, Oral and Maxillofacial Surgery*  
D.M.D., University of Pennsylvania, 1967

**Roman Gastesi**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., Mariano Institute, 1953  
M.D., University of Madrid, 1962

**Harris Gellman**

*Clinical Professor, Orthopedic Surgery*  
B.S., Temple University, 1974  
M.D., Temple University Medical School, 1979

**Barry Gelman**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1984  
M.D., University of Florida College of Medicine, 1988

**Erin A. Gerhart**

*Clinical Instructor, Pediatrics*  
B.S., Northeast Missouri State University, 1992  
D.O., Nova Southeastern University, 2006

**Michael F. Gervasi**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida Atlantic University, 1983  
D.O., Southeastern University of the Health Sciences, 1987

**Marco Ghignone**

*Clinical Assistant Professor, Anesthesiology*  
M.D., University of Torino, 1973  
M.B.A., University of Miami, 1990

**Gamal M. Ghoniem**

*Clinical Professor, Urology*  
M.D., University of Alexandria, 1974

**Joseph A. Giaimo**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.S., Ursinus College, 1983  
D.O., Philadelphia College of Osteopathic Medicine, 1987

**F. Gary Gieseke**

*Clinical Assistant Professor, Surgery*  
A.B., Vanderbilt University, 1957  
M.D., University of Indiana Medical School, 1961

**Mark Gilbert**

*Clinical Assistant Professor, Diagnostic Sciences*  
D.M.D., Fairleigh Dickinson University, 1983

**David R. Gilchrist**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1992  
D.O., Nova Southeastern University, 1998

**Richard Clark Gillett**

*Clinical Associate Professor, Family Medicine*  
B.A., University of Virginia, 1971  
M.D., University of Virginia School of Medicine, 1977

**Stuart Gindoff**

*Clinical Associate Professor, Optometry*  
B.A., Rockford College, 1970  
B.S., Illinois College of Optometry, 1971  
O.D., Illinois College of Optometry, 1973

**Ira Ginsberg**

*Adjunct Assistant Professor, Dental Medicine*  
D.D.S., New York University, 1971  
Certificate—Periodontology, New York University, 1974

**Elisa Ginter**

*Clinical Associate Professor, Family Medicine*  
B.S., Michigan State University, 1982  
D.O., Michigan State University College of Osteopathic Medicine, 1986

**Carrie A. Gittings**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1997  
M.D., University of Miami School of Medicine, 2002

**Concetta Giuliano**

*Clinical Assistant Professor, Radiology*  
B.S., Chestnut Hill College, 1991  
D.O., Philadelphia College of Osteopathic Medicine, 1995

**Vincenza Giuliano**

*Clinical Assistant Professor, Radiology*  
B.A., La Salle University, 1988  
M.D., Pennsylvania State University, 1992

**David Glassman**

*Clinical Assistant Professor, Periodontology*  
D.D.S., Medical College of Virginia School of Dentistry, 1966

**Paul S. Glassman**

*Clinical Assistant Professor, Family Medicine*  
D.O., University of Health Sciences College of Osteopathic Medicine, 1961

**Todd Glassman**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida International University, 1991  
D.O., Nova Southeastern University, 1996

**Wagih W. Gobriel**

*Clinical Assistant Professor, Anesthesiology, Pain Medicine*  
M.D., Ain Shams University, 1985

**Jeffrey Godel**

*Assistant Professor, Orthodontics*  
D.D.S., Howard University, 1980

**Daniella Godoy**

*Adjunct Laboratory Technician, Prosthodontics, Division of Primary Care*  
B.A., Dental Laboratory Sciences, University of Texas Health Science Center, 2006

**Sangita A. Gogate**

*Clinical Assistant Professor, Family Medicine*  
B.S., Otterbein College, 1986  
D.O., University of Osteopathic Medicine and Surgery, 1993

**Robert G. Gold**

*Clinical Assistant Professor, Urology*  
B.S., Tulane University College of Arts and Sciences, 1977  
M.D., Tulane University School of Medicine, 1981

**Dean R. Goldberg**

*Clinical Instructor, Surgery*  
B.A., University of Miami, 1989  
D.O., Nova Southeastern University, 1995

**Lee D. Goldberg**

*Clinical Professor, Internal Medicine*  
B.S., Yale University, 1959  
M.D., Yale University, 1963

**Louis M. Goldblum**

*Clinical Assistant Professor, Pediatrics*  
B.S., St. Joseph's College, 1970  
D.O., Des Moines College of Osteopathic Medicine and Surgery, 1973

**Sandy Goldenberg**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., Nova Southeastern University, 2003

**Eric A. Goldsmith**

*Clinical Assistant Professor, Surgery*  
B.A., New York University, 1974  
M.S., Long Island University, 1980  
D.O., University of Osteopathic Medicine and Health Sciences, 1984

**Matthias Goldstein**

*Adjunct Assistant Professor, Health Science*  
B.A., University of Maryland, 1989  
B.T.L., Ner Israel Rabbinical College, 1990  
B.S., The George Washington University, 1997  
M.P.A.S., University of Nebraska, 1998  
D.H.Sc., Nova Southeastern University, 2005

**Mitchell Goldstein**

*Clinical Assistant Professor, Family Medicine*  
B.S., Northern Illinois University, 1974  
D.O., Chicago College of Osteopathic Medicine, 1978

**Shepard Goldstein**

*Adjunct Associate Professor, Endodontics, Division of Surgical Sciences*  
D.M.D., Tufts University, 1966

**Jack M. Goloff**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Central Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1985

**Yedda M. Gomes-Ruane**

*Clinical Associate Professor, Pediatric Dentistry*  
D.D.S., Temple University School of Dentistry, 1966

**Luis E. Gomez**

*Clinical Assistant Professor, Family Medicine*  
B.A., Cornell University, 1984  
M.D., Mount Sinai School of Medicine, 1993

**Faustino Gonzalez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad Central Del Este, 1982

**Jorge A. Gonzalez**

*Clinical Assistant Professor, Family Medicine*  
D.O., University of Medicine and Dentistry of New Jersey School of Osteopathic Medicine, 1983

**Maria R. Gonzalez**

*Clinical Assistant Professor, Family Medicine*  
M.D., Autonomous University of Santo Domingo, 1998

**Miguel Angel Gonzalez**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., Universidad Central, 1968

**Rene D. Gonzalez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad Catolica Madre y Maestra, 1982

**Roberto Gonzalez-Cueto**

*Clinical Instructor, Pediatrics*  
A.A., Miami Dade Community College, 1974

**Kimberlee Goode**

*Adjunct Faculty Member, Nursing*  
B.S., Grand Rapids Baptist College, 1987  
M.S.N., University of Phoenix, 2006

**Alen E. Gordon**

*Clinical Instructor, Surgery*  
M.D., Temple University Medical School, 1957

**Mark W. Gordon**

*Clinical Associate Professor, Surgery*  
B.S., Ursinus College, 1963  
M.D., Jefferson Medical College, 1967

**James Gorelick**

*Clinical Assistant Professor, Neurology*  
B.A., Rutgers College, 1971  
M.D., Rutgers Medical School, 1975

**Payal Goswami**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.M.D., Nova Southeastern University, 2010

**Jay S. Gottlieb**

*Clinical Associate Professor, Otorhinolaryngology*  
*Clinical Associate Professor, Dermatology*  
B.S., University of Michigan, 1974  
D.O., University of Health Sciences, 1977

**Tamer Gozleveli**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of West Florida, 1977  
D.O., Southeastern University of the Health Sciences, 1987

**Leonard M. Gralnik**

*Clinical Associate Professor, Psychiatry*  
B.A., Florida Atlantic University, 1979  
Ph.D., University of Miami, 1985  
M.D., University of Miami School of Medicine, 1988

**Michael Graubert**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Emory University, 1987  
M.D., Emory University School of Medicine, 1991

**Mark Greenberg**

*Clinical Assistant Professor, Prosthodontics*  
D.D.S., Temple University, 1968

**Scott M. Greenberg**

*Clinical Instructor, Orthopedic Surgery*  
B.S., Duke University, 1998  
D.O., Nova Southeastern University, 2003

**Sharon L. Greene**

*Clinical Instructor, Preventive Medicine*  
B.S., Florida State University, 1983

**Jonathan M. Greer**

*Clinical Assistant Professor, Internal Medicine*  
A.B., Oberlin College, 1979  
M.D., University of Florida College of Medicine, 1983

**Robert C. Greer IV**

*Clinical Assistant Professor, Family Medicine*  
B.S., Texas Christian University, 1973  
D.O., Philadelphia College of Osteopathic Medicine, 1977  
Fellow, American College of Osteopathic Family Physicians

**Margaret I. Grell**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of the West Indies, 1980  
M.D., University of the West Indies, 1986

**Martin B. Grossman**

*Clinical Associate Professor, Surgery*  
B.S., Muhlenberg College, 1966  
M.D., Chicago Medical School, 1970

**Jeffrey Grove**

*Clinical Associate Professor, Family Medicine*  
B.S., Florida Southern College, 1986  
D.O., Southeastern University of the Health Sciences, 1990

**Paul Gruosso**

*Clinical Instructor, Optometry*  
O.D., State University of New York, College of Optometry, 1999

**Huan Guan**

*Clinical Instructor, Optometry*  
B.A., University of California—Berkeley School of Optometry, 2005  
O.D., University of California—Berkeley School of Optometry, 2009

**Vito Guarino**

*Clinical Associate Professor, Optometry*  
B.S., University of South Florida, 1984  
O.D., Southern College of Optometry, 1988

**Ralph Guarneri**

*Clinical Assistant Professor, Surgery*  
B.A., State University of New York—Stony Brook, 1978  
M.D., State University of New York College of Medicine, 1985

**Georges C. Guerrier**

*Clinical Assistant Professor, Pediatrics*  
M.D., State University of Haiti School of Medicine and Pharmacy, 1980

**Kettley Guerrier**

*Clinical Assistant Professor, Family Medicine*  
M.D., State University of Haiti School of Medicine and Pharmacy, 1980

**Maritta K. Guertin**

*Adjunct Faculty, Periodontology, Division of Surgical Sciences*  
Hygienist, University of Rhode Island

**Manjit S. Gulati**

*Clinical Assistant Professor, Nephrology*  
M.D., Ranchi University, 1979

**Gregory G. Gulick**

*Clinical Instructor, Internal Medicine*  
D.O., Nova Southeastern University, 2003

**Robert J. Gulner**

*Clinical Professor, Ophthalmology*  
B.A., Hunter College, 1970  
D.O., University of Health Sciences College of Osteopathic Medicine, 1974

**Neena Gupta**

*Clinical Assistant Professor, Family Medicine*  
B.S., Iowa State University, 1976  
D.O., University of Osteopathic Medicine and Surgery, 1983

**Martha Gutierrez Ramirez**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.D.S., Colombian Odontological College, 1989

**Nestor Guzman**

*Assistant Professor, Prosthodontics*  
D.D.S., Universidad Javeriana Bogota Colombia, 1983  
D.M.D., Nova Southeastern University, 2004

**Paul A. Guzman**

*Clinical Instructor, Psychiatry*  
M.D., Universidad Central Del Este School of Medicine, 1983

**Lisa Gwynn**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1989  
D.O., Nova Southeastern University, 1998

**Martin E. Hale**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.A., Columbia University, 1974  
M.D., State University of New York—Buffalo, 1980

**Charles Halfpenny**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Drexel University, 1959  
M.D., Hahneman Medical College, 1963

**Anthony J. Hall**

*Clinical Assistant Professor, Surgery*  
M.D., Universitas McGill, 1988

**John Halpern**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York—Binghamton, 1980  
D.O., New York College of Osteopathic Medicine, 1985

**Edward W. Halpren**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., State University of New York—Albany, 1977  
D.O., New York College of Osteopathic Medicine, 1982

**Maxine E. Hamilton**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of the West Indies, 1982

**Usama Hanhan**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Jordan Medical School, 1983

**Andrew J. Hanly**

*Clinical Assistant Professor, Surgery*  
M.D., University College Galway Medical School, 1991

**Dennis E. Hanney**

*Clinical Assistant Professor, Cardiology*  
B.A., Hofstra University, 1971  
M.A., Hollins College, 1972  
D.O., Kirksville College of Osteopathic Medicine, 1976

**Andrew Hano**

*Clinical Assistant Professor, Hematology/Oncology*  
B.A., Northwestern University, 1973  
D.O., College of Osteopathic Medicine and Surgery, 1977

**Ryan Hargreaves**

*Clinical Assistant Professor, Optometry*  
O.D., New England College of Optometry, 1996

**John N. Harker**

*Clinical Assistant Professor, Orthopedic Surgery*  
D.O., Southeastern University of the Health Sciences, 1989

**Carlos J. Haro**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1998  
M.S., Nova Southeastern University, 1999  
D.O., Nova Southeastern University, 2003

**Richard M. Harrell**

*Clinical Assistant Professor, Internal Medicine*  
A.B., University of North Carolina, 1975  
M.D., University of North Carolina—Chapel Hill, 1979

**Jonathan B. Harris**

*Clinical Assistant Professor, Neurology*  
B.A., University of Chicago, 1974  
M.D., University of Pennsylvania, 1982

**Michael Harris**

*Adjunct Assistant Professor, Diagnostic Sciences,  
Division of Primary Care*  
D.M.D., University of Pennsylvania, 2001  
Certificate—Oral Maxillofacial Surgery, Nova Southeastern University, 2005

**Philip L. Harris**

*Clinical Assistant Professor, Surgery*  
B.S., Muhlenberg College, 1978  
M.D., Pennsylvania State University College of Medicine, 1982

**Michael A. Harry**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of the West Indies, 1976

**Mian A. Hasan**

*Clinical Assistant Professor, Cardiology*  
M.D., King Edward Medical College, 1990

**Louis Hasbrouck**

*Clinical Associate Professor,  
Osteopathic Principles and Practice*  
B.A., Trinity College, 1943  
D.O., Des Moines Still College of Osteopathic Medicine, 1955

**Daniel K. Hatton**

*Adjunct Associate Professor, Biomedical Informatics*  
B.A., California State University, 1972  
M.S., American University, 1985  
Ph.D., Nova University, 1991



**Kay E. Haw**

*Adjunct Assistant Professor, Health Science*  
B.S.N., Towson State University, 1993  
M.S., Central Michigan University, 1999  
D.H.Sc., Nova Southeastern University, 2006

**Stephen M. Hawk**

*Clinical Instructor, Psychiatry*  
B.S., Baker University, 1991  
D.O., University of the Health Sciences  
College of Osteopathic Medicine, 1995

**Anna Hayden**

*Clinical Associate Professor, Community Medicine*  
B.S., Seton Hall University, 1983  
D.O., University of the Health Sciences  
College of Osteopathic Medicine, 1988

**David W. Hays**

*Adjunct Associate Professor, Biomedical Informatics*  
B.S., State of University New York, 1982  
M.A., Central Michigan University, 1984  
D.P.A., Nova University, 1992

**Patricia E. Hebert**

*Clinical Associate Professor, Preventive Medicine*  
B.S., University of Florida, 1968  
M.S., University of Alabama, 1975  
Ph.D., University of Texas School of Public Health, 1984

**Steve Heiden**

*Clinical Assistant Professor, Optometry*  
O.D., University of California College of Optometry, 1972

**J. Michael Heider**

*Clinical Assistant Professor, Cariology and Restorative Dentistry, Division of Primary Care*  
D.D.S., Ohio State University, 1987

**Allen Helfer**

*Adjunct Assistant Professor, Endodontics*  
D.D.S., Columbia University, 1961

**David C. Hellman**

*Clinical Assistant Professor*  
D.O., Southeastern University of the Health Sciences, 1988

**Badalin Helvink**

*Clinical Assistant Professor, Psychiatry*  
B.S., St. Mary's College, 1986  
M.D., Assam Medical College and Hospital, 1991

**Charles H. Hennekens**

*Clinical Professor, Preventive Medicine*  
B.S., Queens College, 1963  
M.D., Cornell University Medical College, 1967  
M.S., Harvard School of Public Health, 1973  
Dr.P.H., Harvard School of Public Health, 1975

**Christel Henseler**

*Adjunct Assistant Professor, Health Science*  
M.S., Florida International University, 1990  
Ph.D., Florida International University, 2003

**Frederick N. Herman**

*Clinical Assistant Professor, Surgery*  
M.D., University of Miami School of Medicine, 1977

**Richard Herman**

*Adjunct Faculty, Endodontics*  
D.D.S., New York University, 1966

**Carlos E. Hernandez**

*Clinical Instructor, Pediatrics*  
M.D., Universidad Autonoma de Guadalajara, 1988

**Julie Hernandez**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S., Broward Community College, 1999  
B.S., University of Massachusetts, 1991

**Mayrene Hernandez**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida International University, 1993  
D.O., Nova Southeastern University, 2001

**Leslie K. Herzog**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Miami, 1982  
D.O., Southeastern University of the Health Sciences, 1987

**Daniel R. Higgins**

*Clinical Assistant Professor, Surgery*  
B.S., Massachusetts Institute of Technology, 1977  
M.D., University of Pennsylvania School of Medicine, 1980

**Bobby W. Hill**

*Clinical Assistant Professor, Family Medicine*  
B.A., LaGrange College, 1973  
D.O., Kansas City College of Osteopathic Medicine, 1976

**Howard Hill**

*Adjunct Associate Professor, Pediatric Dentistry, Division of Developmental Sciences*  
D.D.S., University of North Carolina, 1968  
M.S., University of North Carolina, 1970  
Certificate—Orthodontics, Charlotte, North Carolina, 1982

**Stuart Himmelstein**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Hahnemann University School of Medicine, 1987

**John P. Hirt**

*Clinical Assistant Professor, Family Medicine*  
B.A., Cornell University College of Arts and Sciences, 1994  
D.O., Nova Southeastern University, 1998

**Lauren J. Hochman**

*Adjunct Clinical Hygienist, Periodontology, Division of Surgical Sciences*  
Hygienist, New York University, 1988

**Leonard R. Hock, Jr.**

*Clinical Assistant Professor, Geriatrics*  
B.S., Central State University, 1972  
D.O., Kansas City College of Osteopathic Medicine, 1976

**Jonathan D. Hoffberger**

*Clinical Assistant Professor, Cardiology*  
B.S., Tulane University, 1992  
D.O., Nova Southeastern University, 1996

**Mitchel S. Hoffman**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Wesleyan University, 1975  
M.P.H., Columbia University School of Public Health, 1979  
M.D., New York Medical College, 1981

