Pharmacists help patients with almost anything related to the use of medications. Pharmacists are one of the most accessible members of the healthcare team. Pharmacists are a key member in the medication distribution process to ensure patients receive medications safely. They advise patients, as well as physicians and other health practitioners, on the selection, dosages, interactions, and side effects of medications. Pharmacists monitor the health and progress of patients to ensure the medications are working safely and effectively. Many pharmacists work in a community setting, such as a drugstore, or in a health care facility, such as a hospital.

Some pharmacists specialize in specific drug therapy areas, such as oncology, nuclear pharmacy, nutrition support, geriatrics, pediatrics and psychiatric pharmacy. Some conduct research for pharmaceutical manufacturers, developing new drugs and therapies and testing their effects on people. Others work in marketing or sales, providing expertise to clients on a medication’s use, effectiveness, and possible side effects. Some pharmacists work for health insurance companies, developing pharmacy benefit packages and carrying out cost-benefit analyses on certain drugs. Other pharmacists work for the government, managed care organizations, public health care services, or the armed services. Finally, some pharmacists are employed as college faculty, teaching classes and performing research in a wide range of areas. (Some content taken from the Occupational Outlook Handbook)

Students attend a four year professional pharmacy program after completing two or more years of undergraduate pre-pharmacy coursework. The University of Iowa offers a Doctor of Pharmacy (Pharm.D.) degree, which is fully accredited by the Accreditation Council for Pharmacy Education (ACPE). Some graduates may further their education by applying to pharmacy residency programs.

**Sample Pre-Pharmacy Four-Year Academic Plans**

**Plan A: Starting with General Chemistry and Pre-Calculus**

**Year 1**
- RHET:1030 Rhetoric
- CHEM:1070 General Chemistry I
- MATH: based on UI math placement
- General Education Elective

**Year 2:**
- CHEM:1120 Princ. of Chemistry II
- BIOL:1411 Found. of Biology
- ECON:1100 Microeconomics
- General Education Elective

**Year 3:**
- CHEM:2220 Org. Chem II
- ACB:3110 Human Anatomy
- BIOC:3110 Biochemistry
- General Education Elective

**CHEM:1110 Princ. of Chemistry I**
- MATH:1460 Calculus for Bio. Sciences
- General Education Elective
- General Education Elective

- Take PCAT in July or Sept.
- Apply to Pharmacy Schools

**Year 3:**
- CHEM:2210 Org. Chemistry I
- BIOL:1412 Div. of Form & Function
- ECON:1100 Microeconomics
- General Education Elective

**HHP:3500 Human Physiology**
- MICR:3164 Microbiology
- PHYS:1400 Basic Physics*
- General Education Elective
Plan B: Starting with Principles of Chemistry I and Calculus

**Year 1:**
- RHET:1030 Rhetoric
- CHEM:1110 Princ. of Chemistry I
- MATH: based on UI math placement
- General Education Elective **

**Summer:**
- CHEM:1120 Princ. of Chem II
- BIOL:1411 Found. of Biology
- Statistics (any except STAT:1010)
- General Education Elective

**Year 2:**
- CHEM:2210 Organic Chemistry I
- ACB:3110 Human Anatomy
- BIOL:1412 Diversity Form & Funct.
- ECON:1100 Microeconomics

**CHEM:2220 Organic Chemistry II**
- HHP:3500 Human Physiology
- MICR:3164 Microbiology
- General Education Elective

**General Education Elective in July or Sept.**

**Apply to Pharmacy Schools**

- BIOC:3110 Biochemistry
- Take PCAT
- Take PCAT
- Apply to Pharmacy Schools

**UI College of Pharmacy Admissions Profile 2020**

- Approximately 98 students matriculated
- Cumulative GPA: 3.43
- PCAT Composite: 62%
- 63% had a Bachelor’s Degree or higher

**The Application Process**

Students should begin researching schools early in their academic careers as programs have different admission requirements. Students can apply to over 100 pharmacy schools, including the UI College of Pharmacy, by completing their initial application through the web-based Pharmacy College Application Service (PharmCAS) at pharmcas.org. Programs not participating in PharmCAS accept applications directly to their schools. Schools using PharmCAS may or may not require a supplemental application; check with each program. PharmCAS also has in-depth information about preparing to apply, a list of pharmacy schools, and important deadlines.

UI Pharmacy applicants must have a minimum of 12 General Education credits to apply, although completion of 20 General Education credits is recommended prior to the first pharmacy year. For UI admission in Fall 2020, applications are accepted between mid-July 2020 through January 4, 2021.

Each applicant must complete the PharmCAS application which includes letters of reference and transcripts. A supplemental application and fee is also required for Iowa; this may be found at [www.pharmacy.uiowa.edu/pharmd-admissions/application-procedures](http://www.pharmacy.uiowa.edu/pharmd-admissions/application-procedures). Applicants must also meet UI’s technical standards.

