College of Pharmacy Postbaccalaureate and International Programs

Nova Southeastern University

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pharmacy

college of pharmacy
postbaccalaureate and international programs

NOVA SOUTHEASTERN UNIVERSITY
Beyond the Classroom
Nova Southeastern University, synonymous with dynamic innovation and intellectual challenge, is the largest independent not-for-profit university in the southeast, and with an enrollment of more than 25,000 students, is the eighth largest in the United States. Situated on a beautiful 300-acre campus in Fort Lauderdale, Florida, the university is experiencing a sustained period of academic growth, fiscal strength, and commitment to the challenges of the 21st century.

In this environment of expansion and stability, the university is capitalizing on its strengths in such areas as academic innovation, comprehensive clinical training, and flexible educational delivery systems.

Founded in 1964 as Nova University, the institution merged with Southeastern University of the Health Sciences in 1994, creating Nova Southeastern University. To date, the institution has graduated approximately 79,000 alumni. Fully accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, the university awards associate's, bachelor's, master's, educational specialist, and doctoral degrees in a wide range of fields including the health professions, law, business, marine sciences, psychology, social sciences, computer and information sciences, and education.

The university's programs are administered through 15 academic centers that offer courses at the main campus and at field-based locations throughout Florida; across the nation; and at selected international sites in Europe, Canada, the Pacific Rim, Central and South America, and the Caribbean.

With a budget of more than $220 million per year and an upward trend in enrollment, the university will continue to maintain a solid record of academic and fiscal strength and excellence in teaching and community service, while expanding its mission in research and scholarship.

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nsu mission statement

Nova Southeastern University is a dynamic, not-for-profit independent institution dedicated to providing high-quality educational programs of distinction from preschool through the professional and doctoral levels, as well as service to the community. Nova Southeastern University prepares students for lifelong learning and leadership roles in business and the professions. It offers academic programs at times convenient to students, employing innovative delivery systems and rich learning resources on campus and at distant sites. The university fosters inquiry, research, and creative professional activity by uniting faculty and students in acquiring and applying knowledge in clinical, community, and professional settings.
health professions division

As a student in the Health Professions Division of Nova Southeastern University, you can anticipate a remarkable experience. You will train, study, interact, and share faculty and resources (either campus-based or online) with students from various backgrounds and disciplines. This interdisciplinary approach distinguishes the Health Professions Division as unique and will better prepare you to master your discipline with a sensitivity and understanding of the entire health care system.

The Health Professions Division, with a student body of more than 2,500, is home to six colleges. The College of Osteopathic Medicine, the first one in the southeastern United States, grants the doctor of osteopathic medicine (D.O.) degree. The College of Osteopathic Medicine also awards the master of public health degree (M.P.H.). The College of Pharmacy offers the doctor of pharmacy (Pharm.D.) degree to entry-level, international, and postbaccalaureate students. The College of Optometry is the only institution in the state of Florida that awards the doctor of optometry (O.D.) degree as well as the master in clinical vision research (M.S.). The College of Allied Health and Nursing offers an entry-level bachelor of science degree in nursing (B.S.N.), as well as an R.N. to B.S.N. program and a master of science in nursing (M.S.N.) degree. The college also offers a physician assistant program that awards the master of medical science in physician assistant (M.M.S.) degree, and a master of occupational therapy (M.O.T.) degree, as well as the entry-level doctor of physical therapy (D.P.T.) degree. Doctoral programs are offered in occupational therapy (Ph.D./P.T., O.T.D.), physical therapy (Ph.D./P.T., D.P.T.), and audiology (Au.D.).

In addition to these programs, the College of Allied Health and Nursing offers the bachelor of health science (B.H.Sc.), master of health science (M.H.Sc.), and doctor of health science (D.H.Sc.) degrees—open to midlevel clinicians and allied health professionals. There is also a course of study resulting in a bachelor of health science—vascular sonography degree. The College of Medical Sciences grants the master of biomedical sciences (M.B.S.) degree. In the fall of 1997, the College of Dental Medicine admitted its charter class into the doctor of dental medicine (D.M.D.) program.

The Health Professions Division occupies a $70 million complex, covering 21 acres of the university campus. The division includes eight buildings totaling more than 900,000 square feet of space for classrooms, laboratories, offices, the Health Professions Division Library, an outpatient health center, and a pharmaceutical care center. The adjacent 1,500-vehicle parking garage overlooks the Miami Dolphins Training Camp.
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 has redoubled its commitment to academic excellence, innovation, and community service, while expanding its mission in research and scholarship. Working together, our distinguished faculty members prepare students for an exciting career on tomorrow's dynamic health care team.