**Thomas Hoffman, Jr.**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Notre Dame, 1986  
M.D., University of Miami School of Medicine, 1990

**Daniel J. Hogan**

*Clinical Professor, Internal Medicine*  
M.D., Dalhousie University College of Medicine, 1976

**Danielle Hollar**

*Clinical Associate Professor, Pediatrics*  
*Adjunct Assistant Professor, Public Health*  
B.S., Erskine College, 1992  
M.S., Virginia Polytechnic Institute and State University, 1993  
M.S., Medical University of South Carolina, 1995  
Ph.D., Virginia Polytechnic Institute and State University, 2000

**Chanda Nicole Holsey**

*Adjunct Faculty, Health Science*  
B.A., San Diego State University, 1993  
M.P.H., Rollins School of Public Health at Emory University, 1996  
Dr.P.H., University of Alabama—Birmingham School of Public Health, 2005

**Robert B. Holtzman**

*Clinical Assistant Professor, Surgery*  
B.A., Columbia University, 1976  
M.D., City College of New York, 1980

**Allen Horowitz**

*Clinical Assistant Professor, Periodontology*  
D.D.S., University of Michigan School of Dentistry, 1968

**Edward Horvath**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Baylor University, 1994  
M.D., University of Miami School of Medicine, 2000

**Firaz R. Hosein**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Barry University, 1996  
D.O., Nova Southeastern University, 2000

**Donald C. Howard**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1980  
D.O., Southeastern University of the Health Sciences, 1985

**Lydia H. Howard**

*Clinical Assistant Professor, Pathology*  
B.S., Florida International University, 1976  
M.D., University of Florida College of Medicine, 1990

**Roger A. Howell**

*Clinical Assistant Professor, Family Medicine*  
B.S., Kansas State University, 1982  
D.O., University of Health Sciences, 1986

**Jimmy C. Huang**

*Clinical Assistant Professor, Family Medicine*  
B.S., Cornell University, 1995  
D.O., Nova Southeastern University, 2001

**George M. Hudson**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Kansas, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1989

**Frank P. Hull**

*Clinical Associate Professor, Pulmonary Medicine*  
M.D., University of Pretoria, 1990

**William C. Hulley**

*Clinical Associate Professor, Neurology*  
B.S., University of Pittsburgh, 1968  
D.O., Kirksville College of Osteopathic Medicine, 1972

**Handre Hurwit**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Ross University, 1982

**Haneme Idrizi**

*Clinical Assistant Professor, Pediatrics*  
B.S., Loyola University of Chicago, 1998  
M.D., Southern Illinois University School of Medicine, 2003

**G. Stephen Igel**

*Clinical Instructor, Obstetrics and Gynecology*  
M.D., Autonomous University of Madrid, 1977

**Kathy Iglesias De Sato**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., Universidad Central de Venezuela, School of Dentistry, Venezuela, 1997  
D.D.S., Universidad de Sao Paulo, School of Dentistry, Brazil, 2002  
Fellowship in Orofacial Pain Management, Nova Southeastern University, 2005  
D.M.D., Nova Southeastern University, 2009

**Albert Ing**

*Clinical Assistant Professor, Cardiology*  
M.D., American University of the Caribbean School of Medicine, 1984

**Deborah E. Ingram**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Georgia, 1994  
M.D., Medical College of Georgia, 1998

**Emmanuel R. Isaac**

*Clinical Assistant Professor, Family Medicine*  
D.O., Philadelphia College of Osteopathic Medicine, 2005

**Louis H. Isaacson**

*Clinical Assistant Professor, Family Medicine*  
B.A., LaSalle College, 1973  
D.O., Des Moines University College of Osteopathic Medicine, 1976

**Mohammed S. Islam**

*Adjunct Instructor, Biomedical Informatics*  
B.S., Barry University, 1992  
M.S. Nova Southeastern University, 2010

**Lalitha G. Iyer**

*Clinical Assistant Professor, Family Medicine*  
M.D., Madurai Medical College, 1968

**John D. Izsak**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of Vermont, 1958  
M.D., University of Vermont, 1963

**Ricardo Izurieta**

*Adjunct Assistant Professor, Public Health*  
M.D., Universidad Central del Ecuador, 1986  
M.P.H., University of Alabama School of Public Health, 1995  
Dr.P.H., University of Alabama, 2000

**Reza Jabbarly**

*Adjunct Faculty, Community Dentistry, Division of Developmental Sciences*  
D.M.D., Nova Southeastern University, 2006

**Richard A. Jablonski**

*Clinical Assistant Professor, Ophthalmology*  
B.A., Eastern Michigan University, 1970  
D.O., Chicago College of Osteopathic Medicine, 1974

**David Jackson**

*Adjunct Faculty, Prosthodontics, Division of Primary Care*  
D.D.S., Emory University School of Dentistry, 1983

**Rosemary Jackson**

*Clinical Assistant Professor, Family Medicine*  
B.S., Mercer University, 1978  
M.P.H., University of North Carolina, 1980  
M.D., University of North Carolina, 1989

**Mario Jacomino**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Puerto Rico, 1984  
M.D., Ponce School of Medicine, 1988  
M.P.H., University of South Florida, 1999

**Fabiana H. Jaen**

*Clinical Instructor, Pediatrics*  
M.D., Central University of Venezuela, 2002

**Mohsin Jaffer**

*Clinical Associate Professor, Family Medicine*  
M.D., R.N.T. Medical College, 1979

**Mudit Jain**

*Clinical Assistant Professor, Endocrinology*  
M.B.B.S., Sawai Man Singh Medical College, 1991

**Sandeep Jain**

*Clinical Assistant Professor, Pulmonary Medicine*  
M.D., SMS Medical College, 1988

**Gregory J. James**

*Clinical Professor, Geriatrics*  
B.A., University of South Florida, 1983  
D.O., Southeastern University of the Health Sciences, 1988  
M.P.H., Nova Southeastern University, 1997

**Maury A. Jayson**

*Clinical Assistant Professor, Urology*  
B.S., Tufts University, 1986  
M.D., Jefferson Medical College, 1990

**Kenneth S. Jeffers**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., State University of New York—Stony Brook, 1984  
M.D., University of Illinois, 1992

**Ian P. Jeffries**

*Clinical Associate Professor, Pediatrics*  
B.A., Dublin University, 1967  
M.D., Dublin University, 1969

**Tahirih Jensen**

*Clinical Assistant Professor, Family Medicine*  
B.A., Augsburg College, 1991  
M.H.A., Des Moines University Osteopathic Medicine and Health Sciences, 2000  
D.O., Des Moines University Osteopathic Medicine and Health Sciences, 2000

**Mark A. Jester**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Davidson College, 1977  
M.D., University of Missouri, 1981

**Barron William Johnson**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of the West Indies, 1977  
D.O., University of the West Indies, 1982

**James R. Johnson**

*Clinical Assistant Professor, Radiology*  
A.B., University of Michigan, 1972  
D.O., Chicago College of Osteopathic Medicine, 1978

**Judith M. Johnson**

*Clinical Assistant Professor, Surgery*  
B.S., Villanova University, 1975  
M.S., Villanova University, 1981  
M.D., Temple University School of Medicine, 1981

**Lyn A. Johnson**

*Clinical Assistant Professor, Family Medicine*  
D.O., Kansas City University of Medicine and Biosciences, 1990

**Michelle Johnson**

*Clinical Assistant Professor, Family Medicine*  
*Adjunct Assistant Professor, Public Health*  
B.S., Florida International University, 1988  
D.O., Nova Southeastern University, 1994

**Josette B. Jourdon**

*Clinical Assistant Professor, Psychiatry*  
M.D., Université D'Etat D'Haiti, 1978

**Jeffrey Joy**

*Clinical Adjunct Instructor, Optometry*  
O.D., University of Indiana College of Optometry, 2001

**Gertrude M. Juste**

*Clinical Assistant Professor, Pathology*  
M.D., State University of Haiti, 1980

**Juli Z. Kagan**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
R.D.H., Forsyth School of Dental Hygiene, 1979  
B.S., University of Maryland, 1981  
M.Ed., Florida Atlantic University, 2000  
American Dental Hygiene Association, 1981  
Palm Beach County Dental Hygiene Society, 1990  
Broward County Dental Hygiene Association, 1996  
American Academy of Dental Hygiene, 2008

**Daniel B. Kairys**

*Clinical Assistant Professor, Surgery*  
B.A., Dartmouth College, 1990  
M.D., Dartmouth Medical School, 1997

**Scott L. Kalina**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Union College, 1974  
M.D., Autonomous University of Guadalajara, 1979

**Elroy A. Kalme-Lopez**

*Clinical Instructor, Family Medicine*  
B.S., Scholl College of Podiatric Medicine, 1995  
B.A., Purdue University, 1990  
D.P.M., Scholl College of Podiatric Medicine, 1995

**Daniel R. Kanell**

*Clinical Assistant Professor, Orthopedic Surgery*  
*Clinical Assistant Professor, Sports Medicine*  
M.D., University of Pittsburgh School of Medicine, 1965

**Keith Kaner**

*Adjunct Instructor, Oral and Maxillofacial Radiology,  
Diagnostic Sciences, Division of Primary Care*  
B.S., University of Florida, 1986  
D.D.S., New York University, 1990

**Steven L. Kanner**

*Clinical Associate Professor, Internal Medicine*  
B.S., Muhlenberg College, 1975  
D.O., College of Osteopathic Medicine and Surgery, 1979

**David M. Kanter**

*Clinical Assistant Professor, Pediatrics*  
A.B., Indiana University, 1975  
M.D., Indiana University School of Medicine, 1979  
M.B.A., University of Florida, 2001

**Deepak Kapila**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Fergusson College, 1971  
M.D., Armed Forces Medical College, 1975

**Arthur Kapit**

*Clinical Assistant Professor, Orthodontics*  
D.D.S., Medical College of Virginia School of Dentistry, 1970  
M.S.D., Boston University Goldman School of Graduate  
Dentistry, 1972

**Daniel B. Kaplan**

*Clinical Associate Professor, Family Medicine*  
B.A., Temple University, 1973  
D.O., Philadelphia College of Osteopathic Medicine, 1973

**Marshall M. Kaplan**

*Clinical Assistant Professor, Urology*  
B.S., University of Illinois, 1963  
M.D., Loyola University, 1967

**Roland D. Kaplan**

*Clinical Associate Professor,  
Physical Medicine of Rehabilitation*  
B.S., University of Miami, 1982  
D.O., Southeastern University of the Health Sciences, 1990

**Marc G. Kaprow**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of South Florida, 1992  
D.O., Nova Southeastern University, 2001

**Ehsanul Karim**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Chittagong Medical College, 1992

**Helena J. Karnani**

*Clinical Assistant Professor, Family Medicine*  
M.D., Birmingham University Medical School, 1980

**Pachavit Kasemsap**

*Clinical Assistant Professor, Surgery*  
B.S., New Mexico State University, 1988  
M.D., Washington University, 1992

**Irwin J. Kash**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Illinois, 1965  
M.D., University of Illinois Medical School, 1969

**Cindy H. Katanick**

*Clinical Assistant Professor, Family Medicine*  
B.S., Michigan State University, 1980  
D.O., University of Health Sciences  
College of Osteopathic Medicine, 1985

**Charles H. Kates**

*Clinical Associate Professor, Family Medicine*  
A.B., Indiana University, 1961  
M.D., Indiana University, 1965

**Michael J. Katin**

*Clinical Associate Professor, Radiology*  
B.A., University of Pennsylvania  
College of Arts and Sciences, 1969  
M.D., University of Pennsylvania Medical School, 1972

**Ronald Katz**

*Adjunct Faculty, Diagnostic Sciences,  
Division of Primary Care*  
D.M.D., Tufts University, 1999

**Steven H. Katz**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York—Binghamton, 1990  
M.D., State University of New York Health Science  
Center—Brooklyn, 1995

**Ronald B. Kaufman**

*Clinical Professor, Cardiology*  
B.S., University of Wisconsin, 1953  
D.O., Chicago College of Osteopathic Medicine, 1957  
Fellow, American College of Osteopathic Internists

**David J. Kay**

*Clinical Assistant Professor, Otolaryngology*  
B.A., Yeshiva University, 1992  
M.D., University of Pennsylvania School of Medicine, 1997  
M.P.H., University of Pittsburgh, 2004

**Sonia F. Kay**

*Visiting Assistant Professor, Occupational Therapy*  
B.S., University of Florida, 1975  
M.H.S., University of Florida, 1976  
Ph.D., Nova Southeastern University, 2001

**Walter J. Kay**

*Clinical Assistant Professor, Family Medicine*  
B.S., Providence College, 1973  
D.O., Kirksville College of Osteopathic Medicine, 1977

**Scott D. Kazdan**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Tulane University, 1985  
D.O., Southeastern University of the Health Sciences, 1991

**Todd J. Kazdan**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida International University, 1995  
D.O., Philadelphia College of Osteopathic Medicine, 1999

**Jeffrey G. Keiser**

*Adjunct Professor, Public Health*  
B.A., Florida Atlantic University, 1991  
B.S., Florida Atlantic University, 1993

**Mark R. Keller**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Maryland College Park, 1978  
M.D., University of Maryland School of Medicine, 1982

**Scott T. Keller**

*Clinical Assistant Professor, Family Medicine*  
A.B., West Virginia University, 1975  
D.O., West Virginia School of Osteopathic Medicine, 1979

**David N. Kenigsberg**

*Clinical Assistant Professor, Cardiology*  
B.S., University of Miami, 1995  
M.D., University of Miami School of Medicine, 1999

**Karen T. Kennedy**

*Clinical Assistant Professor, Anesthesiology*  
B.S., Eckerd College, 1988  
D.O., Southeastern University of the Health Sciences, 1992

**Daniel Kesden**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of Chicago, 1966  
M.D., University of Miami, 1971

**Kevin J. Kessler**

*Clinical Assistant Professor, Orthopedic Surgery*  
*Clinical Assistant Professor, Sports Medicine*  
M.D., University of Health Sciences  
Chicago Medical School, 1987

**William T. Kewshan**

*Clinical Associate Professor, Family Medicine*  
B.S., Villanova University, 1966  
D.O., Philadelphia College of Osteopathic Medicine, 1970

**Husman Khan**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Agra University, 1972  
M.P.H., Florida International University, 1994

**Khalil A. Khan**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Emory University, 1997  
M.P.H., Nova Southeastern University, 2004  
D.O., Nova Southeastern University, 2004

**Rabia H. Khan**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Nova Southeastern University, 2001  
D.O., Nova Southeastern University, 2004

**Monica Kharbanda**

*Clinical Assistant Professor, Pediatrics*  
M.D., Government Medical College, 1993

**Richard C. Kidd**

*Clinical Assistant Professor, Family Medicine*  
B.S., Michigan University, 1965  
D.O., Kirksville College of Osteopathic Medicine, 1970

**Dana G. Killam**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Massachusetts, 1970  
M.D., University of Massachusetts Medical School, 1974

**King Kim**

*Adjunct Assistant Professor, Oral and Maxillofacial Radiology, Diagnostic Sciences, Division of Primary Care*  
D.M.D., University of Pittsburgh, 2004  
Certificate—Oral Surgery, Nova Southeastern University, 2008

**Steven C. Kimmel**

*Clinical Assistant Professor, Rheumatology*  
B.A., University of Pennsylvania, 1982  
M.D., New York University School of Medicine, 1986

**Randy S. Kimmelman**

*Clinical Assistant Professor, Surgery*  
B.A., Temple University, 1985  
M.D., University of Medicine and Dentistry of New Jersey, 1992

**Mary J. King**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of South Florida, 1991  
D.O., Kirksville College Osteopathic Medicine, 1995

**Sandford H. Kinne**

*Clinical Assistant Professor, Family Medicine*  
D.O., Western University of Health Sciences, 1990

**James R. Kinney, Sr.**

*Clinical Assistant Professor, Family Medicine*  
B.S., Youngstown State University, 1975  
D.O., Kansas City College of Osteopathic Medicine, 1979

**Leslie Kiracofe**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S., Fairleigh Dickinson University, 1986

**William T. Kirby**

*Clinical Assistant Professor, Dermatology*  
B.S., Emory University, 1995  
D.O., Nova Southeastern University, 2000

**William D. Kirsh**

*Clinical Associate Professor, Family Medicine*  
*Adjunct Associate Professor, Public Health*  
B.S., Florida State University, 1981  
D.O., Southeastern University of the Health Sciences, 1985  
M.P.H., Johns Hopkins University, 1988

**Karen S. Klapper**

*Clinical Assistant Professor, Family Medicine*  
B.A., Wesleyan University, 1980  
D.O., Chicago College of Osteopathic Medicine, 1985

**Aaron L. Klein**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Yeshiva University, 1996  
D.O., Nova Southeastern University, 2001

**Harvey S. Kleiner**

*Clinical Associate Professor, Family Medicine*  
B.A., Indiana University, 1967  
M.S., Indiana University, 1969  
M.S., Indiana University Medical Center, 1979  
D.O., Southeastern University of the Health Sciences, 1987

**Richard A. Koby**

*Clinical Instructor, Family Medicine*  
B.S., Lourdes College, 1986  
M.D., University Autonoma of Guadalajara, 1981

**Howard S. Koch**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Miami, 1972  
M.D., University of Miami School of Medicine, 1976

**Susan M. Koff**

*Clinical Assistant Professor, Geriatrics*  
B.S., Carlow College, 1978  
M.S.N., University of Pennsylvania, 1984

**George Kolos**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., University of Alabama, 1987

**Sheldon Konigsberg**

*Clinical Assistant Professor, Internal Medicine*  
M.P.H., Harvard School of Public Health, 1975  
M.D., Columbia University College of Physicians and Surgeons, 1975

**Matthew W. Korn**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Florida, 1996  
D.O., Nova Southeastern University, 2001

**Lori I. Kostin-Rosenberg**

*Clinical Assistant Professor, Psychiatry*  
B.A., Rutgers College, 1985  
M.D., University of Medicine and Dentistry of New Jersey, 1989

**Ira Kotch**

*Adjunct Clinical Instructor, Cariology and Restorative Dentistry, Division of Primary Care*  
D.M.D., University of Florida, 1984

**Bipan C. Kotwal**

*Clinical Assistant Professor, Pediatrics*  
M.D., Srinagar Medical College, 1970

**Wayne R. Kotzker**

*Clinical Assistant Professor, Nephrology*  
B.A., Brandeis University, 1990  
M.D., University of Medicine and Dentistry of New York, 1994