**Assured Admissions**

UI does offer an assured admissions program for high school candidates. Students need to apply by January 31 with the class being selected by March 1. To learn more, visit [https://pharmacy.uiowa.edu/prospective-students/doctor-pharmacy/admissions-pharmd](https://pharmacy.uiowa.edu/prospective-students/doctor-pharmacy/admissions-pharmd).
Diversity in the Pharmacy Profession
Many pharmacy schools, including the UI College of Pharmacy, seek a diverse class of students. Programs seek to recruit individuals from diverse ethnicities, socioeconomic backgrounds, and life experiences to the Pharmacy profession and to equip them with the necessary clinical and professional knowledge, skills and abilities to provide high quality, compassionate medical care to diverse patient populations. Students may contact individual pharmacy schools for more information. For more information about the UI’s commitment to diversity, visit pharmacy.uiowa.edu/about-college/diversity-and-college

Entrance Examination Requirement (PCAT)
The Pharmacy College Admission Test (PCAT), www.pcatweb.info, is required for applicants to the UI College of Pharmacy. Scores must be sent to PharmCAS whose code number is 0104. It is recommended to take the PCAT in July and retest in the fall only if needed. It must be taken no later than November prior to the application deadline (be aware that the number of fall test seats are limited). Pre-registration for the exam is required; dates are listed on the PCAT web site. Students register for the test online. The UI College of Pharmacy accepts PCAT scores for two years. The registration fee is $210. Study guides and practice tests are strongly recommended and can be purchased at the PCAT site. For 2020-2021 application cycle only, the University of Iowa has made the PCAT optional. However, if a student's math and science GPA are below a 3.0, the PCAT is highly recommended as a way to strengthen the application. Decisions for admission for any student with a science and math GPA below 3.0 and without a PCAT score will not be made until at least 3 semesters of grades have been posted.

Letters of Reference
Two letters of reference are required; additional letters will also be accepted. Letters are processed through the PharmCAS application service and may be submitted electronically. These letters can be from an employer, professor, pharmacist, supervisor of a community service project, etc. They may not come from a family member or friend.

Interviews
Interviews vary by school; students should check with their individual schools for interview timelines. The UI College of Pharmacy requires individual, on-campus interviews including completing two writing prompts. Applicants selected for an interview will be contacted via email. Interviews are held October - February. Practice interviews are available through the UI Career Center in C310 Pomerantz Center.

Criminal Background Checks
The PharmCAS application asks, “Were you ever the recipient of any action by any faculty member, college, university, PharmCAS or health licensing board, for academic or professional misconduct or unacceptable academic performance?” and “Have you ever been convicted of a felony?” Students answering “yes” will need to provide an explanation. The UI College of Pharmacy performs criminal background checks on newly enrolled students. Other schools may participate in a centralized criminal background check and drug screening as well. Applicants using PharmCAS will also need to sign a Code of Conduct.

Citizenship/International Students
Pharmacy schools differ as to whether they accept U.S. permanent residents and/or foreign citizens. Applicants are encouraged to check PharmCAS (under School Directory>Show Me PharmD Programs>Foreign Applicants) for each school’s admission policy. The UI College of Pharmacy will
consider applications from U.S. citizens, U.S. permanent residents, Canadian, and other foreign citizens. For additional information go to pharmacy.uiowa.edu/pharmd-admissions/international-candidates

Student Organization
Students wanting to learn more about the profession should attend Pre-Pharmacy Club meetings which provide educational and social opportunities for pre-pharmacy students. Meetings feature pharmacy student and alumni panels, a review of Iowa’s admission requirements, and talks by pharmacists. Contact Lauren Garcia-Pastorek, Director of Admissions, lauren-garcia@uiowa.edu to learn more.

Websites
UI College of Pharmacy: pharmacy.uiowa.edu
Pharmacy College Application Service (PharmCAS): pharmcas.org
American Association of Colleges of Pharmacy: www.aacp.org

Pre-Pharmacy Coursework Checklist*

_____RHET:1030 Rhetoric
_____CHEM:1110 Princ. of Chemistry I
_____CHEM:1120 Princ. of Chemistry II
_____BIOL:1411 Foundations of Biology**
_____BIOL:1412 Diversity of Form & Function**
_____ACB:3110 Human Anatomy,
    HHP:3105 Anatomy for Human Physiology,
    or HHP:1100 Human Anatomy
_____STAT:XXXX Statistics (any course except STAT:1010)
_____MATH:1460 Calculus for Bio. Sciences
_____CHEM:2210 Organic Chemistry I
_____CHEM:2220 Organic Chemistry II
_____ BIOC:3110 Biochemistry
______MICR:3164 Microbiology & Human Health

_____HHP:3500 Human Physiology(preferred),***
_____HHP:1300 Fundamentals of Human Phys.,
or HHP:3550 Human Phys. with Lab

_____ECON:1100 Microeconomics
_____PHYS:1400 Basic Physics if needed****

12 credits General Education Electives are needed to apply, and 20 credits General Education Electives are needed to graduate from the Pharm.D. program. Only 10 s.h. of Pharmacy Gen Eds may be ungraded. It is recommended that students complete the College of Liberal Arts and Sciences General Education Program. Applicants are strongly encouraged to choose Gen Ed credits in the following areas: oral communication skills, psychology, genetics, medical humanities, cultural perspectives, and an experience in service learning. See your advisor for suggestions. Note that classes may not be in the following areas:

No additional math or science classes
No activity-based classes or CPR classes
No P.E. classes such as jogging, weight lifting, etc.
No performance-based classes such as drawing, painting, ceramics, etc.
No vocational/technical classes from a community college or junior college

* Students must earn a C- or higher on each course listed above for the UI College of Pharmacy.
** The UI College of Pharmacy recommends that students take their biology sequence at the same school, and recommends an additional genetics course from BIOL:1311, 2211, 2512, 3713, or 3716 or HHP:4450.
*** Preferred. Only take different course if time conflict.
****One year of high school physics or PHYS:1400 Basic Physics with or without a lab must be completed, or a physics course equivalent to PHYS:1400 with or without a lab.

Please note: The above are prerequisites for the UI College of Pharmacy. Other pharmacy programs may have different requirements. Check the websites of individual schools or contact your pre-pharmacy advisor for more information.