Fred Lippman, R.Ph., Ed.D.
Chancellor
Since admitting its charter class in 1987, the College of Pharmacy has

- led the nation in the level of enrollment of Hispanic doctoral pharmacy students
- developed a postgraduate doctor of pharmacy (Pharm.D.) program for bachelor-level pharmacists seeking to advance professionally; the program, using interactive compressed video, enrolls practicing pharmacists throughout the state of Florida and Puerto Rico who cannot interrupt their careers or relocate to a college campus
- developed residency programs in general pharmacy practice, ambulatory care, and infectious diseases
- developed a drug information center to provide area health care providers with current information on pharmaceuticals
- brought the latest American pharmaceutical education to leading institutions of higher learning in Latin America; the program features faculty exchanges, collaboration on research projects, and seminars on advances in patient-oriented pharmacy
- developed two ambulatory care pharmacies for innovative teaching and testing of pharmacists' expanding roles
- created a medicinal garden to serve as a repository for living medicinal plants for treating human illness and maintaining health; the purpose of the garden is to teach students the properties and roles of medicinal plants.

mission statement

The College of Pharmacy of Nova Southeastern University is dedicated to educating students to assume roles as competent and ethical professionals in a dynamic health care environment. The curriculum provides professional degree students with the knowledge, skills, and attitudes essential to the delivery of pharmaceutical care while promoting dedication to lifelong learning. Graduate programs cultivate the research and leadership skills necessary for successful careers in academia, industry, or government agencies. Educational opportunities are provided to a diverse group of students on campus and at distant sites through the use of innovative technology. The college serves the profession and the public interest through excellence in teaching, research, scholarship, and service; thereby achieving distinction as a premier college of pharmacy.
the international and postbaccalaureate Pharm.D. degrees

In an effort to meet the growing demands of the pharmacy profession, the Nova Southeastern University College of Pharmacy has developed a program of study leading to the doctor of pharmacy (Pharm.D.) degree for both domestic and international pharmacy graduates. Both the Postbaccalaureate and International Programs educate students to achieve the same outcomes as the Entry-level Pharm.D. Degree Program. Courses integrate information and build on one another to provide the knowledge and skills necessary to be successful in the profession. Students have access to the Health Professions Division Library, computers, electronic library, other learning resources, and the vast technological resources provided by Nova Southeastern University, which has been a leader in distance education programs for many years.

In 1991, the College of Pharmacy developed a postgraduate doctor of pharmacy program for bachelor-level pharmacists seeking to advance professionally. This program was designed for those individuals who have earned a bachelor's degree in pharmacy from a school or college of pharmacy accredited by the American Council on Pharmaceutical Education (ACPE) and who are licensed by a U.S. State Board of Pharmacy.

In 2002, the college matriculated its first class into the International Program. This program was designed exclusively for graduates of pharmacy degree programs outside of the United States jurisdiction who are not already licensed by a U.S. State Board of Pharmacy.

Our programs are known for the contemporary approach we use in classroom instruction. Due to this approach, our graduates are equipped to meet the current marketplace demands and challenges.

With a focus on adult learners, we employ innovative technology and instructional design methods using full-time College of Pharmacy faculty in a live classroom setting.

letter from the dean

As you pursue a career in pharmacy, I welcome you to explore the dynamic, challenging, invigorating, and rewarding experience of obtaining a pharmacy education at the Nova Southeastern University College of Pharmacy (NSU-COP). As you have undoubtedly read or heard through the media, health care is a hot field and pharmacy is at the top of that list. Clinically trained pharmacists are in high demand, and the need greatly outweighs the number of qualified candidates. At NSU-COP, we strive to address these needs by providing highly trained graduates who are committed to the well being of their patients.

The NSU-COP achievements continue to be significant. Our strong curriculum provides our students with the necessary competencies to meet the challenges of tomorrow's health care environment. We strive to establish ourselves as a leader in pharmacy education, at both the professional and graduate levels, by continually improving our educational programs, increasing our research involvement, and strengthening our service commitment. The COP, with its well-established entry-level doctor of pharmacy (Pharm.D.) degree program in three locations (Davie and West Palm Beach, Florida, and Ponce, Puerto Rico), continues to excel. This is evidenced by our 100 percent board passing rate with scores that generally exceed state and national averages. Our outstanding international and postbaccalaureate Pharm.D. programs also shine as they respond to the needs of our alumni and international community.

Many elements contribute to our students' success. The mix of young, enthusiastic faculty members with more seasoned faculty members with specialized training brings diversity to our teaching staff. Our faculty members believe in an open-door policy, in caring about each student, and in a commitment to addressing the health care needs of our communities. The dedication of our faculty members, our cutting-edge curriculum, and our support of international education all contribute to a well-rounded professional pharmacist by the end of the four years of training. Furthermore, the outstanding facilities of NSU-COP, the advanced technological support, and the approximately 300 practice sites available to our students provide an educational environment that is far-reaching. It is among the best in the country.

As dean of NSU-COP, I am truly proud of our past accomplishments, and I am greatly committed to the continued growth of the program. I believe that, if you are looking for a pharmacy program that will provide you with the training and education you need to succeed in the health care world of tomorrow, as well as a sense of fulfillment in your chosen profession, the College of Pharmacy at Nova Southeastern University is the right choice for you.