**Takashi Koyama**

*Adjunct Assistant Professor, Diagnostic Sciences, Division of Primary Care*  
D.M.D., University of Pennsylvania, 2000

**Perry Krichmar**

*Clinical Assistant Professor, Cardiology*  
B.S., State University of New York, 1982  
M.S., Long Island University, 1983  
M.D., Spartan Health Science University, 1986

**Alberto J. Kriger**

*Clinical Assistant Professor, Pediatrics*  
B.A., Brandeis University, 1979  
M.D., Columbia University College of Physicians and Surgeons, 1983

**Ramiah Krishnan**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Madras, 1977

**Melvin Krohn**

*Clinical Assistant Professor, Oral and Maxillofacial Surgery*  
D.M.D., Harvard School of Dentistry, 1970

**Merrill A. Krolick**

*Clinical Assistant Professor, Cardiology*  
B.S., Rensselaer Polytechnic Institute, 1981  
D.O., New York College of Osteopathic Medicine, 1985

**Robert J. Kudelko**

*Clinical Assistant Professor, Radiology*  
B.S., Truman University, 1967  
D.O., Kirksville College of Osteopathic Medicine, 1971

**Savita Kumar**

*Clinical Assistant Professor, Preventive Medicine*  
M.D., Meerut University, 1971  
M.P.H., University of Miami School of Public Health, 1980  
M.B.A., Florida Atlantic University, 1995

**Gerald Laboda**

*Adjunct Instructor, Diagnostic Sciences, Division of Primary Care*  
D.D.S., Temple University, 1960  
Certificate—Oral Surgery, University of Pennsylvania, 1961

**Ernesto Lamadrid**

*Clinical Instructor, Family Medicine*  
B.S., University of Puerto Rico, 1985  
M.D., Universidad Nacional Pedro Henriquez Urena, 1992

**Arthur Lane**

*Clinical Assistant Professor, Endodontics*  
D.D.S., University of Tennessee College of Dentistry, 1965

**David M. Lang**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1986  
D.O., Southeastern University of the Health Sciences, 1991

**Michael A. Langone**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., University of Miami, 1979  
M.D., University of Health Science, The Chicago Medical School, 1985

**Maria-Alice Lara**

*Clinical Assistant Professor, Pediatrics*  
B.S., Florida International University, 1991  
M.D., Eastern Virginia Medical School, 1997

**Gerald J. Lavandosky**

*Clinical Assistant Professor, Pediatrics*  
B.S., Virginia Tech, 1986  
M.D., Eastern Virginia Medical School, 1990

**Nuria M. Lawson**

*Clinical Assistant Professor, Surgery*  
M.D., University of Panama, 1987

**Alan K. Lazar**

*Clinical Assistant Professor, Orthopedic Surgery*  
M.D., New York Medical College, 1976

**Nhat M. Le**

*Clinical Assistant Professor, Orthodontics*  
D.M.D., University of Florida, 1996

**Gustavo Leal**

*Adjunct Clinical Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., Universidad de San Carlos de Guatemala, College of Dentistry, Guatemala, 1998  
Certificate—Prosthodontics, University of Iowa, College of Dentistry, May 2002

**Matt Leavitt**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Michigan, 1981  
D.O., Michigan State University  
College of Osteopathic Medicine, 1986

**Douglas Leder**

*Clinical Assistant Professor, Ophthalmology*  
B.A., Rutgers College, 1978  
D.O., University of Medicine and Dentistry of New Jersey  
School of Osteopathic Medicine, 1983

**H. Wayne Lee**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Arkansas, 1965  
M.D., University of Arkansas Medical Center, 1969

**Marah J. Lee**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Northeast Missouri State University, 1985  
D.O., Kirksville College of Osteopathic Medicine, 1989

**Noah J. Lee**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1997  
D.O., Nova Southeastern University, 2002

**Seong K. Lee**

*Clinical Assistant Professor, Surgery*  
B.A., University of Missouri, 1997  
M.D., University of Missouri School of Medicine, 1998

**Zina D. Lee**

*Clinical Assistant Professor, Family Medicine*  
B.A., Jackson State University, 1986  
M.D., University of Mississippi, 1990

**Tatiana Lee-Chee**

*Clinical Assistant Professor, Ophthalmology*  
B.S., Florida International University, 1992  
D.O., Nova Southeastern University, 1996

**Richard F. Leedy, Jr.**

*Clinical Professor, Family Medicine*  
D.O., Philadelphia College of Osteopathic Medicine, 1964  
M.Sc., Meharry Medical College, 1998

**Christine Legler**

*Adjunct Associate Professor, Health Science*  
B.S./PA-C, Hahnemann University, 1976  
M.S., University of Pittsburgh, 1981  
D.H.Sc., Nova Southeastern University, 2004

**Jessie R. Legros**

*Adjunct Associate Professor, Biomedical Informatics*  
M.P.H., University of Illinois School of Public Health, 1994  
Ed.D., Nova Southeastern University, 2008

**Fermin Leguen**

*Adjunct Assistant Professor, Public Health*  
M.D., Havana University, 1978  
M.P.H., Johns Hopkins University School of Public Health, 1998

**Harry Lehrer**

*Associate Professor, Cariology and Restorative Dentistry*  
D.M.D., University of Florida, 1984

**Bruce A. Lenes**

*Clinical Associate Professor, Internal Medicine*  
B.S., Union College, 1971  
M.D., Albany Medical College, 1975

**Gustavo G. Leon**

*Clinical Instructor, Surgery*  
M.D., University of Santiago de Compostela, 1973

**Andrew S. Lepoff**

*Clinical Assistant Professor, Surgery*  
B.S., Villanova University, 1982  
D.O., Southeastern University of the Health Sciences, 1986

**Barry Lerner**

*Clinical Instructor, Geriatrics*  
A.B., Boston University, 1965  
M.D., University of Rome, 1970

**Keith J. Lerner**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Boston University, 1980  
M.D., Boston University School of Medicine, 1980

**Nathalie Leroy**

*Clinical Instructor, Family Medicine*  
B.S., Florida International University, 2002  
M.D., Ross University, 2007

**Richard S. Levene**

*Clinical Assistant Professor, Family Medicine*  
B.S., Syracuse University, 1984  
D.O., New York College of Osteopathic Medicine, 1988

**Richard Levin**

*Clinical Assistant Professor, Urology*  
B.A., Clark University, 1985  
M.D., George Washington University, 1989

**Ronald H. Levin**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Clark University, 1969  
M.D., George Washington University School of Medicine, 1973

**William Levin**

*Clinical Associate Professor, Family Medicine*  
B.S., Philadelphia College of Pharmacy and Science, 1954  
D.O., Philadelphia College of Osteopathic Medicine, 1958

**Harvey Levine**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.M.D., University of Pennsylvania, 1967

**Larry K. Levinson**

*Clinical Assistant Professor, Family Medicine*  
B.S., Pennsylvania State University, 1981  
D.O., Philadelphia College of Osteopathic Medicine, 1985

**Norman Levy**

*Clinical Assistant Professor,  
Cariology and Restorative Dentistry*  
D.D.S., Maryland University, 1974

**Aldith M. Lewis**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Florida, 1993  
D.O., Ohio University College of Osteopathic Medicine, 2001

**Frederick T. Lewis**

*Clinical Assistant Professor, Psychiatry*  
B.S., Pennsylvania State University, 1979  
D.O., Southeastern University of the Health Sciences, 1986

**Martin G. Lewis**

*Clinical Professor, Pathology*  
M.D., University of London, 1968

**Mary Lewis**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of Wisconsin, 1973  
M.B.A., International College, Fort Myers, 1993  
M.S.N./A.R.N.P., Barry University, 2000  
Ed.D., University of Central Florida, 2005

**Wilhelmina N. Lewis**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of Cincinnati, 1998

**Soling Li**

*Clinical Assistant Professor, Internal Medicine*  
B.S.N., Florida International University, 1992  
M.P.H., Nova Southeastern University, 2000  
D.O., Nova Southeastern University, 2000

**Peter Liane**

*Clinical Assistant Professor, Optometry*  
O.D., Ohio State University College of Optometry, 1974

**Steven Licata**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida Atlantic University, 1993  
D.O., Nova Southeastern University, 1997

**Craig H. Lichtblau**

*Clinical Assistant Professor,  
Physical Medicine and Rehabilitation*  
M.D., American University of the Caribbean, 1985

**Greg Lieb**

*Clinical Assistant, Optometry*  
B.S., Saint Francis University, 1995  
O.D., New England College of Optometry, 1999

**Mark E. Lieberman**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1982  
M.D., University of Miami School of Medicine, 1986

**Morton Lieberman**

*Adjunct Assistant Professor, Oral Medicine, Diagnostic  
Sciences, Division of Primary Care*  
D.D.S., New York University College of Dentistry, 1955

**Mayer Liebman**

*Adjunct Assistant Professor, Periodontology,  
Division of Surgical Sciences*  
D.D.S., George Town University, 1967  
Certificate—Periodontology, Tufts University, 1972

**Juan J. Lima**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Tecnologica de Santiago, 1986

**Felix S. Linetsky**

*Clinical Associate Professor,  
Osteopathic Principles and Practice*  
P.A., Odessa Medical College, 1966  
M.D., Vorenezh Medical Institute, 1975

**Richard M. Linn**

*Clinical Assistant Professor, Surgery*  
A.B., Brown University, 1980  
M.D., New York University College of Medicine, 1984

**Steven R. Linzer**

*Clinical Assistant Professor, Family Medicine*  
B.S., State University of New York, 1982  
D.O., University of Health Sciences College of Osteopathic  
Medicine, 1986

**Edward Liu**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Michigan, 1985  
M.D., University of California, 1991

**Jeffrey S. Lombard**

*Clinical Associate Professor, Urology*  
B.S., Waynesburg College, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Beth A. Longenecker**

*Clinical Associate Professor, Family Medicine*  
B.A., Indiana University, 1987  
D.O., Ohio University College of Osteopathic Medicine, 1991



**Deborah Longwill-Fox**

*Clinical Assistant Professor, Dermatology*  
B.A., George Washington University, 1984  
D.O., Southeastern University of the Health Sciences, 1988

**Armando J. Lopez**

*Clinical Instructor, Pediatrics*  
B.S., University of Puerto Rico, 1970  
M.D., University of Zaragoza, 1976

**Rene L. Lopez-Guerrero**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1973  
M.B.A., Florida International University, 1977  
M.D., Universidad Tecnologica de Santiago, 1983

**Miguel A. Lopez-Viego**

*Clinical Assistant Professor, Surgery*  
B.S., Brown University, 1982  
M.D., University of Miami School of Medicine, 1986

**Jorge A. Loredó**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida International University, 1996  
D.O., Nova Southeastern University, 2000

**Wladimir P. Lorentz**

*Clinical Assistant Professor, Pediatrics*  
M.D., Tulane University School of Medicine, 1997  
B.S., University of Michigan, 1998

**Alan Louis**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Florida College of Medicine, 1966  
B.S., University of Florida, 1992

**Ramesh R. Loungani**

*Clinical Professor, Cardiology*  
M.D., Bangalore Medical College, 1977

**Robert Lovinger**

*Clinical Assistant Professor,  
Preventive Medicine and Pediatrics*  
M.D., University of Miami, 1969

**Etta L. Lowery**

*Clinical Associate Professor, Anesthesiology*  
B.S., Concord College, 1978  
D.O., West Virginia School of Medicine, 1983

**Glen D. Lowery**

*Clinical Associate Professor, Surgery*  
B.S., Southern Oklahoma State University, 1975  
D.O., Oklahoma College of Osteopathic Medicine, 1978

**Robert M. Luber**

*Clinical Assistant Professor, Family Medicine*  
B.A., Lehigh University, 1973  
D.O., Philadelphia College of Osteopathic Medicine, 1977

**Harry Lumerman**

*Adjunct Faculty, Oral Medicine*  
D.D.S., New York University, 1961

**Jorge O. Luna**

*Clinical Associate Professor, Family Medicine*  
B.S., Aquinas College, 1970  
D.O., Michigan State University, 1977

**Heather M. Lutz**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida Atlantic University, 1996  
D.O., Nova Southeastern University, 2001

**Thomas M. Macaluso**

*Clinical Assistant Professor, Psychiatry*  
B.A., Lafayette College, 1983  
M.D., University of Medicine and Dentistry of New Jersey, 1987

**Ann T. Macintyre**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of Michigan, 1995  
M.S., Johns Hopkins University School of  
Hygiene and Public Health, 1997  
D.O., Nova Southeastern University, 2002

**Sonia P. Madrazo-Rico**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad de Monterrey, 1986

**Mario M. Magcalas**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.S., University of Santo Tomas, 1982  
M.D., University of Santo Tomas, 1986

**Donald C. Maharty**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Scranton, 1989  
D.O., Philadelphia College of Osteopathic Medicine, 1993

**Maria Mahmoodi**

*Clinical Assistant Professor, Family Medicine*  
B.S., Metropolitan State College, 1990  
M.D., University of Colorado Health Sciences Center, 1994

**Brian Mahony**

*Clinical Adjunct Instructor, Optometry*  
O.D., Pennsylvania College of Optometry, 1985

**Mary R. Mailloux**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Miami, 1987  
M.D., Johns Hopkins University School of Medicine, 1991

**Archana Maini**

*Clinical Assistant Professor, Hematology/Oncology*  
M.D., Lady Harding Medical College, 1986

**Major M. Malcolm**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Illinois, 1984  
J.D., Boston University School of Law, 1996

**Vinod K. Malik**

*Clinical Assistant Professor, Anesthesiology*  
B.S., College Hissar, 1980  
M.D., Medical College Rohtak, 1986

**Ophelia J. Mall**

*Clinical Assistant Professor, Pediatrics*  
M.D., Dow Medical College, 1968

**Ronald M. Mall**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Illinois, 1970  
M.S., Southern Illinois University, 1971  
D.O., Chicago College of Osteopathic Medicine, 1975

**Michael J. Mallis**

*Clinical Assistant Professor, Surgery*  
D.O., Philadelphia College of Osteopathic Medicine, 1997

**Frances M. Mally**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida International University, 1985  
D.O., Southeastern University of the Health Sciences, 1993

**Mauricio Malo**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., Colombian Odontological College, Colombia, 1995  
Certificate—Prosthodontics, Loma Linda University, 2004

**Jere J. Mammino**

*Clinical Assistant Professor, Dermatology*  
B.S., Albright College, 1978  
D.O., Philadelphia College of Osteopathic Medicine, 1982

**David L. Mandell**

*Clinical Associate Professor, Otolaryngology*  
B.A., University of Maryland, 1992  
M.D., University of Maryland, 1996

**Michael Mandese**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 1996

**Deepak S. Mandi**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Bangalore Medical College, 1990  
B.S., University of Kentucky, 1993

**Basil Mangra**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Roosevelt University, 1983  
M.D., University of Illinois, 1989

**Gene F. Manko**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., University of Pennsylvania, 1968  
M.D., University of Pennsylvania, 1972

**Judith Mann**

*Adjunct Faculty, Physical Therapy*  
B.S. PT, Boston University, 1975  
M.A. PT, Touro College, 1997  
D.P.T., Nova Southeastern University, 2008

**Jason A. Mansour**

*Clinical Assistant Professor, Family Medicine*  
B.S., Duquesne University, 1998  
M.D., Drexel University College of Medicine, 2003

**Constantine A. Mantz**

*Clinical Assistant Professor, Oncology*  
B.S., Loyola University of Chicago, 1990  
M.D., University of Chicago, 1995

**Alberto A. Marante**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of South Florida, 1978  
M.D., Universidad CETEC, 1981

**James Marbourg**

*Clinical Assistant Professor, Optometry*  
O.D., University of Alabama School of Optometry, 1977

**David Marcus**

*Clinical Associate Professor, Pediatrics*  
B.S., Tulane University, 1977  
M.D., Tulane University, 1981

**Gary L. Marder**

*Clinical Assistant Professor, Dermatology*  
B.A., New York University, 1977  
D.O., University of Health Sciences  
College of Osteopathic Medicine, 1983

**Edward E. Maready**

*Clinical Assistant Professor, Family Medicine*  
B.A., North Carolina State University, 1998  
M.D., Wake Forest University, 2002

**Cindy Marika**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1987

**Michelle Markley**

*Clinical Assistant Professor, Surgery*  
M.D., University of Miami School of Medicine, 1990

**John Mark-Miller**

*Clinical Assistant Professor, Family Medicine*  
B.S., Bloomsburg University, 1997  
D.O., Philadelphia College of Osteopathic Medicine, 2002

**Michael Markou**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of South Florida, 1987  
D.O., Kirksville College of Osteopathic Medicine, 1991

**Stanley W. Marks**

*Clinical Assistant Professor, Surgery*  
B.A., C. W. Post College of Long Island University, 1969  
M.D., Howard University College of Medicine, 1973

**Angelique T. Martinez**

*Clinical Assistant Professor, Pediatrics*  
B.A., Old Dominion University, 2001  
M.D., Eastern Virginia Medical School, 2005

**Antonio E. Martinez**

*Clinical Assistant Professor, Pathology*  
B.S., Florida International University, 1994  
M.D., Universidad Autonoma De Centro America, 1999

**Isidro R. Martinez**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Xavier University, 1984  
M.D., University of Puerto Rico School of Medicine, 1988

**Ramon E. Martinez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Central University of Venezuela, 1999

**Santiago E. Martinez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Universidad Autonoma de Santo Domingo, 1982

**Walter C. Martinez**

*Clinical Associate Professor, Neurology*  
B.S., San Marcos University, 1960  
M.D., San Marcos University, 1967

**Richard Martinoff**

*Adjunct Assistant Professor, Biomedical Informatics*  
B.S., University of Illinois, 1995  
M.D., University of Illinois College of Medicine, 1999

**Eugene L. Mascarenhas**

*Clinical Assistant Professor, Cardiology*  
M.D., Grant Medical College, 1966

**Mohammad M. Masri**

*Clinical Assistant Professor, Surgery*  
M.D., Aleppo University, 1976

**Thomas H. Matese, Jr.**

*Clinical Assistant Professor, Family Medicine*  
B.S., Villanova University, 1984  
D.O., University of Health Sciences College of Osteopathic Medicine, 1988

**Mitchell F. Mitez**

*Clinical Assistant Professor, Surgery*  
B.A., Rutgers College, 1982  
D.O., Philadelphia College of Osteopathic Medicine, 1986

