

COLLEGE OF PHARMACY



Changes to Note

The USF Graduate Council approved the following on the dates noted.

Majors

RX	Pharmaceutical Nanotechnology	M.S.P.N.	Change Major - Admissions, electives	10/3/2016
RX	Pharmaceutical Nanotechnology	M.S.P.N.	Change Major – add Online option	9/26/2016
RX	Pharmaceutical Nanotechnology	M.S.P.N.	Change Major - change to online and face-to-face	11/7/2016
RX	Pharmacy	Pharm.D.	Add new Concentration in Pharmacy and Health Education (RXHE)	5/8/2017

University of South Florida
College of Pharmacy
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College Dean: Kevin Sneed, Pharm.D.
Associate Dean for Academic Affairs: Amy H. Schwartz, Pharm.D.
Associate Dean, Graduate Programs: Shyam Mohapatra, Ph.D., M.B.A.

Accreditation:

The College of Pharmacy (COP) is accredited by the Accreditation Council for Pharmacy Education (ACPE). Additional information can be found on the USF and COP websites.

Mission Statement:

The USF College of Pharmacy's mission is to Revolutionize Health by:

- Innovation of patient centered healthcare through education, research, and service
- Empowerment of students, professionals, and patients as catalysts for change at all levels of health.

Vision

By 2019, USF College of Pharmacy will achieve interprofessional excellence in:

- Geriatrics
- Personalized Medicine
- Informatics
- Leadership

Values

- Innovation
- Leadership
- Diversity
- Interprofessional collaboration
- Interdisciplinary research
- Evidence-based applications
- Teamwork
- Life-long learning

Research Facilities

The College of Pharmacy has established alliances and affiliations with a number of Centers and Institutes at USF in its efforts to:

- 1) Provide research and educational opportunities (faculty and students);
- 2) Foster and promote interdisciplinary research;
- 3) Advance research, innovation and academic entrepreneurship in emerging technologies.

The Centers with which the COP has established affiliations are as follows:

- Byrd Alzheimer's Institute
- Center for Advanced Medical Learning and Simulation (CAMLs)
- The Florida Center of Excellence for Drug Discovery and Innovation (CDDI)
- USF Nanomedicine Research Center

Major Research Areas

Faculty research areas are accessible through the following web link:

<http://health.usf.edu/pharmacy/research/index.htm>

College Information:

The USF College of Pharmacy (COP) was established in 2010 to offer the Doctor of Pharmacy (PharmD) degree. The COP mission aligns with the USF Mission by:

1. providing a competitive professional program in pharmacy;
2. producing knowledge, promoting intellectual development, and certifying student success in a global environment; and
3. providing interdisciplinary education, research, and service through health-related disciplines.

The Doctor of Pharmacy didactic and experiential curriculum encompasses interprofessional, patient-centered pharmaceutical care, translational research opportunities, and community-focused service learning in an effort to produce competent pharmacy practitioners. The COP plans to maximize the advantages associated with being part of Florida's leading metropolitan research university through collaborations with other disciplines and programs across the USF campus.

COP founded its Office of Graduate Programs in 2013. The vision for graduate education at COP included developing cutting-edge research training and education including both didactic (on-line and in-class) in several areas of Pharmacy, creating a diverse learning environment for students and faculty and creating advanced learning opportunities using the emerging technologies.

Consistent with USF's mission, the strategic goals of OGP include:

1. to enhance domestic and international recruitment, enrollment, and retention of graduate students that reflects diversity,
2. to strive to enhance the academic experience of and the quality of life for graduate students,
3. to pursue research funding and conduct and publish research that leads to opportunities for graduate student success,
4. to partner with the other USF Colleges and SUS institutions to develop creative initiatives that promote graduate student research, and
5. to serve as a leader in promoting interdisciplinary graduate programs.

A Master of Science in Pharmaceutical Nanotechnology was approved and OGP plans to develop additional initiatives for Graduate Certificates and a PhD degree program in addition to concurrent degree programs at the COP.

Degrees, Majors, and Concentrations Offered:**Master of Science in Pharmaceutical Nanotechnology (MSPN)**

Pharmaceutical Nanotechnology (PNT)

Doctor of Pharmacy (PharmD)

Pharmacy

Pharmacy and Health Education (RXHE)

Graduate Certificates Offered:

<http://www.usf.edu/innovative-education/programs/graduate-certificates/>

For information on graduate majors and certificates offered through the College of Pharmacy, please contact Pharmacygraduateprogram@health.usf.edu or the Office of Graduate Certificates.