Andrés Malavé, B.S.Ph., M.S., Ph.D.
Dean
postbaccalaureate Pharm.D. degree program

Course of Study

Nova Southeastern University College of Pharmacy offers a nontraditional program for baccalaureate-level pharmacists seeking a Pharm.D. degree. This program offers many distinct advantages over other external degree programs. Courses are taught by the same highly qualified faculty members who teach the entry-level Pharm.D. degree curriculum. However, the Postbaccalaureate Pharm.D. Degree Program is designed to meet the needs of working pharmacists. Didactic courses are scheduled in the evenings, Tuesdays and Thursdays, 6:00 p.m.-10:00 p.m. in Fort Lauderdale and broadcast live by interactive video to Fort Myers, Jacksonville, Miami, Orlando, and West Palm Beach, Florida, and Bayamón, Carolina, and Ponce, Puerto Rico. Students vary course loads according to their work schedules. Coordinators at each distant site provide guidance and assistance to students, assuring communication among students and faculty members at all sites. Additional communication is provided through online technologies including email, bulletin boards, and live online classrooms.

The curriculum stresses innovative teaching, delivery, and assessment methods. This approach provides some flexibility for the students. The emphasis of all courses is on problem solving and case-study management. The doctor of pharmacy degree is awarded after successful completion of the required professional curriculum. An average part-time student would take two courses a semester. At this rate, the didactic portion of the curriculum would be completed in 18 months. On completion of the 30 hours of required coursework, including a project of publishable quality or approved alternative option, students are eligible to pursue the clinical clerkship component of the curriculum. Students must be prepared to complete clinical experiences on a full-time basis. The curriculum requires completion of four, four-week experiences. Licensure as a Florida pharmacist or intern is required for clerkship experiences.

All coursework must be completed within five years of the initiation of the program. At least 16 semester hours of didactic coursework and all clerkships must be completed at the NSU College of Pharmacy, regardless of the number of hours that may be transferred from another Pharm.D. program.

Students are provisionally 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 $50 fee.
requirements

Nova Southeastern University will provide access to email, online databases, and library resources, but the student must provide the ISP account. Information to guide students in this area will be provided by the college.

auditing a course

A student may register to audit a course with the permission of the instructor. Auditing a course requires registration. The practice of sitting in on classes (attending a class for which the student is not registered) is not allowed. Auditors are expected to attend classes regularly and to complete such assignments as required by the instructor. The auditing privilege carries full rights of class participation and instructor appointments. Auditing a course offers no academic credit and only an AU (Audit) grade is assigned. Subsequent credit for the course is not available through any means.

Tuition: $400 per course

advanced practice experience

The College of Pharmacy provides innovative practice experiences to its students through the use of off-campus pharmacy practices. Affiliated practice sites are available for students at all distant sites and include hospital, community, and chain pharmacies, plus nursing homes and other specialty practices. These experiences provide students with opportunities to interact with patients and health care providers. The emphasis is on the application of didactic knowledge and skills in a non-laboratory, patient care setting under the supervision of college clinical faculty. Four advanced practice experiences are required, including clerkships in acute and chronic care and two elective experiences that allow students flexibility in directing their individual educational experience. Students attending Puerto Rican sites must complete most clerkship experiences in Florida.

orientation and physical assessment

The entering student is required to attend an orientation program. During this orientation, detailed hands-on instruction in the use of online technology and library resources is provided. Students will be provided with student ID cards and will have an opportunity to meet with financial aid officers, the registrar, and pharmacy faculty and staff.

Orientation and physical assessment are the only on-campus requirements for the program, with the exception of students attending Puerto Rican sites, who must complete most clerkship experiences in Florida.
suggested postbaccalaureate pham.d. curriculum outline

first year

ORIENTATION

FALL SEMESTER
PHA 7700 Research Design and Statistics ....... 2
PHA 7740 Drug Literature Evaluation ....... 2
PHA 7750 Disease Management I ....... 4

WINTER SEMESTER
PHA 7710 Pharmacoeconomics ....... 2
PHA 7720 Physical Assessment ....... 2
PHA 7760 Disease Management II ....... 4
PHA 7780 Management and the U.S Health Care System ....... 2

SUMMER SEMESTER
PHA 7790 Research Project ....... 4*
(*Alternative options may be available.)

second year

FALL SEMESTER
PHA 7730 Clinical Pharmacokinetics ....... 4
PHA 7770 Disease Management III ....... 4

WINTER SEMESTER
PHA 7820 Acute Care Advanced Practice Experience ....... 4
PHA 7840 Chronic Care Advanced Practice Experience ....... 4

SUMMER SEMESTER
PHA 7860 Elective Advanced Practice Experience I ....... 4
PHA 7880 Elective Advanced Practice Experience II ....... 4

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 programs at the time of publication.
PHA 4000 Orientation ..........................(10-0-0)
An overview of library and online resources and academic expectations
Prerequisite(s): none

PHA 7700 Research Design and Statistics ..........................(32-0-2)
This course educates students in research methodology and statistics. Basic statistical concepts are covered and students are expected to understand, evaluate, and generate clinical, biomedical, and health care services research. This course will run half a semester.
Prerequisite(s): none

