Doctor of Pharmacy, PharmD

Requirements

The Doctor of Pharmacy (PharmD) program provides professional education in a number of areas, including pharmaceutical technology, biopharmaceutics, medicinal socioeconomics, pharmacotherapy, patient care, clinical and hospital pharmacy, and aspects of biotechnology. Graduates of the program are qualified to take examinations required for licensure as a pharmacist.

The program requires four years of full-time pharmacy study preceded by at least two years of pre-pharmacy study in the College of Liberal Arts and Sciences at the University of Iowa or an accredited community or liberal arts college in the United States or Canada. During pre-pharmacy study, students complete the prerequisites for admission to the PharmD program (see Admission [p. 3] in this section of the catalog for a list of prerequisite coursework). If possible, students should complete all 24 s.h. of their liberal arts/UI GE CLAS Core electives before they enter the PharmD program. Courses in moral reasoning or ethics, communication, computer science, business, behavioral and social sciences, and the humanities are recommended. Courses in physical education skills, applied music, and studio art do not count toward the general education electives requirement. Students must maintain a pharmacy and cumulative grade-point average of at least 2.00.

For rules and regulations concerning academic probation, pass/nonpass, credit by examination, maximum schedule, second-grade-only option, waiver or substitution of courses, cancellation of registration, and drop date, see the Student Handbook on the PharmD Student Resources page of the College of Pharmacy website.

The College of Pharmacy provides students with high-quality professional practice experiences. Faculty and adjunct faculty serve as preceptors, providing introductory and advanced practice experience at institutions and pharmacies in Iowa, nationwide, and around the world.

Professional Curriculum

The PharmD degree requires the following coursework, including at least 10 s.h. of professional electives. In addition, students must complete all prerequisites for admission to the PharmD program, including a minimum of 16 s.h. of general education courses chosen from behavioral, social, humanistic, and business disciplines (see Admission [p. 3] in this section of the catalog). An additional 8 s.h. of general education coursework must be completed either before or after admission to the PharmD program.

First Year, Fall

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR:8130</td>
<td>Foundations of Pharmacy Practice I</td>
<td>4</td>
</tr>
<tr>
<td>PHAR:8131</td>
<td>Engagement: Professional Skills and Values</td>
<td>1</td>
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Second Professional Year, Fall

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR:8207</td>
<td>Introductory Pharmacy Practice Experiences Community (may be taken in a different semester)</td>
<td>3</td>
</tr>
<tr>
<td>PHAR:8209</td>
<td>Introductory Pharmacy Practice Experiences Hospital (may be taken in different semester)</td>
<td>3</td>
</tr>
<tr>
<td>PHAR:8250</td>
<td>Applications of Pharmacy Practice I</td>
<td>2</td>
</tr>
<tr>
<td>PHAR:8254</td>
<td>Integrated Pharmacotherapy: Endocrine</td>
<td>3</td>
</tr>
<tr>
<td>PHAR:8256</td>
<td>Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes</td>
<td>2</td>
</tr>
<tr>
<td>PHAR:8260</td>
<td>Integrated Pharmacotherapy: Cardiovascular</td>
<td>4</td>
</tr>
<tr>
<td>PHAR:8276</td>
<td>Clinical Investigation II: Advanced Methods and Literature Interpretation</td>
<td>2</td>
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</table>

First Year, Spring

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR:8133</td>
<td>Introductory Pharmacy Practice Experience Career Exploration (fall or spring)</td>
<td>1</td>
</tr>
<tr>
<td>PHAR:8140</td>
<td>Foundations of Pharmacy Practice II</td>
<td>4</td>
</tr>
<tr>
<td>PHAR:8148</td>
<td>Pharmacokinetics and Dose Optimization</td>
<td>2</td>
</tr>
<tr>
<td>PHAR:8149</td>
<td>Foundations of Pharmacology and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>PHAR:8150</td>
<td>Foundations of Health, Wellness, and Disease</td>
<td>2</td>
</tr>
<tr>
<td>PHAR:8151</td>
<td>Clinical Investigation I: Research Question, Study Design, and Methods</td>
<td>3</td>
</tr>
<tr>
<td>PHAR:8153</td>
<td>Integrated Pharmacotherapy: Dermatology and Sensory</td>
<td>2</td>
</tr>
</tbody>
</table>

Second Professional Year, Spring

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR:8207</td>
<td>Introductory Pharmacy Practice Experiences Community (may be taken in a different semester)</td>
<td>3</td>
</tr>
</tbody>
</table>
Doctor of Pharmacy, PharmD

PHAR:8209  Introductory Pharmacy Practice Experiences Hospital (may be taken in a different semester)  3