**Denby Matthews**

*Adjunct Faculty, Prosthodontics*  
D.D.S., Ohio State University, 1969

**Barry I. Matza**

*Clinical Assistant Professor, Orthodontics*  
D.M.D., Tufts University School of Dental Medicine, 1973

**Mitchell D. Maulfair**

*Clinical Associate Professor, Family Medicine*  
D.O., Philadelphia College of Osteopathic Medicine, 1977

**Troy C. Maurer**

*Clinical Instructor, Sports Medicine*  
B.A., Purdue University, 1989

**Dane L. Maxfield**

*Clinical Associate Professor, Internal Medicine*  
B.A., Northwestern University, 1968  
D.O., Kirksville College of Osteopathic Medicine, 1972

**John P. May**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Notre Dame, 1984  
M.D., Loyola University Stritch School of Medicine, 1988

**Laura L. Mays**

*Adjunct Faculty, Physician Assistant Studies*  
B.S., Butler University, 2001

**Cynthia A. Mayer**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Florida, 1973  
D.O., West Virginia School of Osteopathic Medicine, 1986

**Joseph C. Mazzola**

*Clinical Assistant Professor, Family Medicine*  
B.S., Georgia State University, 1995  
D.O., Chicago College of Osteopathic Medicine, 1999

**William H. McAfee**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Virginia, 1966  
M.S., Medical University of South Carolina, 1970  
Ed.D., University of South Carolina, 1979

**Daniel P. McBeth**

*Clinical Assistant Professor, Family Medicine*  
B.A., St. Leo College, 1984  
D.O., Southeastern University of the Health Sciences, 1990

**James L. McBride**

*Clinical Associate Professor, Family Medicine*  
Ph.D., Florida State University, 1988

**Joseph P. McCain**

*Professor, Oral and Maxillofacial Surgery*  
D.M.D., University of Pittsburgh, 1975  
Certificate—General Practice Residency, University of Miami, 1976  
Certificate—Oral and Maxillofacial Surgery, University of Miami, 1979  
Fellow, American Association of Oral and Maxillofacial Surgeons, 1979  
Diplomate, American Board of Oral and Maxillofacial Surgeons, 1984

**Paul A. McCarthy**

*Clinical Instructor, Preventive Medicine*  
B.A., Canisius College, 1978  
M.A., Syracuse University, 1989

**John McClane III**

*Clinical Assistant Professor, Optometry*  
B.S., University of Florida, 1975  
O.D., Illinois College of Optometry, 1979

**Wayne A. McCreath**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Clark University, 1990  
B.S., Cornell University, 1992  
M.D., Medical College of Ohio, 1998

**Malcolm H. McDonald**

*Clinical Associate Professor, Surgery*  
B.S., Michigan State University, 1965  
D.O., Michigan State University, 1969

**Daniel E. McGee**

*Clinical Instructor, Family Medicine*  
B.S., Middle Tennessee State University, 2001  
D.O., Nova Southeastern University, 2005

**David A. McInnes**

*Clinical Associate Professor, Family Medicine*  
A.B., William Jewell College, 1977  
M.D., University of Missouri, 1981  
M.Ed., University of Southern California, 2001

**Sonya V. McKee**

*Clinical Assistant Professor, Psychiatry*  
B.A., Wayne State University, 1986  
M.D., Wayne State University, 1990

**Michael J. McKenzie**

*Clinical Assistant Professor, Family Medicine*  
B.S., Virginia Commonwealth University, 1992  
M.D., Universidad Iberoamericana School of Medicine, 1999

**Archie McLean**

*Clinical Associate Professor, Community Medicine*  
A.B., Bowdoin College, 1977  
M.P.H., University of South Carolina, 1978  
D.O., Southeastern University of the Health Sciences, 1988

**John McSoley**

*Clinical Assistant Professor, Optometry*  
O.D., New England College of Optometry, 1991

**Lucy R. Mead**

*Clinical Instructor, Geriatrics*  
B.S.N., Florida Atlantic University, 2005  
M.S.N., Florida Atlantic University, 2007

**Clyde Meckstroth**

*Clinical Assistant Professor, Surgery*  
B.S., University of Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1985  
M.H.A., University of Florida, 2003

**Dan H. Meirson**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Michigan, 1982  
M.D., Ohio State University, 1986

**Malcolm Meister**

*Adjunct Professor, Orthodontics*  
D.D.S., New York University College of Dentistry, 1955  
M.S.M., Florida International University, 1981  
J.D., Nova Southeastern University, 1995

**Elise Mellman**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
A.S., State University of New York, 1979

**Barbara Ann Melzer**

*Adjunct Professor, Ph.D. Program Physical Therapy*  
B.S., University of North Dakota, 1972  
M.S. University of Minnesota, 1976  
Ph.D., University of Texas at Austin, 1989

**Karen Memoli**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 1999

**Avishai Mendelson**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Florida, 1988  
M.D., University of Miami School of Medicine, 1993

**Martin R Mendelson**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., Baltimore College of Dental Surgery, 1996

**Benny Menendez**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of Puerto Rico, 1986  
D.O., New York College of Osteopathic Medicine, 1989

**Richard J. Menendez**

*Clinical Associate Professor, Family Medicine*  
B.S., Tulane University, 1979  
M.D., University of Puerto Rico Medical School, 1983

**Roxanna M. Menendez**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1991  
D.O., Western University of the Health Sciences, 1996

**Jane Miller**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*

**Richard A. Miller**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Michigan, 1978  
D.O., Michigan State University, 1984

**Jules G. Minkes**

*Clinical Professor, Cardiology*  
D.O., Kirksville College of Osteopathic Medicine, 1962

**Michael A. Miranda**

*Clinical Instructor, Orthopedic Surgery*  
B.S., Virginia Polytechnic Institute and State University, 1997  
M.S., State University of New York, 1999  
D.O., Philadelphia College of Osteopathic Medicine, 2003

**Neil Miransky**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Florida, 1992  
D.O., Nova Southeastern University, 2003

**Barry M. Miskin**

*Clinical Assistant Professor, Surgery*  
M.D., New York Medical College of New Rochester, 1981

**Glen Mitchell**

*Clinical Assistant Professor, Endodontics*  
D.D.S., Northwestern University, 1991

**Lauren Mitchell**

*Clinical Assistant Professor, Endodontics*  
D.D.S., Northwestern University, 1992

**Rakesh K. Mittal**

*Clinical Associate Professor, Pediatrics*  
*Premed, Delhi College, 1972*  
M.D., University College of Medical Sciences, 1978

**Vishnu Mohan**

*Adjunct Assistant Professor, Biomedical Informatics*  
M.S., Oregon Health and Science University, 2009  
M.D., University of Delhi, 1991

**Marie-Evelyne Moise**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Brussels, 1980

**Shahida P. Moizuddin**

*Clinical Assistant Professor, Preventive Medicine*  
M.D., Gandhi Medical College, 1973  
M.P.H., Tulane School of Public Health, 1987

**Bertram Moldauer**

*Associate Director, Postdoctoral Endodontics*  
*Assistant Professor, Endodontics*  
D.M.D., Nova Southeastern University, 2003

**Francis K. Moll III**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.A., Westeyan University, 1984  
M.D., University of Miami School of Medicine, 1989

**Tony Momeni**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1988  
D.O., Southeastern University of the Health Sciences, 1993

**Harry K. Moon**

*Clinical Associate Professor, Surgery*  
B.A., Tulane University, 1972  
M.D., University of South Alabama College of Medicine, 1978

**M. Fernando D. J. Moraflores**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad San Carlos de Guatemala, 1982

**Rommel R. Morales**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Centro de Estudios Tecnicos, 1983

**Glenn Moran**

*Clinical Associate Professor, Family Medicine*  
B.A., Florida Atlantic University, 1982  
D.O., Southeastern University of the Health Sciences, 1988

**Jorge B. Mordujovich**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of La Plata School of Medicine, 1968

**Marc Morganstine**

*Clinical Professor, Community Medicine*  
B.S., Moravian College, 1965  
D.O., Philadelphia College of Osteopathic Medicine, 1969  
M.S., Southeastern University, 1979

**Richard Morris**

*Clinical Assistant Professor, Optometry*  
O.D., Southern College of Optometry, 1986

**Stephen A. Morris**

*Clinical Adjunct Instructor, Optometry*  
O.D., Southern College of Optometry, 1964

**Stephen M. Morris**

*Clinical Assistant Professor, Internal Medicine*  
A.B., Temple University, 1961  
M.D., Temple University School of Medicine, 1965

**James Morrish**

*Adjunct Assistant Professor, Orthodontics*  
B.A., Emory University, 1976  
D.D.S., Emory University School of Dentistry, 1981  
Certificate—Orthodontics, University of Florida School of Dentistry, 1983  
Diplomate, American Board of Orthodontics

**Louis T. Morrison**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1979  
M.S., Louisiana State University, 1982  
M.D., University of Texas Medical School, 1989

**Neal R. Mortensen**

*Clinical Instructor, Family Medicine*  
B.S., St. Joseph College, 1988  
D.P.M., Dr. William Scholl College of Podiatric Medicine, 1993

**Saima Mufti**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Kashmir, 1995

**Deborah A. Mulligan**

*Clinical Professor, Pediatrics*  
B.A., University of San Francisco, 1976  
M.D., University of California—Los Angeles, 1982

**Duaine D. Murphree**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of South Alabama, 1977  
M.D., University of South Alabama, 1983  
M.S., Wake Forest University, 1991

**Suzanne C. Murphy**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Villanova University, 1988  
M.D., Albany Medical College, 1992

**Roy C. Musoff**

*Clinical Assistant Professor, Internal Medicine*  
B.S., City College of New York, 1980  
M.D., Universidad del Noreste, 1986

**Ralph G. Nader**

*Clinical Assistant Professor, Cardiology*  
B.A., University of Pennsylvania, 1980  
M.D., Northwestern University Medical School, 1984

**Diana Naffah**

*Adjunct Assistant Professor, Prosthodontics,  
Division of Primary Care*  
D.D.S., Pontificia Universidad Javeriana, 1995  
Specialization, Orthodontics, Pontificia Universidad Javeriana, 2001

**Michael H. Nahmad**

*Clinical Professor, Surgery*  
B.S., University of New Mexico, 1960  
M.D., Tulane Medical School, 1964

**Erick C. Naka-Mizrahi**

*Clinical Assistant Professor, Pediatrics*  
B.S., Carnegie Mellon University, 1991  
M.D., Mercer University School of Medicine, 1995

**Joseph J. Namey, Jr.**

*Clinical Associate Professor, Internal Medicine*  
B.S., Gannon University, 1983  
D.O., Southeastern University of the Health Sciences, 1987

**Kenneth R. Nanni**

*Adjunct Professor, Health Science*  
B.S., University of Florida, 1995  
M.S., California College for Health Science, 1999  
Ph.D., Nova Southeastern University, 2004

**James A. Napier, Jr.**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Michigan, 1970  
D.O., College of Osteopathic Medicine and Surgery, 1974  
J.D., Stetson University College of Law, 1984

**Luis F. Narvaez**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad del Valle, 1984

**Neil A. Natkow**

*Clinical Professor, Family Medicine*  
A.B., Indiana University, 1968  
D.O., University of Health Sciences College of Osteopathic Medicine, 1972

**Lourdes I. Navarro**

*Clinical Instructor, Internal Medicine*  
B.A., Liceo Hondureno Sagrado Corazon, 1970  
P.A., University Michoacan De San Nicolas de Hidalgo, 1979

**Katherine E. Naymick**

*Clinical Assistant Professor, Family Medicine*  
B.S., Robert Morris College, 1977  
D.O., West Virginia School of Osteopathic Medicine, 1989

**Rajkumar M. Nebhrajani**

*Clinical Assistant Professor, Surgery*  
M.D., Topiwala National Medical College, 1979

**Joe A. Nelson**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida Southern College, 1979  
D.O., University of Osteopathic  
Medicine and Health Sciences, 1984

**Beverly Y. Nelson-Curtis**

*Clinical Professor, Pediatrics*  
B.A., Herbert Lehman College, 1976  
M.S., New York University, 1978  
M.D., State University of New York, 1982

**Cara R. Nelson-James**

*Clinical Professor, Family Medicine*  
B.S., Florida Atlantic University, 1977  
D.O., Nova Southeastern University, 2003

**Edward Neuwirth**

*Clinical Assistant Professor, Prosthodontics*  
D.D.S., New York University College of Dentistry, 1960

**Steven Newman**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 1996

**Emanuel Newmark**

*Clinical Professor, Ophthalmology*  
B.S., Rutgers University College of Pharmacy, 1959  
M.D., Duke University School of Medicine, 1966

**Nam Q. Nguyen**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Florida Atlantic University, 1994  
D.O., Nova Southeastern University, 1999

**Sonny V. Nguyen**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Jefferson Medical College, 1999

**Thuy-Lan Nguyen**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 2002

**Scott A. Nichols**

*Clinical Assistant Professor, Pediatrics*  
B.A., Occidental College, 1995  
M.D., University of Pennsylvania School of Medicine, 1999

**Barry P. Nierenberg**

*Clinical Associate Professor, Psychiatry*  
B.A., State University of New York, 1973  
M.S., Queens College, 1975  
Ph.D., University of Tennessee, 1981

**Iran Niroomand-Rad**

*Clinical Assistant Professor, Pediatrics*  
M.S., Michigan State University, 1982  
D.O., Southeastern University of the Health Sciences, 1989

**Ross D. Nochimson**

*Clinical Assistant Professor, Internal Medicine*  
M.D., New York Medical College, 1975

**Fred Norkin**

*Clinical Assistant Professor, Periodontology*  
D.D.S., Tufts University, 1997

**Robert A. Norman**

*Clinical Associate Professor, Dermatology*  
D.O., Chicago College of Osteopathic Medicine, 1981  
M.P.H., University of South Florida, 2001

**Carlos H. Nousari**

*Clinical Professor, Dermatology*  
M.D., Universidad Catolica De Cordoba, 1989

**Martin Novey**

*Clinical Assistant, Optometry*  
B.S., Indiana University of Pennsylvania, 1991  
O.D., Pennsylvania College of Optometry, 1994

**Robert P. Novo**

*Clinical Assistant Professor, Pediatrics*  
B.A., Rutgers University, 1975  
M.D., CÉTEC University, 1980

**Michael A. Nowak**

*Clinical Assistant Professor, Pathology*  
B.S., Xavier University, 1983  
M.D., Wright State University, 1988

**Charles L. Nutinsky**

*Clinical Associate Professor, Surgery*  
B.S., Delaware Valley College, 1973  
D.O., University of Health Sciences  
College of Osteopathic Medicine, 1977

**Tatiana M. Ochoa**

*Adjunct Assistant Professor, Public Health*  
M.D., Universidad Central del Ecuador, 1986

**Timothy E. O'Connor**

*Clinical Instructor, Preventive Medicine*  
B.A., Wayne State University, 1974

**Hector Octaviani**

*Clinical Assistant Professor, Pediatrics*  
B.S.N., University of Puerto Rico, 1978  
M.D., University of Puerto Rico School of Medicine, 1982

**Maureen O'Hara**

*Adjunct Faculty, Health Science*  
B.Sc., California State Polytechnic University—Pomona, 1972  
M.A., California State University—Los Angeles, 2001  
D.H.Sc., Nova Southeastern University, 2007

**Marshall D. Ohring**

*Clinical Assistant Professor, Pediatrics*  
M.D., Technion Institute of  
Technology School of Medicine, 1983

**Nicholas Z. Okeson**

*Clinical Assistant Professor, Family Medicine*  
B.A., Bethany College, 1991  
D.O., Kirksville College of Osteopathic Medicine, 1995

**Nnachi L. Oko**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of Health Sciences Antigua, 1987

**Dennis J. O'Leary**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Manhattan College, 1971  
D.O., Philadelphia College of Osteopathic Medicine, 1977

**Robert T. O'Leary**

*Clinical Assistant Professor,  
Physical Medicine and Rehabilitation*  
B.S., University of Scranton, 1986  
D.O., Philadelphia College of Osteopathic Medicine, 1990

**Alvin Olesh**

*Adjunct Instructor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
D.D.S., New York University, 1973

**Ovidio Olivencia**

*Adjunct Faculty, Physical Therapy*  
B.S., University of California—Davis, 1999  
M.P.T., Nova Southeastern University, 2002

**Kevin P. O'Neill**

*Clinical Instructor, Sports Medicine*  
B.S., University of Pittsburgh, 1976  
M.S., University of Arizona, 1977

**Martha O'Neill**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of Michigan—Ann Arbor, 1972  
M.S.N., University of Arizona, 1979

**James Ongley**

*Adjunct Faculty, Health Science*  
B.S., University of Florida, 1973  
M.D., University of Florida, 1977  
J.D., Nova University, 1989

**Peter H. Oostwouder**

*Clinical Assistant Professor, Family Medicine*  
B.A., Washington University, 1978  
M.D., St. Louis University School of Medicine, 1982

**Arnold A. Oper**

*Clinical Instructor, Family Medicine*  
B.A., Washington & Jefferson College, 1950  
M.S., Columbia University, 1952  
M.D., University of New York College of Medicine, 1957

**Jacques E. Orces**

*Clinical Assistant Professor, Pediatrics*  
B.A., Arizona State University, 1988  
D.O., Nova Southeastern University, 1996

**Edgar G. Orellana**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of San Carlos, Guatemala, 1979

**Brett Osborn**

*Clinical Assistant Professor, Surgery*  
D.O., Chicago College of Osteopathic Medicine, 1996

**Ahmed F. Osman**

*Clinical Assistant Professor, Cardiology*  
M.D., Cairo University Faculty of Medicine, 1991

**Paola Ossa Gomez**

*Adjunct Instructor, Endodontics,  
Division of Surgical Sciences*  
D.D.S., Colombian Odontological College, 1991

**Leon Ostroff**

*Clinical Assistant Professor, Periodontology*  
D.M.D., Tufts University School of Dental Medicine, 1973

**Anthony N. Ottaviani**

*Clinical Professor, Pulmonary Medicine  
Adjunct Associate Professor, Public Health*  
B.A., Gannon College, 1964  
D.O., University of Health Sciences College of Osteopathic  
Medicine, 1968  
M.P.H., Nova Southeastern University, 1997

**Elizabeth O. Oviawe**

*Adjunct Instructor, Biomedical Informatics*  
B.S., University of Lagos, 1991  
M.S., Nova Southeastern University, 2007  
M.S., Nova Southeastern University, 2009

**Robert H. Ozaki**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of California, 1994  
D.O., Kirksville College of Osteopathic Medicine, 2001