PHA 7710 Pharmacoeconomics ..........................(32-0-2)
This course will give students an understanding of basic concepts and definitions involved in the fields of Pharmacoepidemiology and Pharmacoeconomics. Emphasis is placed on identifying the principles and methodologies of pharmacoepidemiology/pharmacoeconomic analyses and the strengths and weaknesses of specific methods. Application of relevant principles within critical pathways will be stressed. Practical examples for successful implementation of these concepts and methods for accessing data will be discussed. This course will run half a semester.
Prerequisite(s): none

PHA 7720 Physical Assessment ..........................(15-48-2)
This course is intended to teach patient assessment for pharmacists in both ambulatory and inpatient settings. Clinical interview and physical examination techniques will be explained and demonstrated. Students will practice these techniques on one another under supervision. Charting, interpretation of findings, and evaluation of common clinical entities will be integrated into these activities. This course is taught in an institute format for postbaccalaureate students during the orientation period.
Prerequisite(s): none

PHA 7730 Clinical Pharmacokinetics ..........................(64-0-4)
This course deals with the application of the concepts and techniques of biopharmaceutics and pharmacokinetics to the rational design of individualized drug dosage regimens while taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions.
Prerequisite(s): none

PHA 7740 Drug Literature Evaluation ..........................(32-0-2)
This course provides a framework to guide the student through the thought processes necessary to evaluate the different types of medical information. The student is able to apply learned techniques in information retrieval, evaluation, and communication by conducting actual literature evaluations on relevant therapeutic topics. This course will run half a semester.

PHA 7750 Disease Management I ..........................(64-0-4)
The disease management course will provide students with an overview of disease processes and treatment. Students will integrate information from discussion into their prior experience and knowledge base, expanding their views and ideals to further the profession of pharmacy. This course incorporates the concepts of therapeutics and disease-state management. Emphasis is placed on developing patient-based problem solving skills that include appropriate patient assessment, drug selection, and monitoring of drug therapy. Pharmacoeconomic and administrative concerns, development of clinical services, and controversial issues related to disease states are also discussed. This course is taught using WebCT and compressed interactive video technology for live lectures, integrated case studies, and exams.
Prerequisite(s): none

PHA 7760 Disease Management II ..........................(64-0-4)
This course is a continuation of Disease Management I.
Prerequisite(s): none

PHA 7770 Disease Management III ..........................(64-0-4)
This course is a continuation of Disease Management II.
Prerequisite(s): none

PHA 7780 Management and the U.S. Health Care System ..........................(32-0-2)
Covers major concepts related to the structure and functioning of the U.S. health care system. Emphasis is placed on analyzing issues associated with health care; personnel; and the way that health care is organized, financed, and regulated. The provision of drugs and pharmacy services will be examined in the context of the health care enterprise. Student interaction and participation will be encouraged. This course will run half a semester.
Prerequisite(s): none
PHN 7790 Research Project (16-96-4)
Students are required to complete a research project that integrates principles learned in courses such as Research Design and Statistics, Drug Literature Evaluation, and Pharmacoeconomics. Limited lectures will 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.
Prerequisite(s): Research Design and Statistics and Drug Literature Evaluation

Required Advanced Experience—Postbaccalaureate Program
Two required experiences that consist of four-week, full-time (40 hours per week), off-campus experiences in a supervised pharmacy practice emphasizing nondistributive, clinical aspects of pharmacy practice. Students apply knowledge, develop competency in pharmacy practice, and enhance knowledge of therapeutic management. Required advanced experiences include one acute care and one chronic care.
Prerequisite(s): successful completion of all didactic coursework

PHA 7820 Advanced Practice Experience—Acute Care (0-160-4)
In this advanced practice experience, students will have the accessibility to interact with patients and other health care practitioners in matters pertaining to drug therapy, monitoring, evaluation, and education. Students select one specialty from multiple offerings to complete this requirement. The student will participate in the successful clinical management of acutely ill patients.
Prerequisite(s): successful completion of all didactic coursework

PHA 7840 Chronic Care (0-160-4)
Interaction with patients in chronic or long-term care settings including nursing homes and ambulatory care settings. Students follow patients over time and participate as members of a health care team to encourage drug therapy through extensive patient monitoring and obtaining medical and drug information directly from patients during interviews.
Prerequisite(s): successful completion of all didactic coursework

PHA 7860, PHA 7880 Elective Advanced Experiences
Two elective experiences that consist of four-week, full-time (40 hours per week), off-campus experiences in a supervised pharmacy practice emphasizing nondistributive, clinical aspects of pharmacy practice in a specialty area, allowing students to specialize and obtain greater practice experience. At least one of the elective experiences must be in a direct patient care setting. Specialty experiences may include, but are not limited to, informatics, administration, geriatrics, pharmacoeconomics, pharmacokinetics, infectious disease, nutritional support, psychopharmacology, pediatrics, rheumatology, surgery, critical care, cardiology, neonatology, immunology, and clinical research where available.
Prerequisite(s): successful completion of all didactic coursework

locations

- Miami
  8585 SW 124th Avenue
  Miami, FL 33183-4600
  (305) 274-1021

- West Palm Beach
  3970 RCA Boulevard, Suite 7000
  Palm Beach Gardens, FL 33410-4231
  (561) 622-7018