PHARMACEUTICAL NANOTECHNOLOGY

Master of Science in Pharmaceutical Nanotechnology (M.S.P.N.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall	February 15
Spring	October 15
Summer	February 15

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours:	32
Level:	Masters
CIP Code:	51.2099
Dept Code:	---
Major/College Codes:	PNT / RX
Effective:	Spring 2016

CONTACT INFORMATION

College: Pharmacy
 Contact Information: www.grad.usf.edu

MAJOR INFORMATION

The Master's of Science degree in Pharmaceutical Nanotechnology is designed to train students in the skills they will need to understand the burgeoning technological advances in science at the nanoscale and how new nanomaterials and processes can be applied to drug delivery, diagnosis, treatment monitoring, tissue regeneration, personalized medicine and more. This major aims to bridge the gap between nanotechnology and medicine, providing students with advanced knowledge, skills and practical experience within the principles, technology and applications within this exciting and innovative area.

Major Research Areas:

Nano, Nanotechnology, Nano Pharmacy, Nano Pharmaceutics, Nano Pharmaceutical

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- Bachelor's degree preferably in the biomedical, biological, chemical sciences or engineering from a regionally accredited institution with a minimum overall GPA of 3.00 and present a score on the Graduate Record Examination (GRE) Medical College Admission Test (MCAT), or PCAT or DAT score.
- GRE, MCAT or DAT standardized test scores or evidence of substantial health/sciences experience. The GRE may be waived if the overall undergraduate GPA is 3.80 or higher. GRE may be substituted by minimum MCAT score of 20, PCAT or score of 55% DAT score of 19.
- A language proficiency test for international applicants from non-English speaking countries or who have not earned a degree in the United States must provide a minimum IELTS score of 6.5 taken within 2 years of the desired term of entry, a minimum PTE-A score of 53 or a minimum TOEFL score of 79 (internet-based test), 213 (computer-based test) or 550 (written test).
- Minimum of two (2) (Maximum of five) Letters of Reference (preferably from previous professors, employers within the field of science – all must be fairly recent – within the last five years of coursework or employment)
 - A resume
 - Interview (Optional)
- Final determination for admission will be made by Graduate Director based on GPA, GRE, MCAT, PCAT or DAT scores, letters of recommendations, resume and personal statement combined.

CURRICULUM REQUIREMENTS

Total Minimum Hours – 32 credit hours

Core Requirements –	14 credit hours
Non-thesis –	18 credit hours (including electives)
Thesis –	18 credit hours (8 Thesis; 10 electives)
Electives –	10-18 credit hours (depending on thesis/non-Thesis Option)

Core Requirements - 14 hours

PHA 6146	3	Introduction to Nanotechnology
PHA 6119	3	Micro-/Nanoscale Drug Delivery systems
PHA 6118	3	Nanomaterials, BioMEMs and Nanodevices in Medicine
PHA 6147	3	Nanotechnology and Risk Management
PHA 6797	1	Scientific Writing and Communication
PHA 6277	1	Ethics in Pharmaceutical Practice and Research

Non-Thesis Option – 18 hours

Students select from either the general or entrepreneurship Tracks:

General Track

In addition to the core requirements, students complete 18 hours of electives (see below) and submit a written document based on a systematic review of a selected topic as assigned by the major professor.

Entrepreneurship Track

In addition to the core requirements, students complete the following courses/internship, and 9 hours of electives and submission of a written document based on a systematic review of a selected topic as assigned by the major professor.

PHA 6225	3	Invention, Innovation & Entrepreneurship
PHA 7001	6	Graduate Program Internship in Pharmacy – Internship is in a matched industry, institute or center, as approved by the major advisor
Electives	9	(See below)

Thesis Option – 18 hours

Research Track

In addition to the core requirements, students complete a thesis and 10 hours of electives

PHA 6971	8	Thesis
Electives	10	See Below

Electives – 10 hours minimum

Students take a minimum of 10-18 hours of electives depending on if in the thesis/non-thesis option.