PHAR:8261  Integrated Pharmacotherapy: Neurology and Psychiatry  4

PHAR:8263  Integrated Pharmacotherapy: Infectious Diseases  4

PHAR:8265  Applications of Pharmacy Practice II  2

PHAR:8275  Advanced Health Services  2

Third Professional Year, Fall

Course #  Title                      Hours
PHAR:8301  Introductory Pharmacy Practice Experience Clinical  1
PHAR:8352  Integrated Pharmacotherapy: Musculoskeletal  4
PHAR:8370  Integrated Pharmacotherapy: Respiratory and Allergy  2
PHAR:8372  Integrated Pharmacotherapy: Gastroenterology and Nutrition  3
PHAR:8374  Applications of Pharmacy Practice III  2
PHAR:8376  Discovery IV: Presentation of Results  1

Third Professional Year, Spring

In addition to the 8 s.h. of required courses outlined in the following list, students must enroll in a minimum of an additional 4 s.h. of professional elective courses or an early advanced pharmacy practice experience.

Course #  Title                      Hours
PHAR:8132  Continuing Professional Development  1
PHAR:8353  Integrated Pharmacotherapy: Genitourinary and Reproductive  2
PHAR:8371  Integrated Pharmacotherapy: Oncology and Hematology  2
PHAR:8378  Pharmacy Law and Ethics  2
PHAR:8384  Applications of Pharmacy Practice IV  1

Third Year Spring Semester and Fourth Year: Advanced Pharmacy Practice Rotations

PharmD students must complete at least 10 s.h. of professional electives before progressing to advanced pharmacy practice experiences; see the "Professional Electives" section that follows.

During the spring semester of the third year, students may choose to complete one rotation in addition to the eight rotations required during the fourth year. During the fourth year, students must complete eight advanced pharmacy practice rotations. All students must complete the first four rotations in the following list (24 s.h.); the remaining rotations may be selected by each student.

Course #  Title                      Hours
All of these:
PHAR:9401  Ambulatory Care Rotation  6
PHAR:9404  Community Clinical Rotation  6
PHAR:9410  Hospital Pharmacy Rotation  6
PHAR:9413  Acute Care Medicine Rotation  6

Four of these (maximum of two non-patient care):
PHAR:9402  Elective Ambulatory Care Rotation  6
PHAR:9403  Elective Nuclear Pharmacy Rotation  6
PHAR:9405  Elective Hospice and Palliative Care Rotation  6
PHAR:9406  Elective: Drug Information Rotation  6
PHAR:9407  Elective Family Medicine Rotation  6
PHAR:9408  Elective Hematology/Oncology Rotation  6
PHAR:9409  Elective Home Health Care Rotation  6
PHAR:9411  Elective Long Term Care Rotation  6
PHAR:9412  Elective Managed Care Rotation  6
PHAR:9415  Elective: Pediatrics Rotation  6
PHAR:9416  Elective: Pharmacy Rotation  6
PHAR:9417  Elective Psychiatry Rotation  6
PHAR:9418  Elective Research Rotation  6
PHAR:9419  Elective: Surgery Rotation  6
PHAR:9420  Elective Pharmacy Practice Underserved Population Rotation  6
PHAR:9421  Elective Community Management Rotation  6
PHAR:9422  Elective: Compounding/Complementary Alternative Medicine Rotation  6
PHAR:9423  Elective: Critical Care Medicine Rotation  6
PHAR:9424  Elective Emergency Medicine Rotation  6
PHAR:9425  Elective Hospital Management Rotation  6
PHAR:9426  Elective Infectious Disease Rotation  6
PHAR:9427  Elective Medication Use Evaluation Rotation  6
PHAR:9428  Elective Pharmacy Industry Rotation  6
PHAR:9429  Elective: Pharmacy Regulatory Rotation  6
PHAR:9430  Elective: Professional Association Rotation  6
program requires completion of 34 s.h. beyond the bachelor's with a health informatics subprogram. The combined degree (Health Informatics Subprogram) PharmD/MS in Informatics requirements.

See the catalog to learn about curriculum and admission agencies; and colleges and universities.

state, and federal government; public health governmental insurance and managed care organizations; local, county, clinics and with health care providers; private practice; disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as the spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate admission to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the MS program before entering the spring semester of their first year in the pharmacy program.

Health informatics coursework must be taken following the first professional pharmacy year. Therefore, PharmD graduation will be delayed by one year. For information about the Master of Science degree, see the MS in informatics (Graduate College) in the catalog.

Professional Electives
PharmD students must complete at least 10 s.h. of professional electives in College of Pharmacy courses (prefix PHAR) numbered 8501-8799. See Courses in this section of the catalog.

Combined Programs
PharmD/MPH
The College of Pharmacy and the College of Public Health offer the combined Doctor of Pharmacy/Master of Public Health program. The combined program requires 42 s.h. of graduate credit in addition to the requirements of the PharmD degree. Students who complete the program are granted both degrees.

