Purdue University
College of Pharmacy

2012–2013
Undergraduate Academic Catalog

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The 2012-13 Undergraduate Academic Catalogs provide users with information about degree programs offered at the Purdue University West Lafayette campus.

In Fall Semester 2011-12, students were enrolled in 269 undergraduate majors in 10 overarching academic colleges and schools. Some of those students were at the same time taking graduate-level classes and/or pursuing professional degrees.

The information contained in these catalogs is subject to change as a result of action by federal and/or state governments, the trustees of Purdue University and the administration of Purdue University. Questions about the detailed content should be directed to the appropriate University college/school, department or office.

Nondiscrimination Policy Statement

www.purdue.edu/purdue/ea_eou_statement.html

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

Purdue University views, evaluates, and treats all persons in any University related activity or circumstance in which they may be involved, solely as individuals on the basis of their own personal abilities, qualifications, and other relevant characteristics.

Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran. The University will conduct its programs, services and activities consistent with applicable federal, state and local laws, regulations and orders and in conformance with the procedures and limitations as set forth in Purdue's Equal Opportunity, Equal Access and Affirmative Action policy which provides specific contractual rights and remedies. Additionally, the University promotes the full realization of equal employment opportunity for women, minorities, persons with disabilities and veterans through its affirmative action program.

Any question of interpretation regarding this Nondiscrimination Policy Statement shall be referred to the Vice President for Ethics and Compliance (www.purdue.edu/ethics) for final determination.

College of Pharmacy

About the College of Pharmacy

The Purdue University College of Pharmacy was established in 1884 in response to a demand for a theoretical education and practical training in pharmacy and related subjects. It was renamed the College of Pharmacy, from School of Pharmacy and Pharmaceutical Sciences, in 2010. This college has served the people of Indiana for more than a century, standing always in the front ranks of institutions preparing men and women for the profession.

More than 8,000 students have graduated from the college and are pursuing the professions of pharmacy, medicine, teaching and science. Among its graduates are many of the nation's prominent pharmacists, pharmaceutical scientists and leaders in pharmacy education.

The College of Pharmacy offers two entry-level degrees: the Doctor of Pharmacy and the Bachelor of Science in the Pharmaceutical Sciences. The Doctor of Pharmacy program qualifies the graduate for licensure examination. The four-year Bachelor of Science program, with a major in the pharmaceutical sciences, provides students with a specialized background to pursue graduate study, a professional degree in medicine or to directly enter a technical career in the pharmaceutical industry.

The Pharm.D. program requires completion of a minimum of two years of preprofessional study before admission to the professional program. Four additional years of professional study are required to complete the Pharm.D. degree.

Majors and minors for the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) are offered in the College of Pharmacy under the direction of the Graduate School of the University. Each of the undergraduate degrees opens the way to many advanced fields of study. Qualified graduates find ready acceptance into graduate programs in the pharmaceutical sciences and other disciplines, leading to opportunities to discover or create new drugs, determine how they act, measure their potency and effectiveness, and evaluate professional use and economic impact in the health care system.

Accreditation and Recognition

The Doctor of Pharmacy program of the Purdue University College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education, 135 S. LaSalle St., Suite 4100, Chicago, IL 60603-4810; 312- 664-3575, 800-533-3606; fax, 312-664-4652. The college holds membership in the American Association of Colleges of Pharmacy. It is registered with the New York Department of Education, and its diploma is recognized by all of the states. It also is recognized by the Accreditation Council for Pharmacy Education as an approved provider of continuing professional education.

Mission and Vision

The following statements of vision and mission have been adopted by the faculty of the College of Pharmacy.

The mission of the Purdue University College of Pharmacy is to 1) Educate and train students to become leading pharmacists and scientists, 2) Advance scientific discovery and development, and 3) Maximize global health outcomes through patient care and public service.

The college will accomplish this mission through learning, discovery and engagement by:

- Attracting and retaining talented and diverse faculty, staff and students;
- Delivering a contemporary and innovative professional curriculum that empowers students to advance pharmacy's contribution to health care and to provide excellent patient care;
- Generating, integrating and applying knowledge across disciplines to advance discovery, learning and engagement in pharmacy and pharmaceutical sciences;
- Producing world-class scientists for academia and industry; and
- Establishing new synergies: partnerships, collaborations and strategic alliances at the local, regional, national and global levels.