PHA 6148	3	Nanoformulations and Nanopharmaceutics
PHA 6449	3	Pharmacogenomics- Current and Future Prospects
PHA 6222	3	Pharmacy Practice Management
GMS 6010	3	Personalized Medicine
PHA 6618	3	Principles of Geriatric Medicine
PHA 6622	3	Advanced Geriatric Pharmacy Care
PHA 6223C	3	Pharmacy Leadership
PHA 7930	1-3	Special Topics in Pharmacy
PHA 6533	1	Graduate Program Seminar in Pharmacy*
PHA 6336		Regenerative Medicine
GMS 6201		Basis Medical Biochemistry
GMS 6605		Basic Medical Anatomy
GMS 6505		Basics Medical Pharmacology
GMS 6183		Clinical Research Methods
GMS 6440		Basic Medical Physiology

Additional Requirements:**General Track**

*Submission of e-Portfolio to complete the major is required in this course:

PHA 6533 3 Graduate Program Seminar in Pharmacy

Internship Track

Students will experience hands-on training in specified area of discipline or project as approved by major advisor. They will be required to submit an evaluation of Satisfactory or greater from their project advisor to complete the Major in the final Internship in Pharmacy course:

PHA 7001 6 Graduate Program Internship in Pharmacy

Thesis Track

Submission of a written thesis on a specific project based on experimental data for approval is required to complete the major in the last Thesis course.

PHA 6971 8 Thesis

Comprehensive Exam

For students in the thesis track, the thesis defense will be used in lieu of a comprehensive exam. For non-thesis students, the successful completion of the portfolio will be used in lieu of a comprehensive exam.

Possible Sequence**Fall – total 12 credit hours**

PHA 6146 - Intro to Nanotechnology 3 Cr

PHA 6797 - Scientific Writing and Communication 1 Cr

PHA 6277- Ethics in Pharmaceutical Practice and Research 1 Cr

Approved Electives 7 Cr

Spring – total 12 credit hours

PHA 6119 – Micro-/Nano Drug Delivery Systems 3 Cr

PHA 6118 – Nanomaterials, BioMEMs and Nanodevices in Medicine 3 Cr

PHA 6147 - Nanotechnology and Risk Management 3 Cr

Approved Electives 3 Cr

Summer – total 8 credit hours

PHA 6148 - Nanoformulations and Nanopharmaceutics 3 Cr

Approved Electives 5 Cr

COURSES

See <http://www.ugs.usf.edu/course-inventory/>

PHARMACY

Doctor of Pharmacy (PharmD) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines

Fall	Early Decision: September 6 Regular Decision: February 1
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Minimum Total Hours:	151 hours
Level	Doctoral / Professional
CIP Code	51.2001
Dept Code	PHA
Major/College Codes	Rx / PRY
Approved	Effective Fall 2016

CONTACT INFORMATION

College	College of Pharmacy
Department	Department of Pharmacy

Contact information
www.health.usf.edu/pharmacy

Concentration:

Pharmacy and Health Education (RXHE)

Major Information

The USF COP curriculum is very similar to that offered by other schools and colleges across the state of Florida and country. This is purposeful as there are standards that must be upheld by all pharmacy programs must to remain in accordance with national accreditation, financial aid and state regulatory requirements. The USF COP Mission, Vision and Goals serve to guide curricular content as well as other COP endeavors. The integration of technology, student engagement in the educational process, and interprofessional activities serve as the foundation for each course. The faculty will utilize a variety of instructional methods to foster student attainment course objectives.

All students will be enrolled on a full-time basis. Several courses may be taught predominantly on-line, however the majority of courses will include classroom contact. Lectures will be limited so that peer and faculty interactions can be maximized. For many courses students may be required to listen to lectures on-line, or complete activities and/or assignments in preparation for class. The emphasis of the USF COP is the comprehension and assimilation of knowledge, with subsequent demonstration of competency (skills and abilities).

Accreditation

Accredited by the Accreditation Council for Pharmacy Education (ACPE).

Major Research Areas

<http://health.usf.edu/pharmacy/research/index.htm>

Admission Information

All applications undergo a holistic review process whereby careful consideration is given to all the credentials presented by applicants. By utilizing this process, applicants' academic record along with experiences and attributes are assessed for potential academic and clinical success.