**James Pace**

*Adjunct Faculty, Physician Assistant Studies*  
PA-C, University of Nebraska, 1976

**Barbara Packer**

*Adjunct Professor, Audiology*  
B.A., Douglas College, Rutgers University, 1974  
M.S., Teachers College, Columbia, 1976  
Ed.D., Nova Southeastern University, 1995

**Mark S. Palazzolo**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Michigan State University, 1995  
D.O., Michigan State University  
College of Osteopathic Medicine, 1999

**Richard J. Paley**

*Clinical Assistant Professor, Family Medicine*  
M.D., University of Virginia School of Medicine, 1989

**Lynne Palma**

*Clinical Assistant Professor, Family Medicine*  
B.S.N., University of California, 1977  
M.S., University of California, 1984

**Siddharth J. Pandya**

*Clinical Assistant Professor, Radiology*  
B.S., Arizona State University, 1990  
D.O., University of Health Sciences College of Osteopathic  
Medicine, 1995

**Melvin E. Pann**

*Clinical Assistant Professor, Surgery*  
B.A., Hofstra University, 1969  
M.D., New York University School of Medicine, 1973

**Juan C. Paramo**

*Clinical Associate Professor, Surgery*  
M.D., Pontificia Universidad Javeria, 1991

**Judith Pardo**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Duke University, 1977  
M.D., University of Miami School of Medicine, 1981

**Keith B. Paredes**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., Florida State University, 1974  
M.D., University of Florida College of Medicine, 1977

**Angelica M. Parra**

*Clinical Assistant Professor, Pediatrics*  
B.S., Fordham University, 1998  
M.D., University of Medicine and Dentistry of New York, 2003

**Michael W. Parra**

*Clinical Assistant Professor, Surgery*  
M.D., Colegio Mayor De Nuestra Senora del Rosario, 1993

**Christopher F. Parry**

*Clinical Assistant Professor, Urology Surgery*  
B.S., Eastern Michigan University, 1976  
D.O., Chicago College of Osteopathic Medicine, 1980

**Vipul R. Patel**

*Clinical Associate Professor, Urology*  
M.D., Baylor College of Medicine, 1995

**Naresh H. Pathak**

*Clinical Associate Professor, Internal Medicine*  
B.A., University of California, 1979  
M.D., UTESA School of Medicine, 1985

**Andres Patron**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Seton Hall University, 1984  
D.O., New York College of Osteopathic Medicine, 1988

**Christopher D. Patterson**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of South Florida, 1989  
D.O., Southeastern University of the Health Sciences, 1993

**Frank J. Pearl**

*Clinical Professor, Cardiology*  
B.A., University of Pennsylvania, 1969  
M.D., Jefferson Medical College, 1974

**Eduardo I. Pena**

*Clinical Assistant Professor, Psychiatry*  
B.A., State University of New York, 1985  
B.A., State University of New York, 1989

**Matthew G. Penson**

*Clinical Assistant Professor, Pediatrics*  
B.A., University of Virginia, 1994  
M.D., University of Florida College of Medicine, 1998

**Laura J. Peralta**

*Clinical Assistant Professor, Family Medicine*  
B.S.N., Texas Christian University, 1979  
D.O., Southeastern University of the Health Sciences, 1988

**Agueda Perez**

*Adjunct Instructor, Cariology and Restorative Dentistry, Division of Primary Care*  
D.M.D., Nova Southeastern University, 2010

**Donny Perez**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida Atlantic University, 1999  
D.O., Philadelphia College of Osteopathic Medicine, 2003

**Hugo N. Perez**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Central del Este Dominican Republic, 1980

**Joseph R. Perez**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida International University, 1996  
D.O., Nova Southeastern University, 2001

**David E. Perloff**

*Clinical Assistant Professor, Internal Medicine*  
B.G.S., University of Miami, 1987  
M.D., University of Miami School of Medicine, 1991

**Stewart I. Perlow**

*Adjunct Faculty, Cariology and Restorative Dentistry*  
D.M.D., Tufts University, 1968

**Joshua A. Perper**

*Clinical Professor, Surgery*  
*Adjunct Professor, Public Health*  
M.D., Medical School of Hebrew University, 1960  
M.S., Johns Hopkins University School of Hygiene & Public Health, 1969

**Dana E. Perrin**

*Clinical Assistant Professor, Family Medicine*  
B.S., Colorado State University, 1974  
M.A., University of California, 1976  
M.D., University of South Florida College of Medicine, 2002

**William A. Petersen**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., University of Texas Medical School, 1977

**Richard K. Peterson**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1987  
M.D., University of Florida, 1992

**Vincent W. Petraroli**

*Adjunct Assistant Professor, Biomedical Informatics*  
B.S., Nova Southeastern University, 1994  
M.S., Nova Southeastern University, 1996  
Ph.D., Nova Southeastern University 1999

**Anita L. Petteway**

*Clinical Instructor, Internal Medicine*  
B.S., Florida A&M University, 1989  
M.D., University of Maryland School of Medicine, 1993



**Samuel A. Pettina**

*Clinical Assistant Professor, Family Medicine*  
B.A., St. Vincent College, 1967  
D.O., Chicago College of Osteopathic Medicine, 1972

**Ramsey K. Pevsner**

*Clinical Assistant Professor, Psychiatry*  
R.N., Rush Presbyterian, 1967  
B.S., Nova University, 1975  
M.S., Nova University, 1977  
Ph.D., Nova University, 1981

**Eli J. Piatigorsky**

*Clinical Assistant Professor, Dermatology*  
B.A., University of Minnesota, 1996  
M.D., University of Minnesota, 2001

**Yves E. Pierre-Louis**

*Clinical Assistant Professor, Family Medicine*  
M.D., Haiti State University Medical School, 1980

**Anthony B. Pietroniro**

*Clinical Assistant Professor, Pediatrics*  
B.S., Barry University, 1985  
M.D., Tulane University School of Medicine, 1989

**Antoinette C. Pignataro**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Manhattanville College, 1979  
M.D., San Juan Bautista School of Medicine, 1983

**Alan B. Pillersdorf**

*Clinical Assistant Professor, Surgery*  
B.S., State University of New York, 1973  
M.D., Georgetown University School of Medicine, 1980

**Mathias Piskur**

*Clinical Assistant Professor, Cardiology*  
B.A., Queens College, 1964  
M.D., University of Bologna, 1970

**David Z. Pizzimenti**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Florida, 1997  
D.O., Nova Southeastern University, 2002

**Tomas A. Pla**

*Clinical Instructor, Internal Medicine*  
B.S., University of Puerto Rico, 1962  
M.D., University of Madrid School of Medicine, 1967

**Daniel J. Plasencia**

*Clinical Associate Professor, Pediatrics*  
M.D., Doctor of Medicine and Surgery Medical School, 1975

**Melvin Platt**

*Adjunct Professor, Prosthodontics*  
D.D.S., University of Detroit, 1955

**Juan L. Poggio**

*Clinical Assistant Professor, Surgery*  
M.D., Universidad del Salvador Medical School, 1996  
M.B.S., Mayo Graduate School, 1999

**Joel S. Policzer**

*Clinical Assistant Professor, Hematology/Oncology*  
B.S., Syracuse University, 1970  
M.S., University of Brussels, 1974  
M.D., College of Medicine and Dentistry of New Jersey, 1976

**Marc Pomerantz**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., University of Pittsburgh, 1966  
G.P.R. Mount Sinai Hospital, 1967

**Heidi A. Pomm**

*Clinical Associate Professor, Family Medicine*  
B.A., Florida International University, 1990  
M.A., California School of Professional Psychology, 1994  
Ph.D., California School of Professional Psychology, 1996

**Ian Pop**

*Clinical Assistant Professor, Psychiatry*  
M.D., Institute of Medicine and Pharmacology of Cluj, 1966

**Robert J. Poppiti**

*Clinical Professor, Surgery*  
B.S., University of Miami, 1975  
M.D., Universidad Nacional, 1978

**Benjamin Porras**

*Adjunct Assistant Professor, Endodontics,  
Division of Surgical Sciences*  
D.D.S., Pontifical Xavier University, Bogota, Colombia, 1980  
Certificate—Endodontics, Columbia University, New York, 1987

**Regina Portcarrero**

*Clinical Assistant, Optometry*  
O.D., Nova Southeastern University, 2002

**Manuel Porth**

*Clinical Assistant Professor, Orthopedic Surgery*  
M.D., Wayne State University, 1968

**David C. Portnoy**

*Clinical Assistant Professor, Hematology/Oncology*  
B.A., Brandeis University  
M.D., State University of New York Upstate  
Medical University, 2003

**Seth H. Portnoy**

*Clinical Assistant Professor, Family Medicine*  
B.A., Florida Atlantic University, 1991  
D.O., Nova Southeastern University, 1996

**Nicholas S. Potochny**

*Clinical Assistant Professor, Physical Medicine  
and Rehabilitation*  
B.S., Pennsylvania State University, 1992  
D.O., University of New England College of Osteopathic  
Medicine, 1996

**Donna R. Potts**

*Clinical Assistant Professor, Family Medicine*  
A.A., University of South Florida, 1980  
B.S., Florida State University, 1982  
M.D., University of South Florida College of Medicine, 1992

**Evangelos G. Poulos**

*Clinical Assistant Professor, Surgery*  
B.S., University of Miami, 1976  
M.D., University of Miami School of Medicine, 1976

**June A. Powell**

*Clinical Assistant Professor, Psychiatry*  
B.S., University of Mississippi  
M.D., University of Mississippi School of Medicine, 1968

**Michelle C. Powell**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida International University, 1989  
D.O., Nova Southeastern University, 1995  
M.P.H., Nova Southeastern University, 2002

**Nora L. Powell**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
A.S., New York Community College, 1979

**Robert Powell**

*Adjunct Faculty, Endodontics*  
D.D.S., Medical College of Virginia, 1976

**John W. Prather**

*Clinical Assistant Professor, Cardiology*  
B.S., Mississippi State University, 1965  
Ph.D., University of Mississippi Medical Center, 1968  
M.D., University of California, 1972

**Victoria Prignanc**

*Adjunct Professor, Occupational Therapy*  
B.S., University of Wisconsin—Milwaukee, 1994  
M.S., University of Vermont, 2001  
Ph.D., Nova Southeastern University, 2007

**Nancy Proano-Wise**

*Adjunct Instructor, Cariology and Restorative Dentistry,  
Division of Primary Care*  
D.M.D., Nova Southeastern University, 2007

**Melvin M. Propis**

*Clinical Assistant Professor, Surgery*  
B.A., Syracuse University, 1964  
M.D., Hadassah Medical School, 1972

**Abby A.R. Pudpud**

*Clinical Assistant Professor, Pediatrics*  
B.A., Wake Forest University, 1985  
D.O., University of Medicine and Dentistry of New Jersey, 1991

**Ivan Puente**

*Clinical Assistant Professor, Surgery*  
B.S., University of Michigan, 1983  
M.D., University of California, 1987

**Sandra V. Puerto**

*Adjunct Assistant Professor, Oral and Maxillofacial  
Radiology, Diagnostic Sciences, Division of Primary Care*  
D.D.S., Universidad Pontificia Javeriana (Colombia), 1992

**Isidro Pujol**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Miami, 1988  
D.O., Nova Southeastern University, 1994

**Subhash R. Puranik**

*Clinical Assistant Professor, Surgery*  
M.D., B.J. Medical College, 1963

**Alexander Pushka**

*Clinical Assistant Professor, Psychiatry*  
M.D., Ivano-Frankovsky Medical Institute, 1980

**You-Wen Qian**

*Adjunct Associate Professor, Biomedical Informatics*  
M.D., Wannan Medical College, 1989  
M.S., Shanghai Medical University, 1994  
M.S., University of California—Davis, 2002

**Jose R. Quero**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Loyola University, 1979  
M.D., Rush Medical College, 1984

**Georges Quesnel**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., Universite de Montreal, 1965

**Hugo F. Quevedo**

*Adjunct Faculty, Physician Assistant Studies*  
B.S., Universidad de Chile, 1981  
M.A., San Jose State University, 1992  
P.A., Miami Dade Community College, 2001

**Lantie Quinones**

*Clinical Instructor, Psychiatry*  
B.S., Vanderbilt University, 1994  
M.D., University of Florida College of Medicine, 2002

**Tobias Quintana-White**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.D.S., Central University of Venezuela, 1994

**Zafar I. Qureshi**

*Clinical Assistant Professor, Pediatrics*  
M.D., Sindh Medical College, 1989

**Harold S. Rabinowitz**

*Clinical Professor, Dermatology*  
B.A., Princeton University, 1973  
M.D., University of Miami School of Medicine, 1977

**Mark L. Rabinowitz**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., University of Miami School of Medicine, 1979

**Michael Radu**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., University of Bucharest, 1979  
M.S., Lynn University, 2000

**Frederick Rahe**

*Adjunct Assistant Professor, Audiology*  
B.A., University of Florida, 1975  
M.A., University of Florida, 1976  
Au.D., Nova Southeastern University, 2000

**Nina C. Ramirez**

*Clinical Assistant Professor, Pediatrics*  
B.A., Fordham University, 1953  
M.D., Cornell University, 1978

**Otto M. Ramos**

*Clinical Associate Professor, Pediatrics*  
M.D., University of Santiago, 1977

**M. Vic Rampertaap**

*Adjunct Faculty, Prosthodontics*  
D.D.S., Howard University, 1986

**Eileen M. Ramsaran**

*Clinical Instructor, Internal Medicine*  
M.D., St. George's University School of Medicine, 1991

**Elaine M. Rancatore**

*Clinical Assistant Professor, Family Medicine*  
B.A., Boston University, 1980  
M.S., Fairleigh Dickinson University, 1982  
M.D., New York University, 1984

**Theyyar V. Rangarajan**

*Adjunct Faculty, Prosthodontics, Division of Primary Care*  
M.B.A., New York University, 1981  
D.D.S., New York University, 1989

**Jorge Rangel**

*Clinical Assistant Professor, Family Medicine*  
M.D., Pontificia Universidad Javeriana, 1979  
M.P.H., University of Missouri, 1990

**Robert F. Raspa**

*Clinical Assistant Professor, Family Medicine*  
B.S., Fairmont State College, 1978  
M.D., West Virginia University, 1982

**Ranga Rathakrishnan**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of Oklahoma, 1988  
M.D., University of Oklahoma College of Medicine, 2000

**Kenneth R. Ratzan**

*Clinical Professor, Internal Medicine*  
M.D., Harvard Medical School, 1965

**Sergio Rauchwerger**

*Assistant Professor, Prosthodontics*  
D.D.S., Universidad Central de Venezuela, 1995  
M.M.Sc., Harvard University, 2000

**Michael A. Ravitsky**

*Clinical Assistant Professor, Cardiology*  
B.S., Delaware Valley College, 1969  
D.O., Kansas City College of Osteopathic Medicine, 1973

**Lionel P. Raymon**

*Clinical Assistant Professor, Pathology*  
B.S., Lycee Bouchardon, 1983  
Pharm.D., University of Bourgogne School of Medicine and Pharmacy, 1989  
Ph.D., University of Maryland, 1994

**Melvyn H. Rech**

*Clinical Professor, Orthopedic Surgery*  
A.B., Temple University, 1960  
D.O., Kirksville College of Osteopathic Medicine, 1965  
Fellow, American College of Osteopathic Surgeons  
Fellow, American Osteopathic Academy of Orthopedics

**Dianne Rehtine**

*Clinical Assistant Professor, Family Medicine*  
M.D., West Virginia University School of Medicine, 1965

**Monica A. Recine**

*Clinical Assistant Professor, Pathology*  
M.D., Central University of Venezuela, 1993

**Jagadeesh C. Reddy**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Bangalore, 1996  
M.D., Ambedkar Medical College, 1996

**Alfredo Rego**

*Clinical Assistant Professor, Surgery*  
B.S., English American College of Guatemala, 1977  
M.D., University of San Carlos of Guatemala, 1984  
Ph.D., Georgetown University School of Medicine, 1990

**Marcos Rejtman**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1990  
D.O., Nova Southeastern University, 1994

**Leonid Remenson**

*Clinical Assistant Professor, Psychiatry*  
M.D., Tomsk Medical Institute, 1984

**Stephen Resnick**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., Fairleigh Dickinson University, 1974

**Warren Reuther**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Loyola University, 1988  
B.S., Tulane University, 1990  
M.D., Louisiana State University School of Medicine, 1994

**Mark A. Revels**

*Adjunct Assistant Professor, Biomedical Informatics*  
B.S., University of Kentucky, 1988  
M.S., University of Denver, 1991  
Ph.D., Indiana State University, 2007

**Luis C. Rey-Martinez**

*Clinical Assistant Professor, Pathology*  
M.D., Universidad del Norte, 1988

**Jeffrey A. Rich**

*Clinical Assistant Professor,  
Osteopathic Principles and Practice*  
B.S., University of Florida, 1988  
D.O., Southeastern University of the Health Sciences, 1992

**Marvin Richards**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., New York University, 1967

**Willie F. Richardson, Jr.**

*Clinical Assistant Professor, Dermatology*  
B.S., Pembroke State University, 1996  
M.D., East Carolina University, 2000

**Paul T. Richman**

*Clinical Assistant Professor, Oral and Maxillofacial Surgery*  
D.D.S., University of Michigan School of Dentistry, 1958  
M.S., University of Illinois, 1961

**Francisco J. Rincon**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad Santiago de Compostela, 1970

**Jeannette M. Rios**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida International University, 2000  
M.P.H., Nova Southeastern University, 2006  
D.O., Nova Southeastern University, 2006

**Kristie Rivers**

*Clinical Assistant Professor, Pediatrics*  
B.S., Wake Forest University, 1997  
M.D., University of Miami School of Medicine, 2001

**Daniel Rivlin**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Miami, 1983  
M.D., New York University School of Medicine, 1987

**David L. Roach**

*Adjunct Assistant Professor, Public Health*  
B.A., Emory University, 1969

**Elysa Roberts**

*Adjunct Professor, Occupational Therapy*  
B.A., Syracuse University, 1990  
M.S., Florida International University, 1994  
Ph.D., Nova Southeastern University, 2001

**Joel Roberts**

*Clinical Assistant Professor, Family Medicine*  
B.S., Washington College, 1980  
D.O., Kirksville College of Osteopathic Medicine, 1984

**Paul J. Roberts III**

*Clinical Assistant Professor, Psychiatry*  
B.S., University of Central Florida, 1981  
D.O., Southeastern University of the Health Sciences, 1985