The vision for the Purdue University College of Pharmacy is to transform the practice and science of pharmacy to lead advances in human health. Indicators that the vision is being achieved include:

- The number of discovery-based initiatives with clinical, scientific and/or economic impact has increased;
- Our faculty, staff, students and alumni are engaged across colleges, health care systems, industrial partners and professional associations to address health care needs;
- Faculty, staff, students and alumni pursue and achieve positions of leadership that impact education, research, policy and delivery of care related to human health;
- The education of students incorporates knowledge of cultural differences in health care delivery and effectiveness; and
- We are providing access for a diverse student population that fosters a culture of inclusiveness and success.

Profession of Pharmacy

Pharmacists work closely with the physician, other health professionals and the patient to help assure appropriate use of an ever-increasing spectrum of effective medications. A particular emphasis is educating and motivating patients with respect to the management of their drug therapy as related to their particular medical condition. Overall, the pharmacist is expected to provide pharmaceutical care that helps ensure that drug therapy is appropriate, safe, effective for the condition being treated and cost effective.

During the coming years, the trend toward the pharmacist being a provider of a wide range of pharmacy services will continue to be enhanced, especially in view of rapid advances in biotechnology and the use of technology. The pharmacist uses available patient data, information sources, monitoring processes and interpretive skills toward achieving the goals of optimal use and optimal outcomes from patients' medications.

The pharmacy profession provides opportunities for pharmacists in hospital pharmacy, community pharmacy (chain or independently owned), home health care, long-term care (e.g., nursing homes), nuclear pharmacy, pharmaceutical industry (including areas of research, drug development, clinical trials, quality control, production, marketing and regulatory affairs) and specialty clinical practice areas (e.g., cardiology, cancer chemotherapy, nutritional support, drug information, pharmacokinetics, geriatrics, pediatrics and others).

The professional curriculum leading to the Doctor of Pharmacy (Pharm.D.) provides the educational background to allow students to enter any of the practice areas of pharmacy. The curriculum also prepares a student to enter advanced study leading to the M.S. or Ph.D. degree in one of the pharmaceutical sciences (e.g., clinical pharmacy, medicinal chemistry, pharmacognosy, pharmacology, toxicology, physical pharmacy, industrial pharmacy, pharmacokinetics or pharmacy administration), and post-graduate residency programs in general or specialty practice areas.

Academic Honesty

Within a professional school, such as the College of Pharmacy, demonstrated academic honesty under the pressures of a rigorous program must be considered one of the foundations of personal and professional character. Pharmacists are called upon regularly to exercise competent judgment based on intellectual abilities and honesty. The pharmacist's license confers that responsibility, and our school — in certifying graduates for licensure examination — attests to that competency and honesty. For this reason, it is important for students in the school to maintain scrupulous honesty in all academic matters.

Requirements for Entry into the Profession of Pharmacy

Education

To become a licensed pharmacist, it is necessary to meet certain requirements of education and experience. Graduation from an accredited school of pharmacy is required in all states.

Experience

Practical experience in a pharmacy, before licensure as a pharmacist, is required by all states. Indiana — and most other states — requires that a person be registered or certified as an intern or extern by the Board of Pharmacy in the state where the practical experience is served, at the time the experience is served. Indiana law requires that a candidate for registration as an intern: 1) be a high school graduate and 2) be enrolled in a pharmacy curriculum at an accredited school or college of pharmacy. In Indiana, experience hours can be served in one of two ways, as follows.

First, the internship experience can be served in a pharmacy of the student's choice on an employment basis, for which the student is compensated. These hours will be accepted only if they are served during periods of vacation from school, not evenings or weekends during the semester. If this method is used, the candidate for licensure must serve a total of 1,040 hours of pharmacy experience, at least 520 hours of which must be served after graduation from an accredited school or college of pharmacy.

The second method for serving practical experience requires that a student successfully complete a structured program (of no fewer than 520 hours) during the pharmacy school curriculum. Clerkship differs from internship in several significant ways: 1) clerkship is served while enrolled in a school of pharmacy and is supervised by the school; 2) clerkship does not create an employer/employee relationship so that the student need not be compensated (ACPE accreditation standards do not allow the students to be compensated); and 3) academic credit is granted for program completion as well as practical experience credit established with the Board of Pharmacy.

The school-supervised clerkship program became a requirement for graduation from the Purdue College of Pharmacy beginning with the class of 1975. Today, pharmacy students participate in both Introductory Pharmacy Practice Experiences (IPPE), during the first three years of the professional program, and Advanced Pharmacy Practice Experiences (APPE), during the final calendar year of the professional program. These experiences are of suitable intensity, breadth and duration to support achievement of many of the college's stated outcome ability goals. Many of the outcome ability goals not addressed in some of the didactic courses during the first three professional years are stressed and assessed during these experiences.