- US Citizen or US Permanent Resident
- ≥ 2.75 Overall GPA (preferred).
- Completion of at least 72 prerequisite coursework
- PCAT is required. While 65th percentile composite PCAT score is preferred, we will consider applicants with lower scores that may have other strong academic indicators providing evidence of success. PCAT scores older than 3 years will NOT be accepted.

Curriculum Requirements:

Minimum Total Hours:	151 credit hours
Common Core Requirement:	135 hours
Concentration (Optional):	11 hours
Required Electives:	16-18 hours

Four year (9 term) major including 1 summer term

Common Core Requirements - Curriculum (Didactic and Experiential) – 135 hours

PHA 6114C	3	Drug Delivery Systems I (with lab)
PHA 6115C	3	Drug Delivery Systems II (with lab)
PHA 6124	3	Principles of Pharmacokinetics / Pharmacodynamics I
PHA 6129	3	Clinical Pharmacokinetics / Pharmacodynamics II
PHA 6130C	3	Translational Pharmacogenomics
PHA 6233C	3	Jurisprudence
PHA 6243	2	Medical Informatics & Technology
PHA 6261	3	Healthcare Administration & Economics
PHA 6270	2	HealthCare & Medication Safety
PHA 6451	3	Clinical Biochemistry
PHA 6562	4	Physiologic Basis of Disease
PHA 6575	2	Introduction to Principles of Drug Action
PHA 6577	5	Biochemical & Molecular Principles of Drug Action
PHA 6618C	2	Principles of Geriatric Pharmacotherapy
PHA 6740	2	Grant Writing & Clinical Research
PHA 6755	3	Medical Microbiology & Immunology
PHA 6760	3	Non-Prescription & Herbal Therapies
PHA 6782C	5	Pharmacotherapeutics I
PHA 6783C	5	Pharmacotherapeutics II
PHA 6784C	5	Pharmacotherapeutics III
PHA 6787C	5	Pharmacotherapeutics IV
PHA 6792C	2	Drug Information / Literature Evaluation
PHA 6795	3	Research Methods & Biostatistics
PHA 6804C	2	Pharmaceutical Calculations
PHA 6870C	2	Pharmaceutical Skills I
PHA 6871C	3	Pharmaceutical Skills II
PHA 6872C	3	Pharmaceutical Skills III
PHA 6873C	3	Pharmaceutical Skills IV
PHA 6874C	4	Pharmaceutical Skills V
PHA 6875C	4	Pharmaceutical Skills VI
PHA 6898	3	Foundations in Public Health
PHA 6940	1	Introductory Pharmacy Practice Experience I (IPPE)
PHA 6945	1	IPPE II– Community / Retail
PHA 6946	1	IPPE III – Community / Retail
PHA 6947	1	IPPE IV - Institutional Practice
PHA 6948	1	IPPE V - Institutional Practice
PHA 7626	6	APPE Advanced Institutional (Health Systems)
PHA 7627	6	APPE Advanced Community
PHA 7644	6	APPE Geriatrics
PHA 7692	6	APPE Ambulatory Care
PHA 7694	6	APPE Adult Medicine
PHA 7928C	2	Professional Forum

Concentration Option

The Pharmacy and Health Education Concentration provides students with a background in teaching and learning theory and the skill sets necessary to provide Pharmacy and Health Education in various formats (e.g., continuing education, precepting, in-services). The Concentration also provides the opportunity to become engaged in the scholarship of teaching and learning. Students interested in pursuing the Concentration must formally notify the Concentration Coordinator by the end of their PY2 year.

Upon completion of the Pharmacy and Health Education Concentration coursework, a student will be able to:

1. Articulate the role of life-long learning in the Pharmacy Profession and utilize self-reflection to identify areas of need.
2. Describe career paths in health education and corresponding roles and responsibilities.
3. Employ effective teaching and assessment methods to provide appropriate education to various population (e.g., peers, other health professionals, and the general public).
4. Create effective learning environments, teaching tools and assessments based-upon evidence-based learning theory and cognitive practice.