The PharmD/MPH program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as the spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate admission to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

See the Master of Public Health, MPH (College of Public Health) in the catalog to learn about curriculum and admission requirements.

PharmD/MS in Informatics (Health Informatics Subprogram)
The College of Pharmacy and the Graduate College offer the combined Doctor of Pharmacy/Master of Science in informatics with a health informatics subprogram. The combined degree program requires completion of 34 s.h. beyond the bachelor's degree. Students who complete the program are granted both degrees.

The PharmD/MS program assists students in developing special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, as well as other competencies. Graduates will be prepared for employment in industry or academic institutions with skills to address pharmacotherapy issues as well as information technology management.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the MS program before entering the spring semester of their first year in the pharmacy program.

Health informatics coursework must be taken following the first professional pharmacy year. Therefore, PharmD graduation will be delayed by one year. For information about the Master of Science degree, see the MS in informatics (Graduate College) in the catalog.

Admission
Individuals apply to the PharmD program using PharmCAS, the American Association of Colleges of Pharmacy application service. See Doctor of Pharmacy on the College of Pharmacy website for more information.

By selecting the University of Iowa College of Pharmacy, students choose to be part of the legacy of leaders for which the College of Pharmacy has become well known. Iowa pharmacy shapes pharmacy practice nationally and internationally with evidence-based practice models and collaborative pharmacy care innovations.

As aspiring Doctor of Pharmacy students, the first two years are spent completing general education and prerequisite courses to prepare candidates for the PharmD degree. Prior to completing the required courses, students apply to the PharmD program.

Applicants must complete the college-level work listed in the following section, "Prerequisites for Admission." They also must have an overall cumulative grade-point average of at least 2.50 and must submit two letters of recommendation and a personal statement. Applicants considered for admission must have a personal interview; the college contacts applicants to arrange interview appointments.

Fulfillment of the admission requirements does not ensure admission to the College of Pharmacy. The admissions committee considers applicants who meet these requirements and selects individuals who, in their judgment, are the best qualified for the study and practice of pharmacy.

Applicants who are accepted for admission are required to submit to a criminal background check and pay an admission acceptance fee. The fee is applied to tuition for the student’s first semester of enrollment in the college. The deposit is not refunded to applicants who do not enroll in the College of Pharmacy.

Entering health sciences students are required to have an annual tuberculin skin test (TST) and proof of immunization against mumps, measles, and rubella (two MMRs), tetanus, diphtheria, and varicella before classes begin. The usual regimen of three doses of the Hepatitis B vaccine and a
Hepatitis B titer must be completed by the second semester of the first year. All students are required to have hospitalization and health insurance.

**Prerequisites for Admission**

Applicants to the PharmD program must have completed the following college-level work with a C-minus or higher.

<table>
<thead>
<tr>
<th>Course #</th>
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</thead>
<tbody>
<tr>
<td>RHET:1030</td>
<td>Rhetoric</td>
<td>4-5</td>
</tr>
<tr>
<td>BMB:3110</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIOL:1411</td>
<td>Foundations of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL:1412</td>
<td>Diversity of Form and Function</td>
<td>4</td>
</tr>
<tr>
<td>CHEM:1110</td>
<td>Principles of Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM:1120</td>
<td>Principles of Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>ACB:3110</td>
<td>Principles of Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>HHP:3500</td>
<td>Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>MATH:1460</td>
<td>Calculus for the Biological Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MICR:3164</td>
<td>Microbiology and Human Health</td>
<td>4</td>
</tr>
<tr>
<td>CHEM:2210</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM:2220</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS:1400</td>
<td>Basic Physics</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**Liberal Arts/UI GE CLAS Core Electives**

At least 16 s.h., 6 s.h. of which must be in the social sciences. Courses in moral reasoning or ethics, communications, computer science, business, behavioral, humanities, and social sciences are accepted. Courses in physical education skills, applied music, and studio art are not.

An additional 8 s.h. of liberal arts/UI GE CLAS Core electives must be completed either before or after admissions to the PharmD program.

**Financial Support**

Each year the College of Pharmacy awards scholarships to student pharmacists through a variety of awards. In 2023, the college awarded over $1.2 million to help cover the cost of education. Around half of the student body receives a scholarship, with 270 scholarships given out in 2023.

For more information, visit Scholarship Opportunities on the College of Pharmacy website.

**Career Advancement**

College of Pharmacy graduates enjoy a high placement rate in jobs, pharmacy residencies, or additional educational programs. Graduates commonly choose to practice in a community pharmacy or a hospital setting, but many also hold positions in government, home health care, consulting, clinical pharmacy, managed care facilities, higher education, the pharmaceutical industry, private businesses, and more.