The Introductory Pharmacy Practice Experiences program at Purdue University was developed in response to the accreditation standards set forth by the Accreditation Council for Pharmacy Education (ACPE) to provide early experiential learning opportunities for pharmacy students throughout the curriculum. Students explore the concept of professionalism, develop practice skills, explore a variety of career opportunities and

gain hands-on experience with patients in the delivery of holistic pharmaceutical care. Multiple opportunities for reflection and group discussion are provided throughout the IPPE program.

The advanced pharmacy practice experiences are satisfied during the final calendar year of the Pharm.D. program when the student completes a series of required and elective clerkships over a 40-week period (1,600 hours). These experiences are designed to allow students to apply what they have learned in the didactic curriculum to the patient-care setting and to practice those skills necessary for making the transition into professional practice.

All students complete required institutional pharmacy-based clerkships, community pharmacy-based clerkships, inpatient direct-patient care clerkships, ambulatory patient care clerkships plus a series of elective clerkships in a variety of settings. Each of the clerkship experiences is supervised by one of the college's faculty or a licensed professional selected by the Office of Experiential Learning.

The final year of the professional program has been approved by the Indiana Board of Pharmacy to satisfy the entire licensure requirement for practical experience in Indiana.

Because changes in state requirements for licensure can occur at any time, it is prudent for the candidate to check with the Indiana Board of Pharmacy (www.in.gov/pla/pharmacy.htm) or the Office of Experiential Learning (www.phpr.purdue.edu/experiential/) in the College of Pharmacy for the requirements that apply.

Other states' requirements vary greatly, however, with many states requiring 1,500 to 2,000 hours (one full year) of experience. States' boards of pharmacy generally will accept the Purdue clerkship and apply those hours toward partial satisfaction of their experience requirements; some will accept the clerkship as satisfying the entire requirement. Students who desire licensure as pharmacists in states other than Indiana are urged to investigate the requirements for such licensure early in their pharmacy school careers.

Licensure

After graduation from a school or college of pharmacy and after completing the state-required practical experience requirements, a graduate must successfully complete a licensing examination given by the state licensing board, usually the state's board of pharmacy. The license granted by a state entitles the pharmacist to practice pharmacy in that state only. A pharmacist may simultaneously hold licenses to practice in as many states as desired. License to practice pharmacy may be gained in other states by transfer from one state of licensure to another state by making application to the state and meeting its requirements. The requirements vary from state to state but commonly include successful completion of an examination in that state's pharmacy law. The transfer does not cancel the original license.

A few states will not accept transfer within the first year of licensure in another state. In Indiana, the pharmacist's license must be renewed on a biennial basis. To be eligible for license renewal in Indiana, a pharmacist must earn no fewer than 30 hours of acceptable continuing professional education credit during that biennium.

A pharmacist's license to practice is a privilege and is subject to discipline by the state board of pharmacy for cause. Causes for discipline are clearly spelled out in Indiana statutes. Sanctions that the board of pharmacy may impose include reprimand, censure, probation (with conditions), suspension (with loss of the privilege with no right to practice for a period of time) and, in the most egregious cases, revocation (permanent loss of license with no right to reapply for a new license for a period of seven years). The board of pharmacy has broad discretionary powers in disciplinary matters.

Abbreviations

Some of the following abbreviations of subject fields are used in the Plans of Study section of this catalog. Alphabetization is according to abbreviation.

AAE — Aeronautical and Astronautical Engineering
AAS — African American Studies
ABE — Agricultural and Biological Engineering
AD — Art and Design
AFT — Aerospace Studies
AGEC — Agricultural Economics
AGR — Agriculture
AGRY — Agronomy
AMST — American Studies
ANSC — Animal Sciences
ANTH — Anthropology
ARAB — Arabic
ASAM — Asian American Studies
ASL — American Sign Language
ASM — Agricultural Systems Management
ASTR — Astronomy
AT — Aviation Technology
BAND — Bands
BCHM — Biochemistry
BCM — Building Construction Management Technology
BGR — Boiler Gold Rush
BIOL — Biological Sciences
BME — Biomedical Engineering
BMS — Basic Medical Sciences
BTNY — Botany and Plant Pathology
CDFS — Child Development and Family Studies
CE — Civil Engineering
CEM — Construction Engineering and Management
CFS — Consumer and Family Sciences
CGT — Computer Graphics Technology
CHE — Chemical Engineering
CHM — Chemistry
CLCS — Classics
CLPH — Clinical Pharmacy
CMPL — Comparative Literature
CNIT — Computer and Information Technology
COM — Communication
CPB — Comparative Pathobiology
CS — Computer Sciences