Pharmacy and Health Education Concentration (RXHE) – 11 credit hours

HSC 6261	2	Teaching Essentials
HSC 6261L	1	Advanced Teaching Essentials Experience
PHA 7684	6	Elective 1 Pharmacy Practice Experience: Academia

And one of the following:

PHA 6877C	2	Critical Care Pharmacotherapy
PHA 6780C	2	Advanced Topics in Oncology Pharmacy Practice
PHA 6916*	3	Directed Independent Research

**Please contact Concentration Coordinator to ensure courses or project topics align with concentration for credit.*

Students may enroll in HSC 6261 and HSC 6261L courses in their PY2 or PY3 year and may take this course on-top of another elective if desired. Due to the enhanced workload and rigors of the course, students must meet eligibility requirements in addition to completion of the application. Eligibility requirements are as follows:

1. PY2 or PY3 standing
2. GPA \geq 3.00
3. Two (2) course coordinators or (1) coordinator and a Student Success Coach document support of the students endeavor via completion of a standardized form

The concentration will be noted on the USF official transcript. No other documentation or certificate will be provided by the College of Pharmacy. Additional details pertaining to the Concentration Track can be found at <http://health.usf.edu/pharmacy/>.

Electives – 16-18 hours minimum

Students complete 16-18 hours of electives minimum from the list below. Students in the Concentration complete the concentration requirements in lieu of 11 hours of the electives, and then complete additional electives from the list noted with (*) below.

PHA 6780C*	2	Oncology Pharmacy Practice
PHA 6877C*	2	Critical Care Pharmacotherapy
PHA 6916*	TBD	Directed Independent Research
PHA 7684*	12	APPE Elective X 2
PHA 6177	2	Advanced Compounding and Industrial Pharmacy
PHA 6185	2	Drug Discovery and Frontier
PHA 6221	2	Pharmacists Role In Transitions of Care
PHA 6223C	2	Pharmacy Leadership
PHA 6224	2	Pharmaceutical Debates On Recent Issues Affecting the Profession
PHA 6352	2	Herbal Medicines and Alternative Therapy
PHA 6428C	2	Advanced Topics In Metabolic Syndrome Treatment
PHA 6531	2	Basic Principles of Toxicology
PHA 6592C	2	Advanced Cardiology Pharmacotherapy
PHA 6598	2	Current Perspectives in Mental Health
PHA 6602	2	Pediatric Pharmacotherapy
PHA 6615C	2	Ambulatory Care Pharmacy Practice Elective

PHA 6628	2	Introduction to Post Graduate Residency Training
PHA 6730C	2	Drugs of Abuse, Addiction, and Law Enforcement
PHA 6771C	2	Clinical Nutrition In Pharmacy Practice
PHA 6786	3	Travel Medicine
PHA 6907	TBD	Directed Independent Study

COURSE SEQUENCES / SCHEDULE

Go to <http://health.usf.edu/pharmacy/curriculum> for course sequence/schedule information

Internship***Introductory Pharmacy Practice Experiences (IPPE)***

The IPPE sequence begins during the second semester of the first year of the curriculum, and focuses on public health principles. Students will participate in local community health centers and other clinics that treat underserved populations (60 contact hours).

The second year IPPE encompasses activities within community pharmacy practice sites across the Tampa Bay region (retail, independent, supermarket, etc.). Students will participate in a minimum of 60 contact hours per semester, 120 hours for the academic year.

The third year IPPE encompasses activities within institutional pharmacy practice sites across the Tampa Bay region (hospitals, long-term care facilities, etc.). Students will participate in a minimum of 60 contact hours per semester, 120 hours for the academic year.

Advanced Pharmacy Practice Experiences (APPE)

The fourth professional year APPE begins the summer semester immediately following the conclusion of the third professional year. The APPE are comprised of seven six-week rotations, encompassing a minimum of 1600 hours of clinical instruction. The APPE will primarily occur within practice environments throughout the state of Florida. Students are able to pursue rotations beyond the state of Florida if the site and preceptor are deemed acceptable, and arrangements can be coordinated to align with the academic calendar.

Graduation Requirements

- A minimum cumulative grade point average (CGPA) of 2.50
- Successful completion of the following within 7 years from the original date of admission:
 - All Didactic (GPA 2.00 or higher)
 - Attend all MPJE and NAPLEX reviews
 - All Experiential Education (GPA 2.00 or higher)
 - Professionalism (proficiency in professionalism, clinical skills, effective judgment and decision making)
- Timely Submission of the application for graduation
 - Graduate application fee due at time of submission