**Sherry Robins**

*Adjunct Faculty, Health Science*  
A.A.S., Delta College, 1977  
B.S.N., Saginaw Valley State University, 1989  
M.S., University of Michigan, 1992  
D.H.Sc., Nova Southeastern University, 2007

**Edgar B. Rodas**

*Clinical Assistant Professor, Surgery*  
M.D., Universidad de Cuenca-Facultad de Medicina, 1995

**Raul A. Rodas**

*Clinical Assistant Professor, Surgery*  
B.S., University of Oregon, 1978  
D.O., Michigan State University, 1983

**Armando V. Rodriguez**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Miami Dade Community College, 1980  
M.D., Technological Institute of Santo Domingo, 1985

**Ivan D. Rodriguez**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Puerto Rico, 1982  
Ph.D., Michigan State University, 1987  
D.O., Nova Southeastern University, 1998

**Juan Carlos Rodriguez**

*Clinical Assistant Professor, Pulmonary Medicine*  
M.D., Rosario University, 1997

**Martha M. Rodriguez**

*Clinical Instructor, Internal Medicine*  
B.S., Seton Hall University, 1983  
M.D., Universidad Central del Este, 1987

**Ofer Rodriguez**

*Clinical Instructor, Surgery*  
D.O., New York College of Osteopathic Medicine, 1996

**Michael J. Rodriguez**

*Clinical Assistant Professor, Otolaryngology*  
B.S., Florida International University, 1997  
M.D., University of Miami School of Medicine, 2003

**Richard Rodriguez**

*Clinical Assistant Professor, Surgery*  
B.S., University of Miami, 1984  
M.P.H., University of Miami, 1986  
D.O., Philadelphia College of Osteopathic Medicine, 1990

**Hector M. Rodriguez-Cortes**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Puerto Rico School of Medicine, 1991

**Adalberto Rodriguez-Morales**

*Clinical Instructor, Obstetrics and Gynecology*  
B.S., University of Puerto Rico, 1976  
M.D., University of Medicine and Dentistry—New Jersey, 1984

**Julio H. Rodriguez-Novo**

*Clinical Assistant Professor, Pediatrics*  
B.H.S., Florida International University, 1976  
M.D., Universidad Autonoma de Guadalajara, 1978

**Ronald Rohan**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.D.S., Emory University, 1967

**Douglas Rolfe**

*Adjunct Faculty, Prosthodontics, Division of Primary Care*  
D.D.S., Ohio State University, 1985

**Eloy Roman**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Central University of the East School of Medicine, 1999

**Carlos H. Romero**

*Clinical Assistant Professor, Family Medicine*  
B.S., John's University, 1986  
D.O., Southeastern University of the Health Sciences, 1993

**Jennifer A. Romero**

*Clinical Assistant Professor, Family Medicine*  
B.S., Georgian Court University, 1989  
D.O., Southeastern University of the Health Sciences, 1993

**Paul L. Rondino**

*Clinical Assistant Professor, Cardiology*  
M.S., University of Miami, 1986  
M.D., University of Miami, 1989

**Shari Rone-Adams**

*Adjunct Professor, Physical Therapy*  
B.S./P.T., University of Miami, 1985  
M.S., Nova University, 1988  
D.B.A., Nova Southeastern University, 2002

**Patricia L. Rooney**

*Clinical Assistant Professor, Surgery*  
B.S., Hillsdale College, 1977  
D.O., University of Health Sciences College of Osteopathic Medicine, 1982

**Orestes G. Rosabal**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Polytechnic Institute of Brooklyn, 1973  
M.D., State University of New York, 1997

**Enrique L. Rosario**

*Adjunct Assistant Professor, Public Health*  
B.A., Florida International University, 2004  
Ph.D., Georgetown University, 2008

**Joel B. Rose**

*Clinical Assistant Professor, Family Medicine*  
D.O., West Virginia School of Osteopathic Medicine, 1983

**Norman Rose**

*Clinical Professor, Surgery*  
B.S., Marietta College, 1959  
D.O., Des Moines College of Osteopathic Medicine & Surgery, 1963

**Richard Rosen**

*Clinical Assistant Professor, Family Medicine*  
D.O., Philadelphia College of Osteopathic Medicine, 1975

**Amy Rosenberg**

*Adjunct Faculty, Physical Therapy*  
B.S. PT, Boston University, 1977  
M.B.A., University of Miami, 1984

**David Rosenberg**

*Clinical Assistant Professor, Pediatrics*  
B.S., Florida International University, 1976  
M.D., American University of the Caribbean, 1984

**Marc Rosenberg**

*Clinical Assistant Professor, Internal Medicine*  
B.A., State University of New York—Binghamton, 1983  
D.O., New York College of Osteopathic Medicine, 1988

**Boaz S. Rosenblat**

*Clinical Assistant Professor, Family Medicine*  
B.A., Columbia University, 1994  
M.D., State University of New York, 1998

**Morton Rosenbluth**

*Clinical Assistant Professor, Periodontics*  
D.D.S., New York University, 1946  
Certificate—Periodontics, New York University, 1957

**Robert S. Rosenstein**

*Clinical Assistant Professor, Cardiology*  
M.D., University of Louisville Medical School, 1978

**Ian Ross**

*Adjunct Faculty, Physical Therapy*  
B.S., Montclair State, 1983  
M.S., Montclair State, 1985  
M.S., P.T., Hahnemann University, 1988  
Ed.D., Nova Southeastern University, 2001

**Scott Ross**

*Adjunct Assistant Professor, Periodontology,  
Division of Surgical Sciences*  
D.D.S., Virginia Commonwealth University, 1975

**Stephen L. Roth**

*Clinical Assistant Professor, Cardiology*  
B.A., New York University Heights College, 1970  
M.D., University of Pennsylvania School of Medicine, 1976

**Sharon Rothwell**

*Adjunct Faculty Member, Nursing*  
B.S.N., University of South Florida, 1993  
M.S.N., University of Miami, 1995

**Mark S. Rotlewicz**

*Clinical Assistant Professor, Pediatrics*  
M.D., Colegio Mayor de Nuestra Señora del Rosario, 1980

**Taras Roud**

*Adjunct Faculty, Endodontics*  
D.M.D., Nova Southeastern University, 2000

**Donald Rouse**

*Adjunct Associate Professor, Biomedical Informatics*  
B.S., Fort Valley State University, 1990  
M.S., Georgia College and State University, 1993  
Ed.D., University of Georgia, 2001  
M.B.A., Keller Graduate School, 2004

**Howard D. Routman**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.A., University of Florida, 1991  
D.O., Nova Southeastern University, 1995

**Patricia A. Rowe-King**

*Clinical Assistant Professor, Pediatrics*  
B.A., Boston University, 1984  
M.D., University of Miami School of Medicine, 1988

**Daryl Roy**

*Adjunct Faculty, Prosthodontics*  
D.M.D., Boston University, 1986

**Richard Rozencwaig**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., University of Miami, 1988  
M.D., University of Miami School of Medicine, 1992

**Paul L. Rozynes**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Florida, 1971  
M.D., University of Miami School of Medicine, 1975

**Mark A. Rubenstein**

*Clinical Associate Professor, Family Medicine*  
B.S., Tulane University School of Engineering, 1985  
M.D., State University of New York Health Science Center, 1989

**Jose A. Rubero**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Puerto Rico, 1992  
M.D., Universidad Central del Caribe, 1996

**Darin M. Rubin**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York, 1988  
D.O., New York College of Osteopathic Medicine, 1992

**Adam J. Rubinstein**

*Clinical Assistant Professor, Surgery*  
B.S., City University of New York—Brooklyn College, 1992  
M.D., St. Louis University of Medicine, 1996

**Michael J. Ruddy**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Villanova University, 1973  
M.D., Villanova University, 1979

**Camilo A. Ruiz**

*Clinical Instructor, Internal Medicine*  
B.S., Florida International University, 2002  
D.O., Nova Southeastern University, 2007

**Joel L. Rush**

*Clinical Professor, Orthopedic Surgery*  
B.A./B.S., Washington University, 1977  
D.O., Southeastern University of the Health Sciences, 1985

**Joshua Rycus**

*Clinical Assistant Professor, Family Medicine*  
B.S., Michigan State University, 1996  
D.O., Michigan State University  
College of Osteopathic Medicine, 2001

**Maria Rynning**

*Adjunct Faculty Member, Nursing*  
B.S.N., Florida Atlantic University College of Nursing, 2001  
M.S.N., Florida Atlantic University College of Nursing, 2004

**Susan Saba**

*Adjunct Faculty Member, Nursing*  
B.S.N., Nova Southeastern University, 2004  
M.S.N., Nova Southeastern University, 2006

**Carl H. Sadowsky**

*Clinical Associate Professor, Neurology*  
B.S., State University of New York at Stony Brook, 1967  
M.D., Cornell University, 1971

**Gennaro Sagliocca**

*Clinical Assistant Professor, Nephrology*  
B.S., Rensselaer Polytechnic Institute, 1976  
M.D., University of Padova School of Medicine, 1985

**Bhagirathy Sahasranaman**

*Clinical Assistant Professor, Psychiatry*  
M.D., VSS Medical College, 1981

**James Sainsbury**

*Adjunct Assistant Professor, Endodontics,  
Division of Surgical Sciences*  
D.M.D., University of Pittsburgh, 1970

**Flora C. Sakornsin**

*Clinical Assistant Professor, Pediatrics*  
M.D., Far Eastern University, 1961

**Eli R. Saleeby**

*Clinical Assistant Professor, Dermatology*  
B.S., Columbia University, 1977  
M.D., Jefferson Medical College, 1981

**Emery M. Salom**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.S., University of Miami, 1993  
M.D., University of Miami School of Medicine, 1997

**David B. Saltzman**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.A., Temple University, 1967  
D.O., Philadelphia College of Osteopathic Medicine, 1972

**Susan G. Salzman**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
A.S., New York Community College, 1979

**Snehprabha V. Samant**

*Clinical Instructor, Internal Medicine*  
M.D., Bombay University, 1971

**Harvey B. Samowitz**

*Clinical Associate Professor, Urology*  
B.S., Duke University, 1980  
M.D., University of Connecticut School of Medicine, 1984

**Marian A. Sampson**

*Clinical Instructor, Obstetrics and Gynecology*  
B.S., Jackson State University, 1993  
M.D., Meharry Medical College, 2005

**Jose U. Sanchez**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Superior Institute of Medical Sciences of Havana, 1986

**Ramon Sanchez**

*Adjunct Associate Professor,  
Prosthodontics, Division of Primary Care*  
D.D.S., University of Iowa College of Dentistry, 1967

**Mario J. Sanchez-Martinez**

*Clinical Assistant Professor, Psychiatry*  
M.D., Universidad Central del Este, 1984

**Diana M. Sanchez-Steiner**

*Clinical Assistant Professor, Psychiatry*  
M.D., Colegio Mayor del Rosario University, 1994

**Maria C. San Jorge**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1977  
M.D., Universidad Nacional Pedro Henriquez Urena, 1980

**Kosmas M. Sarantis**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Athens, 1972

**Elena Sarmiento**

*Clinical Assistant Professor, Psychiatry*  
M.D., Russian People Friendship University  
School of Medicine, 1982

**Michael J. Sasoni**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida Atlantic University, 1997  
D.O., Nova Southeastern University, 2002

**James Satovsky**

*Clinical Assistant Professor, Endodontics*  
D.D.S., University of Michigan School of Dentistry, 1971  
M.S., University of Michigan, 1974

**Richard Saul**

*Associate Professor, Audiology*  
B.A., University of Florida, 1973  
M.A., Florida Atlantic University, 1976  
Ph.D., State University of New York—Buffalo, 1983

**Sandra Savinelli**

*Adjunct Faculty, Health Science*  
B.S., Kean College, 1984  
M.A., Marywood College, 1990  
SLP.D., Nova Southeastern University, 2001

**Eugene J. Sayfie**

*Clinical Associate Professor, Cardiology*  
B.A., West Virginia University, 1956  
M.D., Washington University School of Medicine, 1960

**Paul N. Schacknow**

*Clinical Associate Professor, Ophthalmology*  
B.S., Brooklyn College, 1970  
Ph.D., City University of New York, 1976  
M.D., University of Miami School of Medicine, 1983

**Michael Scharnett**

*Adjunct Instructor, Cariology and Restorative Dentistry*  
D.D.S., Howard Dental College, 1971

**Brent M. Schillinger**

*Clinical Assistant Professor, Dermatology*  
B.A., State University of New York, 1975  
M.D., State University of New York, 1979

**Jeffrey Schneider**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of Pennsylvania, 1988  
M.D., Mount Sinai School of Medicine, 1992

**Ricky M. Schneider**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Yale University School of Medicine, 1977

**Wendy Schneider**

*Clinical Instructor, Preventive Medicine*  
B.S.N., SUNY Downstate Medical Center, 1974  
M.S.N., University of Pennsylvania School of Nursing, 1976

**Drew Schnitt**

*Adjunct Faculty, Oral Surgery,  
Division of Diagnostic Sciences*  
M.D., Eastern Virginia Medical School, 1995

**Kathleen Schrank**

*Clinical Professor, Family Medicine*  
B.S., University of Wisconsin, 1972  
M.D., University of Miami School of Medicine, 1979

**Michael Schulman**

*Clinical Assistant Professor, Internal Medicine*  
B.A., State University of New York—Binghamton, 1983  
D.O., University Health Sciences  
College of Osteopathic Medicine, 1988

**Aaron Schwartz**

*Clinical Assistant Professor, Pulmonary Medicine*  
B.S., University of Miami, 1980  
D.O., Philadelphia College of Osteopathic Medicine, 1984

**Gary B. Schwartz**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Fairleigh Dickinson University, 1976  
M.D., New York Medical College, 1980

**Leslie H. Schwartz**

*Clinical Associate Professor, Psychiatry*  
A.B., Columbia University, 1967  
M.D., University of Pennsylvania, 1971

**Todd S. Schwartz**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Michigan, 1983  
M.D., University of Cincinnati School of Medicine, 1987

**Hartley A. Schwartzberg**

*Clinical Professor, Dermatology*  
B.A., University of Rochester, 1963  
D.O., University of Osteopathic Medicine and Health  
Sciences, 1967

**Roger K. Schwartzberg**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Syracuse University, 1970  
D.O., Michigan State University College of Osteopathic  
Medicine, 1973

**Kevin J. Schwechten**

*Clinical Assistant Professor, Family Medicine*  
B.S., Montana State University, 1999  
M.D., Oregon Health and Science University, 2004

**James J. Sciote**

*Clinical Associate Professor, Preventive Medicine*  
B.S., Geneva College, 1982  
D.D.S., University of North Carolina, 1986  
M.S., University of Michigan, 1989  
Ph.D., University of Michigan, 1992

**Anthony Sclar**

*Adjunct Faculty, Diagnostic Sciences,  
Division of Primary Care*  
D.M.D., University of Florida, 1984

**Steven R. Scott**

*Clinical Instructor, Family Medicine*  
B.A., University of Florida, 1995  
M.B.A., Wake Forest University School of Management, 2000  
M.D., Wake Forest University School of Medicine, 2000

**Robert H. Sculthorpe**

*Clinical Professor, Anesthesiology*  
B.S., University of Nebraska, 1970  
D.O., Philadelphia College of Osteopathic Medicine, 1974

**Mona Sedrak**

*Adjunct Faculty, Health Science*  
B.S., University of Texas South Western Medical  
Center—Dallas, 1990  
M.S., AT Stills University, 2000  
Ph.D., Walden University, 2003

**Scott D. Segal**

*Clinical Assistant Professor, Psychiatry*  
B.S., Rensselaer Polytechnic Institute, 1982  
M.D., Albany Medical College, 1986  
M.B.A., University of Miami, 1996

**Romualdo J. Seguro, Jr.**

*Clinical Assistant Professor, Surgery*  
M.D., Universidad Nacional Pedro Henriquez Urena, 1992

**Andrew A. Seltzer**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Michigan State University, 1979  
D.O., University of Osteopathic and Health Sciences, 1983

**James E. Seltzer**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.A., Lake Forest College, 1971  
D.O., Chicago College of Osteopathic Medicine, 1978

**Paul D. Seltzer**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Eastern Michigan University, 1976  
D.O., Philadelphia College of Osteopathic Medicine, 1980

**Robert Selz**

*Adjunct Faculty, Prosthodontics*  
D.D.S., New York University College of Dentistry, 1963  
M.S., New York University Graduate School of Arts and Sciences, 1966  
Certificate—Prosthodontics, New York University College of Dentistry, 1966  
Diplomate, American Board of Prosthodontics, 1970

**Michele M. Sepe**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S., Farmingdale State University, 1988

**Carlos A. Sesin**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Cornell University, 1995  
M.D., University of Medicine and Dentistry of New Jersey, 1999

**Robert G. Sexton**

*Clinical Assistant Professor, Radiology*  
B.A., University of Mississippi, 1995  
M.D., University of Tennessee Medical School, 2001

**Mark S. Shachner**

*Clinical Associate Professor, Surgery*  
M.D., Yale University School of Medicine, 1985

**Robert I. Shaffer**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Albany Medical College, 1992

**Gilbert A. Shamas**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.A., Emory University, 1968  
M.D., Emory University, 1973

**Susan M. Shamaskin**

*Clinical Assistant Professor, Pediatrics*  
B.S., State University of New York—Binghamton, 1982  
D.O., New York College of Osteopathic Medicine, 1988

**Robbie E. Shamet**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S., Broward Community College, 1967  
B.S., University of Kentucky, 1969

**Craig S. Shapiro**

*Clinical Assistant Professor, Otorhinolaryngology*  
B.S., University of Florida, 1985  
D.O., Southeastern University of the Health Sciences, 1989

**Larry Shapiro**

*Adjunct Assistant Professor, Periodontology, Division of Surgical Sciences*  
D.D.S., Temple University, 1974  
Certificate—Periodontics, University of Pittsburgh, 1976

**Marc S. Shapiro**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Miami, 1981  
D.O., Philadelphia College of Osteopathic Medicine, 1985

**Bruno Sharp**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., Virginia Commonwealth University, 1992  
M.S., University of Florida, 1997

**Martin J. Sherman**

*Clinical Assistant Professor, Pediatrics*  
A.B., Hamilton College, 1970  
M.D., Tufts University School of Medicine, 1974

**Richard Sherman**

*Adjunct Assistant Professor, Pediatric Dentistry, Division of Developmental Sciences*  
D.D.S., Medical College of Virginia, 1973