- Jacksonville
  6675 Corporate Center Parkway
  Suite 115
  Jacksonville, FL 32216-8080
  (904) 245-8900

- Orlando
  4850 Millenia Boulevard
  Orlando, FL 32839-6012
  (407) 264-5600

- Fort Lauderdale-Davie
  3200 South University Drive
  Fort Lauderdale-Davie, FL 33328-2018
  (954) 262-1101

- Fort Myers Site
  10100 Deer Run Farms Road
  Suite 200
  Fort Myers, FL 33912-1093
  (239) 267-6278

- Bayamón Site
  National College of Business and Technology
  Avenida Comerio Urb. Sierra Bayamón, Bloque 84
  Bayamón, Puerto Rico 00960

- Carolina Site
  Universidad del Este (UNE)
  Carretera 190 Kilómetro 1.8
  Avenida Principal Sabana, Barrio Sabana Abajo
  Carolina, Puerto Rico 00983

- Ponce Site
  c/o Pontificia Universidad Catolica
  2250 Avenue Las Americas
  Suite 607
  Ponce, Puerto Rico (787) 841-2000, ext. 2433
application procedure

To be considered for admission to the Nova Southeastern University (NSU) College of Pharmacy Postbaccalaureate Pharm.D. Program, an applicant must have earned a bachelor's degree in pharmacy from a school or college of pharmacy accredited by the American Council on Pharmaceutical Education. Graduates of foreign pharmacy programs must have a current valid state license. Foreign coursework must be evaluated by a university-approved service and sent to the Enrollment Processing Services (EPS) along with an official transcript. Applicants must be licensed and in good standing with a U.S. State Board of Pharmacy. Inquiries for admission should be addressed to

NOVA SOUTHEASTERN UNIVERSITY
Enrollment Processing Services (EPS)
College of Pharmacy
Office of Admissions
3301 College Avenue
P.O. Box 299000
Fort Lauderdale-Davie, Florida 33329-9905

Candidates for admission must submit a completed application form, all supporting documents (college transcripts and a copy of a pharmacist's license), and a nonrefundable fee of $60. The deadline for the fall semester is March 15 and the deadline for the winter semester is September 15.

Official transcripts of all work completed at all colleges and universities must be forwarded by the institutions attended to the EPS. It is the responsibility of the applicant to ensure that arrangements are made for these transcripts to be sent.

Students must also submit a copy of their pharmacist's license(s). If a license has not been issued, then a copy of the internship license must be submitted.

Applicants for the Puerto Rico sites must contact the Office of Student Affairs in Ponce, Puerto Rico, at (787) 841-2000, ext. 2431, or via email to jwendy@nsu.nova.edu for application information.

tuition and fees

The board of trustees has established the following tuition and fees for 2006–2007. They are subject to change at any time at the board's discretion. A Health Professions Division general access fee of $125 is required each year. An NSU student services fee of $750 is also required annually.

1. Application Fee—$60. nonrefundable
2. Tuition—$400. per semester hour
3. Acceptance Fee—$100. This fee is required to reserve the accepted applicant's place in the class. This advance payment will be deducted from the tuition payment due on registration day, but is not refundable in case of withdrawal. It is payable within two weeks of the applicant's acceptance.
4. Preregistration Fee—$150. This is due within 30 days of the applicant's acceptance under the same terms as the acceptance fee.

The first session's tuition and fees, less the $250 previously paid, are due on or before registration day. Tuition for each subsequent didactic session is due on or before registration day of that session. Students will not be permitted to register until their financial obligations have been met.

Students will be required to preregister for classes. A $50 late fee will be charged for any student registering one week after classes are scheduled to begin.
Worldwide, pharmacy practice in the health care environment has evolved significantly in the last two decades. Pharmaceutical education in many countries provides limited opportunities for growth and development in the profession, especially in the clinical pharmacy area. In an effort to meet the demand for postgraduate clinical pharmacy education, the College of Pharmacy at Nova Southeastern University has designed a program of study exclusively for international pharmacy students that leads to the doctor of pharmacy degree.

The NSU Pharm.D. International Program provides students with the knowledge and skills necessary to successfully practice in the pharmacy field. Special emphasis is placed on clinical pharmacology/therapeutics and one-year experiential and clinical clerkships. Upon completion of the program, students are eligible to take the examination for U.S. pharmacist licensure. This program has been welcomed in many countries because of the great need for clinical pharmacists and faculties in many hospitals and universities around the world.

Leanne Lai, Ph.D.
Director of the International Program

### Course of Study

The International Program educates graduates of pharmacy degree programs outside of the United States jurisdiction. Courses integrate information and build on one another to provide students with the knowledge and skills necessary to be successful in the profession. Pharmaceutics, pharmacokinetics, and nonprescription therapies courses provide a strong understanding of the principles of drug therapy. The business, human relations, 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 research design and statistics, pharmacoepidemiology, pharmacoeconomics, and drug literature evaluation.

Practice experiences in community, hospital, service learning, and traditional pharmacy settings facilitate real-life application of the material and provide opportunities to integrate information learned. Full-time clerkships and externships facilitate application of drug therapy monitoring with more independence.