CSR — Consumer Sciences and Retailing
DANC — Dance
EAS — Earth and Atmospheric Sciences
ECE — Electrical and Computer Engineering
ECET — Electrical and Computer Engineering Technology
ECON — Economics
EDCI — Education-Curriculum and Instruction
EDFA — Education-Foundations and Administration
EDPS — Educational and Psychological Studies
EDST — Educational Leadership and Cultural Foundations
EEE — Environmental and Ecological Engineering
ENE — Engineering Education
ENGL — English
ENGR — First-Year Engineering
ENTM — Entomology
ENTR — Entrepreneurship
EPCS — Engineering Projects in Community Service
FLL — Foreign Languages and Literatures
FN — Foods and Nutrition
FNR — Forestry and Natural Resources
FR — French
FS — Food Science
FVS — Film and Video Studies
GEOG — Geography
GEOL — Geology
GEP — Global Engineering Program
GER — German
GREK — Greek
GS — General Studies
HDFS — Human Development and Family Studies
HEBR — Hebrew
HHS — Health and Human Sciences
HIST — History
HK — Health and Kinesiology
HONR — Honors
HORT — Horticulture
HPER — Health, Physical Education and Recreation
HSCI — Health Sciences
HTM — Hospitality and Tourism Management
IDE — Interdisciplinary Engineering
IDIS — Interdisciplinary Studies
IE — Industrial Engineering
IET — Industrial Engineering Technology

IPPH — Industrial and Physical Pharmacy
IT — Industrial Technology
ITAL — Italian
JPNS — Japanese
JWST — Jewish Studies
LA — Landscape Architecture
LALS — Latina American and Latino Studies
LCME — Lafayette Center for Medical Education
LING — Linguistics
LS — Land Surveying
MA — Mathematics
MARS — Medieval and Renaissance Studies
MCMP — Medicinal Chemistry and Molecular Pharmacology
ME — Mechanical Engineering
MET — Mechanical Engineering Technology
MGMT — Management
MSL – Military Science and Leadership
MUS — Music History and Theory
NRES — Natural Resources and Environmental Science
NS — Naval Science
NUCL — Nuclear Engineering
NUPH — Nuclear Pharmacy
NUR — Nursing
NUTR — Nutrition Science
OBHR — Organizational Behavior and Human Resources
OLS — Organizational Leadership and Supervision
PES — Physical Education Skills
PHAD — Pharmacy Administration
PHIL — Philosophy
PHPR — Pharmacy Practice
PHRM — Pharmacy
PHSL — Physiology
PHYS — Physics
POL — Political Science
PPE — Professional Practice-Engineering
PPT — Professional Practice-Technology
PSY — Psychology
PTGS — Portuguese
RECR — Recreation Leadership
REL — Religious Studies
RUSS — Russian
SA — Study Abroad
SCI — General Science

SLHS — Speech, Language and Hearing Science
SOC — Sociology
SPAN — Spanish
STAR — Summer Transition, Advising and Registration
STAT — Statistics
SWRK — Social Work
TECH — Technology
THTR — Theatre
USP — Undergraduate Studies Program
VCD — Visual Communication and Design
VCS — Veterinary Clinical Sciences
VM — Veterinary Medicine
WOST — Women's Studies
YDAE — Youth Development and Agricultural Education

Plans of Study and Program Information

The following plans of study are current as of April 2012. Please check with the Office of Student Services (www.pharmacy.purdue.edu/oss/) in the College of Pharmacy for subsequent changes. In this "Plans of Study" section, figures within parentheses, e.g., (3), are credit hours, unless designated otherwise.

For additional information on courses in the College of Pharmacy, please see the following topics:

Pass/Not-Pass Grading Option

This option is available to encourage students to broaden their educational horizons. Students may pursue certain courses on this basis if they have a class standing of sophomore 3 (second-semester sophomore) or above and a graduation index of 2.0 or greater at the end of the preceding semester. Courses listed as core requirements in the pharmacy curriculum or as directed scientific electives in the Pharm.D. program may not be taken under the pass/not-pass grading system unless so designated by the faculty.

Credit toward Graduate Degrees

Students who meet the requirements of the Purdue University Graduate School and declare their intention of taking specific courses for graduate credit can, with the approval of the Graduate Council, use not more than 12 credit hours in courses numbered above 50000 for credit toward the advanced degree when such credits are in excess of the requirements for the B.S. in the Pharmaceutical Sciences or Pharm.D. degrees. Students in the professional program may apply for admission into the Pharm.D.-Ph.D. dual degree program.