**P. Lee Shettle**

*Clinical Assistant Professor, Ophthalmology*  
B.S., Northeast Missouri State University, 1984  
D.O., Kirksville College of Osteopathic Medicine, 1988

**Philip Leroy Shettle**

*Clinical Assistant Professor, Ophthalmology*  
B.S., Stetson University, 1962  
D.O., Kirksville College of Osteopathic Medicine, 1964

**Sumeet V. Shetty**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Kasturba Medical College, 1995

**Kedar Shetye**

*Clinical Assistant Professor, Nephrology*  
M.D., Seth G.S. Medical College, 1994

**Lata Shintre**

*Clinical Assistant Professor, Pediatrics*  
M.D., Terna Medical College, 1999

**Barry Shipman**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.M.D., Tufts University, 1969  
Certificate—Prosthodontics, Kingsbrook Jewish Medical Center, 1972  
Certificate—Maxillofacial Prosthodontics, State University of New York, 1973

**Kevin B. Shrock**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Yale University, 1982  
M.D., Stanford University School of Medicine, 1987



**Alexander Shteiman**

*Clinical Instructor, Internal Medicine*  
M.D., Kaunas Medical Institute, 1984

**Randall Shults**

*Adjunct Assistant Professor, Orthodontics*  
D.D.S., University of Colorado, 1984  
Ph.D., University of North Carolina, 1989  
Certificate—Orthodontics, University of North Carolina, 1989

**Robert A. Shultz**

*Clinical Assistant Professor, Gastroenterology*  
B.A., St. Louis University, 1977  
D.O., Kirksville College of Osteopathic Medicine, 1983

**Joseph Shuman**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Salamanca School of Medicine, 1967

**Christopher Siano**

*Clinical Assistant Professor, Pediatrics*  
B.S., Nova Southeastern University, 1999  
D.O., Nova Southeastern University, 2003  
M.P.H., Nova Southeastern University, 2007

**Jaime Siberman**

*Adjunct Assistant Professor, Endodontics*  
D.D.S., Columbia University, 2000

**Alan R. Siegel**

*Clinical Assistant Professor, Anesthesiology*  
B.S., Tulane University, 1982  
M.D., University of Florida College of Medicine, 1986

**Geoffrey M. Siegel**

*Clinical Assistant Professor, Dermatology*  
B.S., University of Miami, 1968  
D.O., Des Moines University  
College of Osteopathic Medicine, 1972

**Deneen Signator-Newman**

*Clinical Instructor, Physician Assistant Studies*  
B.S., Northern Illinois University, 1986  
P.A., Cook County Hospital Physician Assistant Program, 1993

**Allen Silanee**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.A., Vassar College, 1992  
M.D., University of Cincinnati College of Medicine, 1966

**Fernando Silva**

*Clinical Assistant Professor, Optometry*  
O.D., Pennsylvania College of Optometry, 1988

**Dianna L. Silvagni**

*Clinical Assistant Professor, Medical Education*  
B.S., University of Arizona, 1978  
J.D., Drake University, 1990

**Sanford M. Silverman**

*Clinical Assistant Professor, Anesthesiology*  
B.S., Tufts University, 1981  
M.D., New York Medical College, 1986

**William M. Silverman**

*Clinical Associate Professor, Family Medicine*  
B.S., Muhlenberg College, 1972  
D.O., Philadelphia College of Osteopathic Medicine, 1977

**Scott A. Silverstein**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Florida, 1992  
D.O., University of Osteopathic Medicine and Health Services, 1998

**Stephen M. Silverstein**

*Clinical Assistant Professor, Family Medicine*  
B.A., Temple University, 1963  
D.O., Des Moines College of Osteopathic Medicine and Surgery, 1967

**Jeffrey D. Simmons**

*Clinical Assistant Professor, Cardiology*  
B.A., Augustana College, 1984  
M.D., Johns Hopkins University School of Medicine, 1988

**Albert Simon**

*Adjunct Faculty, Health Science*  
B.S., Alderson-Broaddus College, Physician Assistant, 1979  
M.Ed., Saint Francis University, 1985  
D.H.Sc., Nova Southeastern University, 2004

**Robin G. Simon**

*Clinical Assistant Professor, Orthopedic Surgery*  
D.O., University of Osteopathic Medicine and Health Sciences, 1990

**Glenn R. Singer**

*Clinical Professor, Internal Medicine*  
B.S., Tulane University, 1974  
M.D., University of South Florida, 1978

**Jay Singer**

*Clinical Assistant Professor, Orthodontics*  
D.D.S., Emory University School of Dentistry, 1978

**Jerry Singer**

*Clinical Assistant Professor, Urology*  
M.D., New York University School of Medicine, 1980

**Melissa S. Singer**

*Clinical Assistant Professor, Pediatrics*  
B.A., Cornell University College of Arts and Sciences, 1991  
M.D., University of Miami School of Medicine, 1996  
M.P.H., George Washington Medical Center School of Public Health and Health Sciences, 2002

**Satya P. Singh**

*Clinical Assistant Professor, Gastroenterology*  
M.B.B.S., All India Institute of Medical Sciences, 1978

**Nicole H. Sirchio**

*Clinical Assistant Professor, Family Medicine*  
B.S., Ball State University, 1996  
M.B.A., Saint Joseph University, 2000  
D.O., Philadelphia College of Osteopathic Medicine, 2002

**Arthur Skidmore**

*Adjunct Professor, Endodontics*  
D.D.S., West Virginia University, 1966

**Stanley E. Skopit**

*Clinical Professor, Dermatology*  
B.S., University of Miami, 1967  
M.S., Drake University, 1972  
D.O., University of Health Sciences College of Osteopathic Medicine, 1977

**David Skopp**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., University of Maryland Dental School, 1990  
Certificate—Postgraduate Prosthodontics, University of Maryland Dental School, 1993  
Certificate—Postgraduate Oral Implantology, University of Pittsburg Dental School, 1994

**Joel Slingbaum**

*Clinical Assistant Professor, Endodontics*  
D.M.D., Tufts University, 1998  
Certificate—Endodontics, Nova Southeastern University, 2000

**Kirk Smick**

*Clinical Assistant Professor, Optometry*  
B.S., Pacific University, 1966  
O.D., Pacific University, 1967

**Damone E. Smith**

*Adjunct Faculty, Diagnostic Sciences, Division of Primary Care*  
D.D.S., University of Michigan, 1996

**James W. Smith**

*Clinical Assistant Professor, Family Medicine*  
B.S., Florida Southern College, 1977  
D.O., Chicago College of Osteopathic Medicine, 1983

**Leslie L. Smith**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Tennessee, 1993  
D.O., Nova Southeastern University, 1997

**Page A. Smith**

*Clinical Instructor, Internal Medicine*  
B.A., University of California, 1977  
Pharm.D., University of California  
San Francisco School of Pharmacy, 1985  
M.D., Washington University School of Medicine, 1985

**Pamela H. Smith**

*Adjunct Assistant Professor, Biomedical Informatics*  
B.S., University of Wisconsin, 1987  
M.S., Nova Southeastern University, 2001  
Ph.D., Walden University, 2007

**Sheila J. Smith**

*Clinical Assistant Professor, Family Medicine*  
D.O., Oklahoma State University College of Osteopathic Medicine, 1977

**Suzanne G. Smith**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1975  
D.O., Southeastern University of the Health Sciences, 1987

**Edward N. Smolar**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Union College, 1964  
M.D., Albert Einstein School of Medicine, 1968  
M.B.A., Nova University, 1985

**Jason C. Sniffen**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Florida A&M University, 1991  
D.O., Nova Southeastern University, 1996

**Jeffrey P. Snow**

*Clinical Assistant Professor, Surgery*  
B.S., Massachusetts Institute of Technology, 1978  
M.D., Johns Hopkins School of Medicine, 1982

**Marcia L. Snowball**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
*Clinical Assistant Professor, Rural Medicine*  
B.S., John Brown University, 1979  
M.D., The Ohio State University College of Medicine, 1982

**Tanveer Sobhan**

*Clinical Assistant Professor, Psychiatry*  
M.D., University of Dhaka, 1992

**Ariel D. Soffer**

*Clinical Assistant Professor, Cardiology*  
B.S., University of South Florida, 1986  
M.D., University of Miami School of Medicine, 1990

**Terrence L. Soldo**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Nebraska School of Medicine, 1977  
D.O., Kirksville College of Osteopathic Medicine, 1990

**Richard Solero**

*Clinical Instructor, Internal Medicine*  
M.D., Recinto de Ciencias Medicas San Juan Bautista, 1990

**Andrea H. Sommers**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of South Florida, 1978  
D.O., Southeastern University of the Health Sciences, 1986

**Richard Sorkin**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 1997

**David Speizman**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Tulane University, 1983  
D.O., New York College of Osteopathic Medicine, 1990

**Carlos E. Spera**

*Clinical Assistant Professor, Surgery*  
M.D., Universidad de Buenos Aires, 1974

**Adam S. Splaver**

*Clinical Assistant Professor, Cardiology*  
B.A., Yeshiva College, 1994  
M.D., Albert Einstein College of Medicine of Yeshiva University, 1998

**Theodore Splaver**

*Adjunct Faculty, OMFS*  
D.M.D., University of Pittsburgh, 1966

**Kevin Spohr**

*Clinical Assistant Professor, Family Medicine*  
D.O., Kirksville College of Osteopathic Medicine, 1995

**Timothy E. Spruill**

*Clinical Associate Professor, Psychiatry*  
B.A., Andrews University, 1973  
M.A., George Mason University, 1977  
Ed.D., Western Michigan University, 1992

**Vathany Sriganeshan**

*Clinical Assistant Professor, Pathology*  
M.D., Chengalpattu Medical College, 1994

**Latha Srinath**

*Clinical Assistant Professor, Internal Medicine*  
B.S., National College, 1978  
M.D., Bangalore Medical College, 1984

**William H. Stager**

*Clinical Associate Professor, Family Medicine*  
B.A., Livingston College, 1983  
D.O., Southeastern University of the Health Sciences, 1989

**S. Sigmund Stahl**

*Adjunct Faculty, Periodontology,  
Division of Surgical Sciences*  
D.D.S., University of Minnesota, 1947  
M.S., University of Illinois, 1949

**Zarina Staller**

*Adjunct Professor, Prosthodontics*  
D.M.D., Nova Southeastern University, 2000

**Richard Stanton**

*Adjunct Clinical Instructor, Prosthodontics,  
Division of Primary Care*  
D.M.D., Tufts University, School of Dental Medicine, 2001

**Margaret J. Starr**

*Clinical Assistant Professor, Family Medicine*  
M.S., Stanford University, 1970  
D.O., Michigan State University College of Osteopathic  
Medicine, 1979

**Clarice M. Staves**

*Clinical Assistant Professor, Pediatrics*  
B.A., Central Connecticut State University, 1994  
M.D., Universidad Autonoma de Guadalajara School of  
Medicine, 2000

**Pamela T. Stearns**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Florida, 1981  
M.D., University of Florida School of Medicine, 1985

**Alvin Stein**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.A., New York University, 1957  
M.D., Chicago Medical School, 1961

**Joel D. Stein**

*Clinical Associate Professor, Family Medicine*  
B.A., Washington and Jefferson College, 1978  
D.O., Kirksville College of Osteopathic Medicine, 1983

**Kimberly R. Stein**

*Clinical Assistant Professor, Family Medicine*  
B.S., Pennsylvania State University, 1985  
D.O., Southeastern University of the Health Sciences, 1989

**Reynold M. Stein**

*Clinical Assistant Professor, Family Medicine*  
B.A., Yeshiva University, 1974  
M.D., New York Medical College, 1978

**Joshua Z. Steiner**

*Clinical Assistant Professor, Family Medicine*  
B.A., Yeshiva University, 1992  
D.O., Nova Southeastern University, 2000

**Michael L. Steiner**

*Clinical Associate Professor, Pediatrics*  
A.B., University of Pennsylvania, 1958  
M.D., St. Louis University School of Medicine, 1962

**Jeff P. Steinhoff**

*Clinical Assistant Professor, Cardiology*  
B.S., Pennsylvania State University, 1994  
M.D., University of Medicine and Dentistry of New Jersey, 1998

**Eric Stelnicki**

*Clinical Assistant Professor, Pediatric Dentistry*  
M.D., University of Florida, 1991

**Edward C. Stephenson**

*Adjunct Assistant Professor*  
B.S., Long Island University, 1975  
M.S.W., Howard University, 1977  
M.P.H., University of Pittsburgh, 1979

**Fran E. Sterling**

*Clinical Assistant Professor, Pediatrics*  
B.S., Ohio State University, 1975  
D.O., Ohio State University, 1981

**David J. Stern**

*Clinical Associate Professor, Internal Medicine*  
B.A., LaSalle College, 1975  
D.O., Philadelphia College of Osteopathic Medicine, 1979

**Diane Stern**

*Clinical Professor, Diagnostic Sciences*  
D.M.D., Columbia University College of Optometry, 1961

**Stanley Stewart**

*Clinical Assistant Professor, Oral and Maxillofacial Surgery*  
D.M.D., University of Pittsburgh, 1973

**Neal Stief**

*Adjunct Instructor, Biomedical Informatics*  
B.S., University of Florida, 1993

**Mark A. Stillman**

*Adjunct Assistant Professor, Public Health*  
B.S., Florida International University, 2001  
M.S., Nova Southeastern University, 2005  
Ph.D., Nova Southeastern University, 2008

**Amos Stoll**

*Clinical Assistant Professor, Neurology*  
M.D., University of Oklahoma College of Medicine, 1974

**Charles B. Stone**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Miami, 1991  
M.D., University of Miami School of Medicine, 1995

**Kevin E. Stone**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Boston University, 1976  
M.D., Universidad Mundial Dominicana, 1984

**Reed Stone**

*Clinical Assistant Professor, Neurology*  
M.D., Universidad Central del Este, 1981

**Neil H. Strauss**

*Clinical Instructor, Geriatrics*  
B.S., Dickinson College, 1997  
D.P.M., Barry University of Graduate Medical Science, 2003

**Stuart B. Strikowsky**

*Clinical Associate Professor, Family Medicine*  
B.A., Pennsylvania State University, 1973  
D.O., College of Osteopathic Medicine and Surgery, 1977

**Lawrence A. Strong**

*Clinical Assistant Professor, Dermatology*  
B.A., Washington and Jefferson College, 1990  
D.O., Philadelphia College of Osteopathic Medicine, 1994

**Jose David Suarez**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad Central Del Este, 1986

**Manuel Suarez**

*Clinical Assistant Professor, Pulmonary Medicine*  
M.D., University Central del Este School of Medicine, 1981

**Michael Suchar**

*Adjunct Assistant Professor, Pediatric Dentistry,  
Division of Developmental Sciences*  
D.D.S., Temple University, 1982  
Certificate—Pedodontics, St. Christopher's Hospital  
Pennsylvania, 1984

**J. Richard Susi**

*Clinical Assistant Professor, Ophthalmology*  
B.A., Case Western Reserve University, 1977  
D.O., Philadelphia College of Osteopathic Medicine, 1981

**Pamela M. Sutton**

*Clinical Associate Professor, Family Medicine*  
B.A., Pomona College, 1969  
M.D., University of California at  
San Francisco Medical School, 1973

**Thomas L. Sweat**

*Clinical Instructor, Family Medicine*  
M.D., University of Tennessee Medical School, 1949

**Marc A. Swerdloff**

*Clinical Assistant Professor, Neurology*  
M.D., Sackler School of Medicine, 1980

**Samuel Szomstein**

*Clinical Assistant Professor Surgery*  
M.D., Universidad Central de Venezuela, 1993

**Jacob Tangir**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
M.D., Universidad Central de Venezuela, 1992

**Arnold L. Tanis**

*Clinical Professor, Pediatrics*  
B.S., University of Chicago, 1949  
M.D., University of Chicago, 1951

**Lisa Maria Tartaglia**

*Clinical Assistant Professor, Family Medicine*  
B.A., Rosemont College, 1996  
D.O., Lake Erie College of Osteopathic Medicine, 2003

**Dennis Tartakow**

*Clinical Associate Professor, Orthodontics*  
D.M.D., Tufts University School of Dental Medicine, 1969

**Arlene L. Taylor**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Miami, 1993  
D.O., Nova Southeastern University, 2002

**James H. Taylor**

*Clinical Associate Professor, Family Medicine*  
B.S., Dickinson College, 1972  
D.O., Philadelphia College of Osteopathic Medicine, 1977

**James R. Templeton**

*Adjunct Assistant Professor, Biomedical Informatics*  
M.S., University of Phoenix, 2001  
M.B.A., Nova Southeastern University, 2005  
Ph.D., Nova Southeastern University, 2010

**George R. Termotto**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1968  
M.D., University of Zaragoza, 1975

**Ann Marie Tharpe**

*Adjunct Professor, Audiology*  
B.S., University of Arizona, 1979  
M.S., Vanderbilt University, 1994  
Ph.D., Vanderbilt University, 1994

**James S. Thayer**

*Clinical Instructor, Internal Medicine*  
B.A., California State University, 1972  
M.D., Creighton University College of Medicine, 1976

**Deborah M. Thevenin**

*Clinical Associate Professor, Family Medicine*  
B.A., University of Miami, 1981  
M.S., University of Miami, 1984  
M.D., University of Miami, 1989

**Giddel G.A. Thom**

*Clinical Assistant Professor, Pediatrics*  
M.D., University of Montemorelos School of Medicine, 1995

**Lanetta Thorpe**

*Adjunct Faculty, Health Science*  
B.A., University of North Carolina, 1987  
M.S.P.H., University of North Carolina, 1988  
M.D./M.P.H., University of North Carolina, 1993

**June E. Tickle**

*Clinical Assistant Professor, Family Medicine*  
B.S.N., University of South Florida, 1985  
M.S.N., University of South Florida, 1990

**John Tierney**

*Clinical Assistant Professor, Optometry*  
M.S., Pacific University, 1978  
O.D., New England College of Optometry, 1978

**H. Murray Todd**

*Clinical Professor, Neurology*  
B.A., University of Toledo, 1962  
M.D., University of Miami School of Medicine, 1966

**Kathleen L. Todd**

*Clinical Assistant Professor, Family Medicine*  
D.O., Michigan State University  
College of Osteopathic Medicine, 1995

**Michael A. Todd**

*Clinical Assistant Professor, Pathology*  
B.S., University of Tennessee, 1971  
M.D., University of Tennessee, 1975  
J.D., University of Mississippi, 1986