The curriculum stresses innovative delivery and assessment methods. Courses will be on the Fort Lauderdale, Florida, campus exclusively while the college's clinical sites will be used extensively. All lectures, handouts, reading materials, and exams will be in English so as to prepare students for the national practice of pharmacy.

This is a full-time program requiring a student's full effort. Students are responsible for their own transportation to the experiential sites.

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<th>Year</th>
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National Association of Boards of Pharmacy
curriculum outline

suggested international pharm.d. curriculum outline

first year

FIRST SEMESTER
Orientation .................................................... 0
PH A 4300 Pharmacy and the Health Care System ...... 2
PH A 5300 Social and Behavioral Pharmacy ................... 2
PH A 5380 Pharmacy Law .................................. 2
PH A 5580 Early Practice Experience—Community ....... 0
PH A 6101 Clinical Pharmacology .......................... 4
PH A 7730 Clinical Pharmacokinetics .................... 4

SECOND SEMESTER
PH A 5330 Communication Skills .......................... 2
PH A 5580 Early Practice Experience—Community ....... 2
(Continued from first semester)
PH A 5610 Therapeutics/Pathophysiology I ............... 5
PH A 6410 Pharmacoepidemiology and Pharmacoeconomics .. 3
PH A 6560 Physical Assessment Institute ................ .. 2
PH A 6610 Drug Literature Evaluation ................. .2
PH A 6630 Therapeutics/Pathophysiology III ............ .4

SUMMER SEMESTER
PH A 6590 Advanced Practice Experience—Community .... 4

second year

FIRST SEMESTER
PH A 5150 Nonprescription Therapies .................. 3
PH A 6300 Research Design and Statistics ................. 3
PH A 6440 Pharmacy Management .......................... 3
PH A 6620 Therapeutics/Pathophysiology II ............. 5
PPS 4180 Prescription Practice .......................... 3

SECOND SEMESTER
PH A 6690 Advanced Practice Experience—Hospital ........ 4
PH A 6790 Advanced Practice Experience—General Clinical ... 4
PH A 7620 Advanced Practice Experience—Internal Medicine .... 4
PH A 7640 Advanced Practice Experience—Ambulatory Care .... 4
PH A 7800 Eighth Semester ................................. 0

third year

SUMMER/FALL SEMESTER
PH A 7610 Advanced Practice Experience—Elective I .......... 4
PH A 7630 Advanced Practice Experience—Elective II ........ 4
PH A 7650 Advanced Practice Experience—Elective III ........ 4
PH A 7660 Advanced Practice Experience—Select Community .... 4
PH A 7670 Advanced Practice Experience—Elective IV .......... 4
PH A 7680 Advanced Practice Experience—Select Hospital ....... 4

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 programs at the time of publication.
course descriptions

PPS 4180 Prescription Practice (16-48-3)
Applies scientific, legal, and ethical principles to the compounding and dispensing of medicinal agents in modern medical practice. Analysis, interpretation, and evaluation of prescription products in various forms are also reviewed.

PHA 4300 Pharmacy and the Health Care System (32-0-2)
Covers major concepts related to the structure and functioning of the U.S. health care system. Emphasizes analyzing issues associated with health care, personnel, and the way that the health care system is organized, financed, and regulated. Examines the provision of drugs and pharmacy services in the context of the health care enterprise.

PHA 5150 Nonprescription Therapies (48-0-3)
The use of nonprescription therapies including drug and non-drug treatments is studied. Discusses patient education information, potential drug interactions, and recommended treatments.

PHA 5300 Social and Behavioral Pharmacy (32-0-2)
Background in the sociological, psychological, and behavioral aspects of pharmacy practice to help students understand a patient's experience of health and illness. Variability in morbidity and mortality, health seeking, and patient behavior is explored.

PHA 5330 Communication Skills (32-0-2)
Focuses on the tools necessary to conduct effective and efficient patient interactions. Systematic interviewing, patient assessment, and education techniques are emphasized. Specific communication tools to help foster caring therapeutic relationships with patients are incorporated.

PHA 5380 Pharmacy Law (32-0-2)
This course covers federal and state statutes, rules, and regulations that affect pharmacy practice and selected aspects of general law and ethics. Emphasizes the interpretation of those laws affecting the practice of community and institutional pharmacy. Ethical situations are also presented.

PHA 5580 Early Practice Experience—Community (16-64-2)
Provides a didactic component to the early rotation experiences. Students are provided general information on legal, ethical, and practice issues in pharmacy. Students are guided as to what they should be focusing on in the rotation experience. On-site experience provides basic knowledge of the drug distribution process in a community setting. Processes in a pharmacy—legal issues, communication skills, confidentiality, first aid, and the role and responsibilities of the community pharmacist—will be covered.