Prerequisites

A student cannot enroll in a course for which he or she has not met all of the prerequisites. Requests to obtain a waiver of prerequisite(s) for a core course must first be submitted by the student to his or her academic advisor. If the advisor approves, the request is forwarded to the course instructor, the department

head of jurisdiction and then to the dean of the college. No waivers can be granted unless each of these approvals is obtained and a document testifying to this fact has been added to the student's permanent file.

Non-Pharmacy Student Enrollment in Pharmacy Core Courses

Students pursuing non-pharmacy curricula at Purdue may wish to take one or more pharmacy core courses toward fulfillment of their particular degree objectives. It may be possible to accept a limited number of non-pharmacy students in the lecture portion of specific pharmacy core courses, if seating space is available and the proper prerequisites have been fulfilled. In general, because of space and staff limitations, non-pharmacy students will not be permitted to register in laboratory portions of pharmacy core courses. Individual exceptions to this general rule can be made, but they require written approval by the course instructor, department head and senior associate dean.

Pre-Pharmacy

The Pre-Pharmacy major serves the role of a preparatory major for the Doctor of Pharmacy (professional) program at the Purdue University College of Pharmacy. For admission into the professional curriculum leading to the Doctor of Pharmacy (Pharm.D.), completion of the entire Pre-Pharmacy program is required, after which successful applicants to the Pharm.D. program continue their studies for an additional four years. The entire curriculum, including the Pre-Pharmacy portion, is highly structured, allowing time for only a modest amount of elective study.

Admission into and completion of the Pre-Pharmacy program does not guarantee admission into the Doctor of Pharmacy Program at Purdue.

For information about the Plan of Study for the pre-pharmacy program at other colleges or universities, please go to www.purdue.edu/catalogs/pharmacy/prepharmacy.html#other.

Plan of Study

Freshman Year

First Semester		**Second Semester**	
(4)	**BIOL 11000** (Fundamentals of Biology I)	(3)	**AGEC 21700** (Economics)
(5)	**CHM 10901** (General Chemistry with Biological Focus)	(4)	**BIOL 11100** (Fundamentals of Biology II)
(4)	**ENGL 10600** (First-Year Composition)	(3)	**MA 23200** (Calculus for the Life Sciences II)
(3)	**MA 23100** (Calculus for the Life Sciences I)	(4)	**MCMP 20400** (Organic Chemistry I)
(1)	**PHPR 10000** (Pharmacy Orientation I)*	(0-3)	Electives†
(17)		(14-17)	

Sophomore Year

Third Semester		Fourth Semester	
(3)	**BIOL 30100** (Human Design: Anatomy and Physiology)	(4)	**BIOL 22100** (Introduction to Microbiology)
(4)	**MCMP 20500** (Organic Chemistry II)	(3)	**BIOL 30200** (Human Design: Anatomy and Physiology)
(1)	**PHRM 20000** (Pharmacy Orientation II)*	(3)	**MCMP 20800** (Biochemistry for Pharmaceutical Sciences)
(4)	**PHYS 22000** (General Physics I)	(3)	**MCMP 42200** (Introduction to the Immune System and Applications to Immunologic and Genetic Therapies)
(3)	**STAT 30100** (Elementary Statistical Methods)	(0-4)	Electives†
(0-2)	Electives†		
(15-17)		(13-17)	

* This course is optional but strongly recommended for West Lafayette campus pre-pharmacy students.

† A list of suggested electives is available at the College of Pharmacy website (www.pharmacy.purdue.edu/academics/bsps/electives.php).

Plan of Study for the Pre-Pharmacy Program at Other Colleges or Universities

You can complete prerequisite pre-pharmacy courses at another campus. Specific pre-pharmacy courses at other partner colleges or universities with whom Purdue has an approved plan of study can be found at: www.pharmacy.purdue.edu/academics/prepharm/off-campus.

The following plan of study is specifically designed for those who expect to apply for admission to the College of Pharmacy at the Purdue University West Lafayette campus:

Pre-Pharmacy Requirements
General chemistry with laboratory (5-8 semester hours)
English composition (4-6 semester hours)
Organic chemistry with laboratory (8-10 semester hours)
General biology with laboratory (6-8 semester hours)
Differential and integral calculus (6-10 semester hours)
Physics with laboratory (4 semester hours)
Microbiology with laboratory (4 semester hours)
Anatomy and physiology with laboratory (6-10 semester hours)
General economics (3 semester hours)
Biochemistry (3-6 semester hours)
Immunology (3 semester hours)
Introductory statistics (3 semester hours)

For admission beginning in Fall 2012, the minimum number of total pre-pharmacy credits is 60 semester hours. Most students will exceed this number.