**Ronald B. Tolchin**

*Clinical Associate Professor, Physical Medicine and Rehab.*  
B.S., Villanova University, 1983  
D.O., Southeastern University of the Health Sciences, 1989

**Peter A. Tomasello, Jr.**

*Clinical Assistant Professor, Orthopedic Surgery*  
D.O., Southeastern University of the Health Sciences, 1991

**Johann V. Torres**

*Clinical Instructor, Internal Medicine*  
B.S., North Carolina State University, 1995  
B.S., Duke University, 1991

**Julio D. Torres-Navedo**

*Clinical Assistant Professor, Otolaryngology*  
M.D., University of Puerto Rico School of Medicine, 1978

**Melissa Tovin**

*Adjunct Professor, Physical Therapy*  
B.S.P.T., New York University, 1988  
M.S., Columbia University, 1993  
Ph.D., Georgia State University, 1999

**Darin P. Trelka**

*Clinical Assistant Professor, Pathology*  
B.A., Washington & Jefferson University, 1992  
Ph.D., Thomas Jefferson University, 1999  
M.D., CMP—Hahnemann University, 2002

**Nancy M. Troast**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Washington and Jefferson College, 1979  
D.O., Philadelphia College of Osteopathic Medicine, 1983

**Dennis P. Trupkin**

*Clinical Assistant Professor, Pediatric Dentistry*  
D.D.S., Medical College of Virginia School of Dentistry, 1970

**Johny Tryzmel**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Central De Venezuela, 1994

**Tammy L. Tuchel**

*Clinical Assistant Professor, Family Medicine*  
M.P.H., University of Miami, 1993  
D.O., Nova Southeastern University, 1997

**Claudia D. Tuda**

*Clinical Assistant Professor, Infectious Disease*  
M.D., University of Buenos Aires, 1986

**Michael J. Turley**

*Clinical Instructor, Physician Assistant Studies*  
P.A., Bayley Seton Hospital Physician Assistant Program, 1973

**Lisa Unger**

*Adjunct Faculty Member, Nursing*  
B.S.N., Lewis University, 1982  
M.S.N., Lewis University, 1988  
Ed.D., Nova Southeastern University, 2001

**Amit Upadhiaya**

*Clinical Assistant Professor, Internal Medicine*  
M.D., J.J.M. Medical College, 1989  
D.O., New York College of Osteopathic Medicine, 2001

**Norman Urich**

*Clinical Assistant Professor, Family Medicine*  
B.S., Duquesne University, 1970  
D.O., Kirksville College of Osteopathic Medicine, 1974

**Eugene Usberghi, Jr.**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Akron, 1968  
D.O., College of Osteopathic Medicine and Surgery, 1976

**Dushyant J. Utamsingh**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Seth G.S. Medical College, 1984

**Mark A. Vacker**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York, 1973  
M.D., New York Medical School, 1979

**Yolanda M. Valdes**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1989  
M.D., University of Miami School of Medicine, 1993

**Jacqueline B. Valdes-Rafuls**

*Clinical Assistant Professor, Pediatrics*  
M.D., Universidad Central del Este, 1986

**Gabriel A. Valle**

*Clinical Assistant Professor, Nephrology*  
B.S., University of Heredia, 1972  
M.D., University of Heredia, 1980

**Steven J. Varady**

*Clinical Assistant Professor, Urology*  
B.S., Columbia University, 1971  
M.D., Harvard Medical School, 1975  
M.B.A., New York Institute of Technology, 1995

**Kimber Vasquez**

*Clinical Instructor, Family Medicine*  
M.D., Universidad Autonoma de Sinaloa, 1984

**Sofia E. Vasquez-Solomon**

*Clinical Assistant Professor, Internal Medicine*  
M.D., University of Panama Medical School, 1994

**Paul Vazquez**

*Clinical Associate Professor, Urology*  
B.S., University of Miami, 1976  
D.O., Kirksville College of Osteopathic Medicine, 1981

**Manuel Vega**

*Clinical Assistant Professor, Pediatrics*  
B.S., University of Miami, 1978  
M.D., Universidad Central del Este, 1982

**German Vergara**

*Clinical Assistant Professor, Nephrology*  
M.D., Universidad de Sevilla, 1977

**Ricardo I. Vicuna**

*Clinical Assistant Professor, Cardiology*  
M.D., Cayetano Heredia Peruvian University, 1994

**Ramon G. Vidal**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad Central del Este, 1986

**Tomas Villanueva**

*Clinical Assistant Professor, Internal Medicine*  
B.A., St. Thomas University, 1986  
D.O., Southeastern University of the Health Sciences, 1991

**Craig D. Vogel**

*Clinical Assistant Professor, Cardiology*  
B.S., New York Institute of Technology, 1986  
D.O., New York College of Osteopathic Medicine, 1989

**Roberto L. Von Sohsten**

*Clinical Assistant Professor, Cardiology*  
M.D., Federal University Medical School, 1990

**Lannie Vuong-Huynh**

*Clinical Assistant Professor, Pediatrics*  
B.S., Tulane University, 1993  
M.D., University of Miami School of Medicine, 1995

**John W. Waidner**

*Clinical Assistant Professor, Pediatrics*  
B.A., Miami University, 1986  
M.D., University of South Florida, 1990

**Stuart M. Waldman**

*Clinical Assistant Professor, Oncology*  
B.S., George Washington University, 1978  
M.D., The George Washington University School of Medicine, 1982

**Bailus Walker, Jr.**

*Adjunct Professor, Public Health*  
M.P.H., University of Michigan, 1959  
Ph.D., University of Minnesota, 1975

**Kay Francas Walker**

*Adjunct Professor, Occupational Therapy*  
B.S., University of Florida, 1964  
M.Ed., University of Florida, 1970  
Ph.D., University of Florida, 1990

**Gerald Wallach**

*Adjunct Faculty, Cariology and Restorative Dentistry*  
D.D.S., New York University, 1961

**Charles Walowitz**

*Adjunct Instructor, Prosthodontics, Division of Primary Care*  
D.D.S., University of Pennsylvania, 1962

**Douglas A. Walsh**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of Houston, 1965  
D.O., University of Health Sciences College of Osteopathic Medicine, 1970

**Michael F. Walsh**

*Clinical Assistant Professor, Family Medicine*  
B.S., Catholic University of America, 1971  
M.D., University of Colorado School of Medicine, 1975

**Ronald L. Walsh**

*Clinical Associate Professor, Cardiology*  
B.S., Alma College, 1974  
D.O., Chicago College of Osteopathic Medicine, 1977

**Jacqueline R. Walter Reese**

*Adjunct Faculty, Occupational Therapy*  
B.S., Keuka College, 1997

**Cheng Wang**

*Adjunct Assistant Professor, Public Health*  
B.S., University of Science and Technology of China, 1985  
M.S., Academic Institute of Sciences of China, 1987  
M.S., University of California—Santa Barbara, 1994

**Kimberly Wang**

*Adjunct Clinical Hygienist Instructor, Periodontology, Division of Surgical Sciences*  
A.S., Santa Fe Community College, 1991

**Shuangao Wang**

*Adjunct Associate Professor, Biomedical Informatics*  
B.S., Southwest Jiaotong University, 1984  
M.S., Southwest Jiaotong University, 1992  
Ph.D., George Mason University, 2004

**Sheldon T. Warman**

*Clinical Associate Professor, Internal Medicine*  
B.A., New York University, 1973  
M.D., Chicago Medical School, 1976

**Jack Waterman**

*Clinical Assistant Professor, Nephrology*  
D.O., Philadelphia College of Osteopathic Medicine, 1981

**Bethany A. Weaver**

*Clinical Assistant Professor, Infectious Disease*  
B.S., Rutgers University, 1992  
D.O., University of Medicine and Dentistry of New York, 1996  
M.P.H., University of Washington, 2002

**Malvin Weinberger**

*Clinical Associate Professor, Surgery*  
A.B., University of Pennsylvania, 1958  
M.D., Temple University, 1962

**Michael S. Weinblatt**

*Clinical Assistant Professor, Internal Medicine*  
B.S., State University of New York—Binghamton, 1978  
M.D., State University of New York Upstate Medical Center, 1982

**Neil J. Weinreb**

*Clinical Associate Professor, Hematology/Oncology*  
M.D., State University of New York, 1966

**Brian K. Weinstein**

*Clinical Assistant Professor, Surgery*  
M.D., State University of New York Health Science, 1993

**Mitchell D. Weinstein**

*Clinical Associate Professor, Urology*  
B.S., Pennsylvania State University, 1979  
D.O., University of Health Sciences, 1984

**Susan A. Weinstein**

*Adjunct Clinical Hygienist Instructor, Periodontology,  
Division of Surgical Sciences*  
A.S., Santa Fe Community College, 1992  
B.S., Florida International University, 2002

**Stephen A. Weirich**

*Clinical Associate Professor Family Medicine*  
B.S., Allegheny College, 1981  
M.D., University of Rochester, 1985

**Jeffrey I. Weisberg**

*Clinical Professor, Hematology/Oncology*  
B.A., Brooklyn College, 1967  
D.O., University of Health Sciences College of Osteopathic  
Medicine, 1971

**Eduardo T. Weiss**

*Clinical Associate Professor, Dermatology*  
M.D., Universidad Central de Venezuela, 1982

**Marcella Weiss**

*Clinical Assistant Professor, Family Medicine*  
M.D., Universidad Central de Venezuela, 1990

**David Wessel**

*Adjunct Clinical Instructor, Prosthodontics,  
Division of Primary Care*  
D.M.D., University of Pittsburgh, 1974  
Certificate—Prosthodontics, Boston University, 1976

**Benjamin J. Westby**

*Clinical Assistant Professor, Sports Medicine*  
B.S., Moorhead State University, 1997  
M.S., Des Moines University, 2000

**Erica Z. Whitfield**

*Clinical Instructor, Preventive Medicine*  
B.S., University of Florida, 2000  
M.P.H., Rollins School of Public Health, 2003

**Graham F. Whitfield**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., University of London, 1963  
Ph.D., University of London, 1969  
M.D., New York Medical College, 1976

**Martha M. Wichert**

*Adjunct Professor, Physical Therapy*  
B.S., University of Iowa, 1980  
B.S. PT, University of Miami, 1980

**Edward L. Wiener**

*Clinical Professor, General Surgery*  
D.O., Michigan State University College of Osteopathic  
Medicine, 1976

**Ronald J. Wiewora**

*Adjunct Assistant Professor, Public Health  
Clinical Assistant Professor, Preventive Medicine*  
B.S., University of Illinois, 1974  
M.D., University of Illinois, 1978  
M.P.H., University of Miami, 1986

**Grady E. Williams III**

*Clinical Professor, Family Medicine*  
B.S., Louisiana Technical University, 1969  
M.S., Texas A&M University, 1972  
Ph.D., Texas A&M University, 1977

**Lanelle Williams**

*Clinical Assistant, Optometry*  
O.D., Nova Southeastern University, 1998

**Richard K. Williams**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Brown University, 1973  
M.D., University of Chicago, 1977

**Ronald K. Williams**

*Clinical Assistant Professor, Family Medicine*  
B.A., Hofstra University, 1992  
D.O., New York College of Osteopathic Medicine, 1996

**Jerry Williamson**

*Clinical Assistant Professor, Pediatrics*  
M.D., The Medical College of Pennsylvania, 1975

**Joseph G. Willmitch**

*Clinical Instructor, Physician Assistant Studies*  
B.S., Youngstown State University, 1976

**Charles D. Wingfield**

*Clinical Associate Professor, Internal Medicine*  
B.S., Gettysburg College, 1959  
D.O., Philadelphia College of Osteopathic Medicine, 1963

**Paul K. Winner**

*Clinical Professor, Neurology*  
B.S., Manhattan College, 1977  
D.O., New York College of Osteopathic Medicine, 1981

**Jeffrey L. Wisnioski**

*Clinical Assistant Professor, Surgery*  
B.S., Rensselaer Polytechnic Institute, 1976  
M.D., Albany Medical College of Union University, 1980

**Edward F. Wolek**

*Clinical Assistant Professor, Family Medicine*  
B.S., Palm Beach Atlantic University, 1997  
D.O., Nova Southeastern University, 2001

**Glenn Wolfinger**

*Adjunct Assistant Professor, Prosthodontics,  
Division of Primary Care*  
D.M.D., Tufts University, 1990  
Certificate—Combined Prosthodontics,  
Harvard School of Dental Medicine, 1993

**Ava C. Wolf-Rosenberg**

*Clinical Assistant Professor, Family Medicine*  
B.A., State University of New York, 1984  
D.O., New York College of Osteopathic Medicine, 1988

**Kelli Wolper**

*Clinical Adjunct Instructor, Optometry*  
O.D., Southern California College of Optometry, 1985

**Stephen R. Wood**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., University of South Dakota, 1974  
D.O., Kirksville College of Osteopathic Medicine, 1980

**William D. Wood**

*Clinical Assistant Professor, Pediatrics*  
B.S., Clemson University, 1990  
M.D., Medical University of South Carolina, 1994

**Darwin B. Wooten**

*Clinical Assistant Professor, Surgery*  
B.S., University of Mississippi, 1990  
M.D., Vanderbilt University School of Medicine, 1994

**Randal G. Worth**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Iowa State University, 1973  
D.O., Des Moines College of Osteopathic Medicine and Surgery, 1977

**Arlene Wright**

*Adjunct Faculty Member, Nursing*  
B.S., University of St. Francis, 1994  
M.S.N./FNP, University of Tampa, 2000

**Marilyn Wright**

*Adjunct Faculty, Health Science*  
B.A., University of California, 1974  
B.S., Loma Linda University, 1976  
M.P.H., Loma Linda University, 1991  
D.P.H., Loma Linda University, 2001

**Robin Wucher-Lapin**

*Adjunct Professor, Nursing*  
A.D.N., Miami Dade Community College, 1976  
B.S.N., Florida International University, 1979  
M.S.N., University of Miami, 1983

**Mark J. Yacht**

*Clinical Assistant Professor, Preventive Medicine*  
M.P.H., Tulane School of Public Health and Tropical Medicine, 1971  
M.D., University of the East Ramon Magsay Memorial Medical Center, 1978

**Bose Yalamanchi**

*Clinical Assistant Professor, Surgery*  
M.D., Gulbarga Medical College, 1970

**Charina C. Yango**

*Clinical Assistant Professor, Family Medicine*  
B.S., University of the Philippines, 1996  
M.D., University of the Philippines, 2001

**Edward T. Yee**

*Clinical Assistant Professor, Internal Medicine*  
B.S., University of Notre Dame, 1992  
M.D., Indiana University School of Medicine, 1996

**Zhang Ying**

*Clinical Adjunct Professor, Optometry*  
Tianjin Medical University, 1994

**Zachary Yablon**

*Clinical Assistant Professor, Internal Medicine*  
B.S., Tulane University, 2000  
M.D., Rosalind Franklin University of Medicine and Science, 2004

**Louis R. Yogel**

*Clinical Assistant Professor, Urology*  
B.A., Temple University, 1975  
M.D., Autonomous University of Guadalajara, 1979

**Erol A. Yoldas**

*Clinical Assistant Professor, Orthopedic Surgery*  
B.S., Duke University School of Engineering, 1990  
M.D., Yale University School of Medicine, 1994

**David B. Youel**

*Clinical Assistant Professor, Internal Medicine*  
B.A., University of Minnesota, 1958  
M.D., University of Minnesota, 1963

**Mary Beth Young**

*Clinical Assistant Professor, Optometry*  
O.D., Nova Southeastern University, 2006

**Xinhua Yu**

*Adjunct Assistant Professor, Public Health*  
M.D., Shanghai Medical University, 1994  
Ph.D., University of Minnesota School of Public Health, 2003  
M.S., University of Minnesota, 2008

**Aristides Zacharoudis**

*Clinical Assistant Professor, Cardiology*  
B.S., St. John's University, 1982  
M.D., Autonomous University of Guadalajara, 1986

**Shazia Zafar**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Rawalpindi Medical College, 1999

**Elise J. Zahn**

*Clinical Associate Professor, Family Medicine*  
B.S., University of Florida, 1989  
D.O., Nova Southeastern University, 1996

**Brian A. Zalis**

*Clinical Associate Professor, Family Medicine*  
M.D., University of Florida School of Medicine, 1976

**Bernard J. Zaragoza**

*Clinical Assistant Professor, Surgery*  
B.A., University of Miami, 1986  
M.D., Harvard Medical School, 1990

**Robert Zarranz**

*Assistant Professor, Physician Assistant Studies*  
B.S., University of Miami, 1973  
M.D., Creighton University, 1978  
Diplomate, American Board of Otolaryngology, 1985  
Fellow, American Academy of Otolaryngology

**Elsa M. Zayas**

*Clinical Assistant Professor, Psychiatry*  
B.S., University of Miami, 1983  
B.A., University of Miami, 1983  
M.D., Universidad de Zaragoza, 1989



**Xiao-Mei Zeng**

*Clinical Assistant Professor, Obstetrics and Gynecology*  
B.A., Beijing Second Foreign, 1982  
M.S., Baylor University, 1983  
M.D., New York Medical College, 1993

**Susan L. Zito**

*Clinical Assistant Professor, Internal Medicine*  
B.A., Temple University, 1989  
M.P.H., University of South Florida College of Public Health, 1998  
D.O., Des Moines University Osteopathic Medical Center, 2002

**Laura M. Zitton**

*Clinical Assistant Professor, Family Medicine*  
B.A., University of Maryland, 1995  
M.S., University of Maryland, 1998  
D.O., University of Health Sciences College of Osteopathic  
Medicine, 2003

**Michael B. Zlatkin**

*Clinical Professor, Osteopathic Principles and Practice*  
B.S., McGill University, 1977  
M.D., Queen's University Medical School, 1981

**Alex R. Zopo**

*Clinical Assistant Professor, Internal Medicine*  
M.D., Escuela de Medicina, 1990

**Jose A. Zuniga**

*Clinical Assistant Professor, Neurology*  
B.S., Peruvian University Cayetano Heredia, 1965  
M.D., Peruvian University Cayetano Heredia, 1971



**College of Osteopathic Medicine**

**College of Pharmacy**

**College of Optometry**

**College of Allied Health and Nursing**

**College of Medical Sciences**

**College of Dental Medicine**



3200 South University Drive  
Fort Lauderdale, Florida 33328-2018  
(954) 262-1101 • 877-640-0218  
[www.nova.edu](http://www.nova.edu)