PHA 5610 Therapeutics/Pathophysiology I (80-0-5)
Combines pathophysiology of disease with drug therapy. Course is divided into disease state modules that include the pathophysiology of the disease and decision-making processes for the treatment of patients. Physical findings, laboratory values, adverse drug effects, drug interactions, and patient education are all considered in the development of patient-specific therapeutic plans. Application of previous course material, including pharmacokinetics, is required. Topics include geriatric, pediatric, cardiovascular, pulmonary, inflammatory, and GI diseases.

PHA 6101 Clinical Pharmacology (64-0-4)
This course is designed to provide students with the background necessary for the clinical sciences and to help students acquire a body of knowledge about the drugs that will provide the foundation by which pharmacists will practice pharmaceutical care. The objective of this course is to review all of the major classes of cardiovascular drugs and those of the central nervous system. The course will address the rationale for their use as 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 drugs.
PHA 6300 Research Design and Statistics ...(48-0-3)
Research methodology and statistics. Basic statistical concepts are covered and students are expected to understand, evaluate, and generate clinical, biomedical, and health care services research.

PHA 6410 Pharmacoepidemiology and Pharmacoconomics .................(48-0-3)
Overview of pharmacoepidemiology and pharmacoconomics. Identifies principles and methodologies of pharmacoepidemiology/pharmacoconomics analyses and the strengths and weaknesses of specific methods. Practical examples for successful implementation of these concepts are discussed.

PHA 6440 Pharmacy Management ............(48-0-3)
Overview of management, theory, human resources, and financial management as they are applied to pharmacy operations.

PHA 6560 Physical Assessment .............(15-48-2)
Patient assessment for pharmacists in both ambulatory and inpatient settings. Demonstrates and explains clinical interview and physical examination techniques. Students practice techniques on each other under supervision. Charting, interpretation of findings, and evaluation of common clinical entities will be integrated into these activities.

PHA 6590 Advanced Practice Experience—Community ..............(0-160-4)
This advanced practice experience promotes expertise in outpatient care and enables a student to develop skills as a clinical practitioner in a community setting. Students will be exposed to the role and responsibilities of the pharmacist, the importance of appropriate and effective communication in developing appropriate individualized treatment plans, and follow-up evaluation to determine actual outcomes. Under supervision, students will be required to fill prescriptions and counsel patients according to federal, state, and local laws. Students will be assigned projects, topics, and activities that will expand the foundation of didactic coursework and enhance the clinical experience.

PHA 6610 Drug Literature Evaluation .........(32-0-2)
Provides a framework to guide the student through the thought process necessary to evaluate different types of medical information. The student is able to apply learned techniques in information retrieval, evaluation, and communication by conducting actual literature evaluations on relevant therapeutic topics.

PHA 6620 Therapeutics/Pathophysiology II ....(80-0-5)
A continuation of Therapeutics/Pathophysiology I. Topics include psychiatric, neurological, endocrine, and infectious diseases.
PHA 6630 Therapeutics/Pathophysiology III (64-0-4)
A continuation of Therapeutics/Pathophysiology II. Topics include oncology, alternative medicine, and toxicology. During this semester, students must work through integrated case study problems, provide oral and written presentations, and present their work during a poster session.

PHA 6690 Advanced Practice Experience—Hospital (0-160-4)

PHA 6790 Advanced Practice Experience—General Clinical (0-160-4)
The activities of the course promote competence in the basic skills and knowledge required to practice as a general clinical pharmacist in a hospital setting. Students will be exposed to the everyday management of a hospital pharmacy, patient care, and administrative responsibilities of a clinical coordinator or director.

PHA 7610/7630/7650/7670/7690 Advanced Practice Experience—Electives (0-160-4)
Four elective rotations that consist of four-week, full-time (40 hours per week) off-campus experiences in a supervised pharmacy practice in a specialty area, allowing students to specialize and obtain greater practice experience. Specialty rotations may include, but are not limited to, informatics, administration, geriatrics, pharmacoeconomics, pharmacokinetics, infectious disease, nutritional support, psychopharmacology, pediatrics, rheumatology, surgery, critical care, cardiology, neonatology, immunology, and clinical research where available.
Prerequisite: successful completion of all didactic coursework

PHA 7620 Advanced Practice Experience—Internal Medicine (0-160-4)
Presents common diseases including hypertension, congestive heart failure, diabetes, renal failure, etc. Students participate as members of a health care team to develop effective, least toxic, most economical pharmacological regimens for elderly patients.

PHA 7640 Advanced Practice Experience—Ambulatory Care (0-160-4)
Interaction with ambulatory patients. Students participate as members of a health care team to encourage drug therapy through extensive patient monitoring and obtaining medical and drug information directly from patients during interviews.

PHA 7660 Advanced Practice Experience—Select Community (0-160-4)

PHA 7680 Advanced Practice Experience—Select Hospital (0-160-4)
The advanced practice experience in a Select Hospital is a full-time course (minimum eight hour days, five days a week, for four weeks) that promotes development of skills and application of knowledge in hospital settings. Students select one specialty from multiple offerings to complete this requirement. The multiple topics available for selection include advanced hospital, general clinical, internal medicine, infectious disease, nutritional support, oncology, critical care, pharmacokinetics, and cardiology. Students will be exposed to the role and responsibilities of professional pharmacists. Students participate as active members of the health care team. Students will be assigned projects, topics, and activities that will expand the foundation of didactic coursework.