Bachelor of Science in Pharmaceutical Sciences (B.S.P.S.)

Purdue University awards a B.S. degree to students completing 120 hours in a specified four-year nonprofessional curriculum. The College of Pharmacy offers such a four-year degree program with a major in pharmaceutical sciences. Students select a specialization in either industrial and physical pharmacy or medicinal chemistry and molecular pharmacology when applying to the upper-level curriculum following the first two years.

The objective of the program is to provide the student with a strong foundation of scientific learning and an understanding of pharmacy as a context in which science is discovered and applied.

Students with this background are needed in entry-level technical positions in the pharmaceutical industry and are ideally educated to pursue graduate study in the pharmaceutical sciences. It is clear that the pharmaceutical industry, government and education will continue to need well-educated individuals with a pharmacy perspective in a broad range of areas, including research, pharmaceutical development, quality control, manufacturing, sales and marketing.

This is a nonprofessional degree that does not prepare graduates for state board licensure. This curriculum reflects what is in effect for August 2012.

Plan of Study

Freshman Year

First Semester		**Second Semester**	
(4)	**BIOL 11000** (Fundamentals of Biology I)	(4)	**BIOL 11100** (Fundamentals of Biology II)
(5)	**CHM 10901** (General Chemistry with Biological Focus)	(3)	**COM 11400** (Fundamentals of Speech Communication) or other COM course
(4)	**ENGL 10600** (First-Year Composition)	(4)	**MA 16600** (Analytic Geometry and Calculus II)
(1)	**IPPH 10000** (Pharmaceutical Sciences Orientation)*	(3)	**MA 22400** (Introductory Analysis II)† (LSAC) **or** (3) **MA 23200** (Calculus for the Life Sciences II)† (LSAC)
(4)	**MA 16500** (Analytic Geometry and Calculus I) **or** (3) **MA 22300** (Introductory Analysis I)† (LSAC) **or** (3) **MA 23100** (Calculus for the Life Sciences I)† (LSAC)	(4)	**MCMP 20400** (Organic Chemistry I)
		(0-3)	Electives‡
(17-18)		(14-18)	

Students must have a cumulative GPA of 2.50 or above and no grades lower than “C-” in core science courses to enroll in any PHRM or MCMP course listed in the second year or after.

Sophomore Year

Third Semester		**Fourth Semester**	
(3)	**BIOL 23000** (Biology of the Living Cell) **or** (3) **BIOL 23100** (Biology III: Cell Structure and Function)	(4)	**BIOL 22100** (Introduction to Microbiology)
(4)	**MA 26100** (Multivariate Calculus)† (LSAC-exempt)	(3)	**MCMP 20800** (Biochemistry for Pharmaceutical Sciences)
(4)	**MCMP 20500** (Organic Chemistry II)	(3)	**STAT 30100** (Elementary Statistical Methods)† (LSAC)
(4)	**PHYS 22000** (General Physics I)	(3)	**STAT 51100** (Statistical Methods)
(3)	Humanities/Social Science Elective	(4-6)	Electives‡
(18)		(17-19)	

Summer Semester

Research or Industrial Internship (recommended)

Junior Year

Fifth Semester		**Sixth Semester**	
(2)	**BIOL 20100** (Human Anatomy and Physiology) **or** (4) **BIOL 20300** (Human Anatomy and Physiology) **or** (3) **BIOL 30100** (Human Design: Anatomy and Physiology)	(2)	**BIOL 20200** (Human Anatomy and Physiology) **or** (4) **BIOL 20400** (Human Anatomy and Physiology) **or** (3) **BIOL 30200** (Human Design: Anatomy and Physiology)
(3)	**ENGL 42100** (Technical Writing)	(4)	**CHM 37200** (Physical Chemistry)
(3)	**PHRM 82800** (Dosage Forms I)	(2)	**PHRM 82900** (Dosage Forms II)
(2)	**PHRM 83600** (Biochemistry for Pharmaceutical Scientists II)	(3)	Humanities/Social Science Elective
(4-6)	Electives‡	(3-6)	Electives‡
(14-19)		(14-19)	

Summer Semester

Research or Industrial Internship (recommended)

Senior Year

Seventh Semester		**Eighth Semester**	
(3)	**PHRM 56000** (Drug Discovery and Development I)	(3)	**PHRM 56100** (Drug Discovery and Development II)
(3)	**PHRM 82400** (Introduction to Pathophysiology and Drug Activity)	(3)	**MCMP 54400** (Drug Classes/Mechanisms)
(6-9)	Electives‡	(6-9)	Electives‡
(12-15)		(12-15)	

** This course is optional, but recommended.*

† The Life Sciences Alternative Curriculum (LSAC) is an option for students who anticipate entering the workforce after graduation or pursuing a graduate degree in medicinal chemistry and molecular pharmacology, or a professional or medical degree program. LSAC allows for a number of substitutions/exemptions. Specifically, MA 22300/MA 23100 and 22400/23200 may be substituted for MA 16500 and 16600, and STAT 30100 may be substituted for STAT 51100. LSAC students are also exempt from taking MA 26100.

‡ A list of suggested electives is available at the College of Pharmacy website (www.pharmacy.purdue.edu/academics/bsps/electives.php).

Doctor of Pharmacy (Pharm.D.) Program

The Doctor of Pharmacy program at Purdue exists to meet a growing need for pharmacists who possess highly sophisticated expertise in rational drug therapy and to prepare pharmacists for present and future clinical practice roles involving pharmaceutical patient care. Graduates of the Doctor of Pharmacy program are prepared to 1) Apply knowledge of the pharmaceutical and biophysical sciences to problems of drug therapy; (2) Establish, maintain, evaluate and improve clinical information services regarding the safe and effective use of medicine; (3) Provide leadership in developing and expanding patient-oriented pharmacy services in a team approach to patient care; and (4) Adapt to a changing health service system.

The program prepares graduates to enter a general pharmaceutical care practice role in acute care, long-term care, ambulatory care or community pharmacy settings; to enter one of several entry positions within the pharmaceutical industry; or to enter postgraduate residency and fellowship training programs or graduate education programs. Students in this professional program pay fees in addition to those paid by other Purdue students. For additional information on fees, please see the Bursar's list of tuition and fee rates for Pharm.D. students (www.purdue.edu/dfa/pfp/index.php).

Plan of Study

First Professional Year

First Semester		**Second Semester**	
(1)	**PHRM 82000** (Professional Program Laboratory I)	(1)	**PHRM 82100** (Professional Program Laboratory II)
(1)	**PHRM 82200** (Pharmacy Skills and Patient Counseling)*	(1)	**PHRM 82200** (Pharmacy Skills and Patient Counseling)*
(3)	**PHRM 82400** (Principles Of Pathophysiology And Drug Action)	(6)	**PHRM 82500** (Integrated Pharmacotherapy I)
(4)	**PHRM 82600** (Introduction to Patient-Centered Care)	(3)	**PHRM 82700** (Public Health Pharmacy)
(3)	**PHRM 82800** (Dosage Forms I)	(2)	**PHRM 82900** (Dosage Forms II)
(1)	**PHRM 83000** (Introduction to Pharmacy Law and Ethics)	(2)	**PHRM 83100** (Health Care Systems)
(1)	**PHRM 83200** (Principles of Diagnosis Labs and Monitoring)	(0-4)	Electives†
(1)	**PHRM 83400** (Pharmaceutical Calculations)		
(2)	**PHRM 83600** (Biochemistry II for Pharmaceutical Sciences II)		
(17)		(15-19)	

Second Professional Year

Third Semester

(1)	**PHRM 84000** (Professional Program Laboratory III)
(4)	**PHRM 84200** (Community Pharmacy — IPPE)‡
(6)	**PHRM 84400** (Integrated Pharmacotherapy II)
(3)	**PHRM 84600** (Principles of Pharmacokinetics)
(3)	**PHRM 84800** (Drug Info/Literature Evaluation/Biostatistics)
(0-3)	Electives†
(17-20)	

Fourth Semester

(1)	**PHRM 84100** (Professional Program Laboratory IV)
(4)	**PHRM 84200** (Community Pharmacy IPPE)‡
(6)	**PHRM 84500** (Integrated Pharmacotherapy III)
(2)	**PHRM 84700** (Principles of Pharmacogenomics)
(2)	**PHRM 84900** (Population Health Management)
(0-4)	Electives†
(15-19)	

Third Professional Year

Fifth Semester

(1)	**PHRM 86000** (Professional Program Laboratory V)
(4)	**PHRM 86200** (Institutional Pharmacy — IPPE)‡
(6)	**PHRM 86400** (Integrated Pharmacotherapy IV)
(2)	**PHRM 86600** (Biotech/Advanced Parenteral Dosage Forms)
(3)	**PHRM 86800** (Patient Safety and Informatics)
(1)	**PHRM 87000** (Health Policy Applications)
(0-3)	Electives†
(17-20)	