PHA 7690 Drug Information (0-160-4)
This course covers drug information retrieval, formulation of responses, preparation of drug evaluations, cost containment studies, drug use evaluations, and other aspects of drug information for health care practitioners and the public.

PHA 7730 Clinical Pharmacokinetics (64-0-4)
Applies concepts and techniques of biopharmaceutics and pharmacokinetics to the rational design of individualized drug dosage regimens, taking into consideration factors such as hepatic and renal impairment, effects of other diseases, and drug interactions.
admission requirements

The College of Pharmacy selects students based on previous academic performance, TOEFL scores (if applicable), 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. The college will evaluate all official transcripts to determine if the student has successfully completed a satisfactory level of physiology, biochemistry, pharmaceutics, and pharmacology. Students may be required to take additional courses in order to complete the Pharm.D. degree. It is recommended students have a minimum 2.75 GPA, on a four-point scale on all college-level coursework completed prior to matriculation into the college.

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 550 on the paper-based exam and 213 on the computer-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 their Web site (www.toefl.org), or by forwarding a written request to:

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

If students do not have U.S. citizen or permanent resident status, it is their responsibility to ensure that their visa status allows for the issue of a Social Security card. A Social Security number is mandatory in order to be placed on rotation, which is a requirement for the program. Any student with concerns on visa or Social Security card issues should contact the International Department at (954) 262-7241 or 800-541-6682, ext. 7241, or email intl@nova.edu.

student housing

Numerous apartments, condominiums, and other rental facilities are located near campus. Information concerning housing may be obtained by contacting

NOVA SOUTHEASTERN UNIVERSITY
Office of Residential Life and Housing
3301 College Avenue
Fort Lauderdale-Davie, Florida 33314-7796
(954) 262-7052

transfer students

Circumstances may warrant that a student enrolled in one pharmacy college seeks to transfer to another institution. Any individual wishing to transfer to Nova Southeastern University’s College of Pharmacy International Program must

1. fill out a formal application to the NSU College of Pharmacy Office of Admissions
2. meet admission requirements to NSU College of Pharmacy International Program, which include submitting official transcripts of all college work (including pharmacy transcripts) 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 one letter of recommendation from a faculty member of the transferring institution
5. supply a written statement outlining reasons for request for transfer

The dean makes decisions on transfer applications. 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 admission standards.

Students entering the College of Pharmacy International Program may be given credit for courses that are applicable to the courses outlined in the curriculum of the College of Pharmacy International Program.

The Dean’s Office will evaluate the courses and determine appropriate credits. The program, however, must be completed in five calendar years. A minimum of 16 credit hours of didactic coursework and a minimum of five clerkships must be completed at Nova Southeastern University.
Candidates for admission are responsible for submitting an application form, application fee, complete set of official transcripts, official foreign coursework evaluation, official TOEFL scores if applicable, and letters of evaluation.

**APPLICATION**

A completed international application form along with a $50 (U.S.) nonrefundable application fee must be submitted to the EPS no later than March 15 of the year of anticipated entry. An application is available on our Web site (www.nova.edu) or by contacting the Office of Admissions.

In order to complete your application, you must arrange to have the following documents forwarded to the EPS no later than April 15 of the year of anticipated entry.

**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 the EPS. 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 EPS 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.

All 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.

- Educational Credential Evaluators, Inc.  
  P.O. Box 514070  
  Milwaukee, Wisconsin 53203-3470  
  (414) 289-3400  
  www.ece.org

- Josef Silny & Associates, Inc.  
  International Education Consultants  
  7101 SW 102nd Avenue  
  Miami, Florida 33173  
  (305) 273-1616  
  www.jsilny.com

- World Education Services, Inc.  
  P.O. Box 745  
  Old Chelsea Station  
  New York, New York 10113-0745  
  (212) 966-6311

It is the applicant’s responsibility to have coursework evaluated, and an official course-by-course evaluation must be sent to the EPS.

**TEST SCORES**

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

**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 (www.nova.edu) or by contacting the Office of Admissions.

Note: All documents submitted to the EPS 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  
Enrollment Processing Services (EPS)  
College of Pharmacy  
Office of Admissions  
3301 College Avenue  
P.O. Box 299000  
Fort Lauderdale-Davie, Florida 33329-9905
tuition and fees

1. Anticipated tuition for 2006-2007 (subject to change by the board of trustees without notice) is $21,290 (U.S.) for non-contract students, regardless of credit-hour load, or $18,040 (U.S.) with an NSU College of Pharmacy contract. A Health Professions Division general access fee of $125 is required each year. An NSU student services fee of $750 is also required annually.

2. Acceptance Fee—$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 the event of a withdrawal. It is payable within two weeks of an applicant's acceptance.

3. Deposit—$400. This is due May 15 under the same terms as the acceptance fee.

4. Preregistration Fee—$500. This is due May 15 under the same terms as the acceptance fee.

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 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 a professional education. This should include tuition, living expenses, books, equipment, and miscellaneous expenses.