Sixth Semester

(1)	**PHRM 86100** (Professional Program Laboratory VI)
(4)	**PHRM 86200** (Institutional Pharmacy — IPPE)‡
(6)	**PHRM 86500** (Integrated Pharmacotherapy V)
(1)	**PHRM 86700** (Introduction to APPE)
(2)	**PHRM 86900** (Practice Management and Marketing)
(2)	**PHRM 87100** (Pharmacy Law)
(0-4)	Electives†
(16-20)	

Fourth Professional Year

Seventh and Eighth Semesters

(4)	**PHRM 88000** (Hospital Pharmacy Operations II APPE)
(4)	**PHRM 88100** (Community Pharmacy Operations II APPE)
(8-12)	**PHRM 88500** (Inpatient APPE)
(8-12)	**PHRM 88800** (Ambulatory APPE)
(8-12)	**PHRM 88900** (Elective APPE)
(40)	

** PHRM 82200 may be taken during Semester 1 or 2 of the Professional Program.*

† Twelve credit hours of electives must be taken during the Professional Program; a maximum of six credit hours of electives may be taken pass/not pass.

‡ This course is to be scheduled during either semester (four weeks during spring or fall semester of Professional Program Years 2 and 3).

Graduate Study

College of Pharmacy, under the direction of the Graduate School of Purdue University, offers primary and related areas of graduate study and research leading to the M.S. and Ph.D. degrees in clinical pharmacy (including nuclear pharmacy), pharmacy administration, industrial and physical pharmacy, and medicinal chemistry and molecular pharmacology.

Graduate students in the College of Pharmacy can select one or more related fields of study from other University divisions of instruction, such as biology, chemistry, economics, education, engineering or physics. Each program of study is flexible and can be varied to accomplish the objectives of the individual student. The requirements for graduate study in the College of Pharmacy are available through the Graduate School. Visit www.gradschool.purdue.edu.

Graduate Assistantships and Fellowships

Assistantships may be offered to qualified students pursuing advanced degrees in the pharmaceutical sciences. The resources include teaching and research assistantships, Andrews Fellowships, Purdue Research Foundation (PRF) Research Fellowships, American Foundation for Pharmaceutical Education Fellowships and fellowships from the National Science Foundation, National Institutes of Health and the pharmaceutical industry.

The stipend for assistantships and fellowships varies; however, remission of tuition and fees will be granted for most sources of support. Appointments for assistantships and fellowships are made on an annual basis, subject to renewal. They are based on availability of funds and satisfactory progress of the student.

Teaching assistants are required to help in classroom and laboratory courses. However, because the service does not exceed 20 clock hours a week, a teaching assistant can make progress toward his or her graduate degree. For additional information, write to Robert L. Geahlen, Associate Dean for Graduate Programs and Professor of Medicinal Chemistry; College of Pharmacy; Purdue University; Hansen Life Sciences Research Building; Room 431A; 201 S. University Street; West Lafayette, IN 47907-2064.

Graduation Requirements

1. The degree of Doctor of Pharmacy (Pharm.D.) can be conferred upon a candidate enrolled in that program who has met the following requirements: satisfactorily completed the required curriculum; normally completed not less than eight semesters of resident study in an accredited school or college of pharmacy.

2. The degree of Bachelor of Science, with a major in pharmaceutical sciences, can be conferred upon a candidate enrolled in that program who has met the following requirement: satisfactorily completed the required curriculum, including the directed scientific electives, with a total of not less than 120 semester credit hours.

In addition to the specific program requirements, each candidate for graduation from a degree program at Purdue University must satisfy various University-wide graduation requirements: academic, scholastic, residence, fee payment, etc.

Purdue University Pharmacy

The College of Pharmacy operates and maintains the Purdue University Pharmacy as a laboratory to provide practical experience for students in pharmacy. It is a licensed pharmacy that serves the health needs of the entire student body. More than 40,000 prescriptions are dispensed each year, primarily as a result of prescriptions written by physicians in the Purdue University Student Health Center.

The Purdue University Pharmacy provides students opportunities — through a laboratory course — to work under the supervision of licensed pharmacists in order to develop good working habits, professional competence, self-confidence and knowledge about the various pharmaceutical preparations currently used in medical practice. Students also gain experience in counseling patients on the proper use of medication, and they get hands-on experience in the use of computers in pharmacy practice.

For more information, visit the Purdue University Pharmacy website (www.pharmacy.purdue.edu/services/universitypharmacy/).

Course Information

https://selfservice.mypurdue.purdue.edu/prod/bwckctlg.p_disp_dyn_ctlg

Faculty

www.pharmacy.purdue.edu/directory/

Contact Pharmacy

For information about undergraduate programs in the College of Pharmacy contact:

Email: keckler@purdue.edu
Phone: 765-496-7381