

# Pre-Pharmacy

The mission of pharmacy practice is to help people get the best outcomes from medication therapies to achieve a healthier society. Before the Industrial Revolution, pharmacists manually compounded most medicines. With the growth of pharmaceutical manufacturing, pharmacists compounded fewer drugs and focused on safe and accurate dispensing procedures. In the Information Age, pharmacists have placed an emphasis on a practice orientation known as pharmaceutical care, which entails a shared responsibility between the patient, pharmacist and other health professionals toward achieving positive therapeutic outcomes. Pharmaceutical care inherently invokes a patient-focused orientation to pharmacy practice. Today, pharmacists provide comprehensive drug therapy management including the provision of medications and medical devices, educating patients and other health care providers on the proper use of prescription and over-the-counter products, and monitoring the outcomes of drug therapy.

Students with a desire to help people in a health care environment and an interest in math and science will find the profession of pharmacy particularly well suited to them. Drug therapy is the most common means of treating disease. With the development of more complex and expensive therapies, the aging of the United States population, and the dynamic nature of the health care market, pharmacists are well positioned to help patients receive the best benefits from their medications and to reduce the estimated \$177 billion spent each year in the United States due to the improper use of prescription drug products.

## Preparing for the Doctor of Pharmacy Program at Ohio State

Students at Ohio State pursue Doctor of Pharmacy education after the completion of the bachelor's degree. The undergraduate major may be in any area as long as program prerequisites are satisfied. Candidates are encouraged to consider diverse areas of study in preparation for a people-oriented profession.

The entry-level Doctor of Pharmacy (Pharm.D.) is a four-year graduate professional program. Applicants must have completed a bachelor's degree prior to Pharm.D. matriculation. Applicants are not required to have prior pharmacy education; any undergraduate major is acceptable as long as prerequisites are met.

Admission to the Doctor of Pharmacy program is competitive and based on a faculty committee review of the following:

- performance in prerequisite course work
- cumulative and math/science grade-point averages
- Pharmacy College Admission Test scores
- communication skills

- full disclosure of prior misdemeanor or felony convictions
- personal statements completed by the applicant
- extracurricular leadership and work experience
- letters of recommendation
- personal interviews

Applications are coordinated through a centralized admissions service (PharmCAS). For more information, visit their web site at [www.pharmCAS.org](http://www.pharmCAS.org). The deadline for submission of applications is January 1. It is in the student's best interest to submit application materials early in order for the Admissions Committee to make a decision about an interview invitation.

The following courses at Ohio State or equivalents at other institutions are required for admission:

- Anatomy 199 or EEOB 235
- Biology 113
- Chemistry 121-123, 211, 245-246, and 251-253
- Mathematics 150-152
- Microbiology 509
- Physics 111-113

Students must also have completed a general education (liberal education) curriculum.

## Co-Curricular Opportunities

Students also have the opportunity to combine another degree program with the Doctor of Pharmacy. Current degree combinations include: PharmD/MS, Ph.D., M.B.A. or M.P.H. Interested students apply separately to both degree programs. Participating in those combined pathways allows students to complete both degrees in a shorter time period than if they were taken separately.

## Honors & Scholars Programs

The Pharmacy Honors & Scholars Program encompasses programming for Early Admissions Pathway Honors students and Pharmacy Scholars students.

## Career Prospects in Pharmacy

A graduate from the College of Pharmacy can choose from a variety of career paths tailored to individual interests and aptitudes with a choice of lucrative employment opportunities.

**For more information, check these web sites:**

**College of Pharmacy:** [www.pharmacy.ohio-state.edu](http://www.pharmacy.ohio-state.edu)  
**Pre-professional programs:** [preprofessional.osu.edu](http://preprofessional.osu.edu)  
**Ohio State:** [osu.edu](http://osu.edu)

**Admissions:** [undergrad.osu.edu](http://undergrad.osu.edu)  
**Multicultural Center:** [multiculturalcenter.osu.edu](http://multiculturalcenter.osu.edu)  
**First Year Experience Program:** [fye.osu.edu](http://fye.osu.edu)

Pharmacists in community settings provide pharmaceutical care to ambulatory patients including the provision of prescription and non-prescription drugs, medical equipment and devices, and drug-related information and educational services to patients, the public, and other health care professionals. Pharmacists in institutional settings (e.g., hospitals) provide service to inpatients and are involved in the medication dispensing process, clinical services, drug information, and a number of specialty practices (e.g., cardiology, psychiatry, pediatrics, oncology, nuclear pharmacy, nutritional support). The pharmaceutical industry offers career opportunities in sales and marketing, drug research and development, quality assurance, and professional services. Faculty positions in colleges of pharmacy offer the opportunity to teach, conduct research, and provide professional service. Pharmacists are employed by a number of federal agencies involved in drug regulation or national health care services. For example, the Food and Drug Administration, Drug Enforcement Agency, National Institutes of Health, Public Health Services, Veteran's Administration, and military services provide exciting career opportunities. Nontraditional areas of employment also include pharmaceutical journalism, pharmacy law, and positions on state boards of pharmacy or in professional associations.

Salaries in the profession of pharmacy are on an upward trend, with the majority of Pharm.D. graduates reporting salaries above \$80,000.

### **Doctor of Pharmacy Requirements**

The professional component of the entry-level Pharm.D. program constitutes four years of study. The first three years consist of mostly didactic course work, and the fourth year is full-time professional experience. The professional curriculum incorporates courses or series of courses in the following areas:

- Biopharmacy
- Medicinal chemistry and Pharmacognosy
- Physiology
- Pharmaceutics
- Pharmacokinetics
- Pharmacology
- Pharmacy law
- Pharmacy practice
- Pharmacy management
- Therapeutics

Various courses incorporate lecture and recitation sections, case study workshops, laboratories, and field experience.

### **More About the College of Pharmacy**

The College of Pharmacy at Ohio State was established in 1885, and has been a leader in pharmacy education throughout its history. The College offers a comprehensive array of academic programs in each of the pharmaceutical disciplines. Its faculty boasts strengths in teaching, research and professional service. Its students exhibit exemplary scholarship and extracurricular leadership. Its alumni practice in all settings and are highly regarded. A report published in *Pharmacotherapy* in 2001 ranks Ohio State fourth among the 85 U.S. schools and colleges of pharmacy.

### **About Ohio State**

Ohio State is recognized throughout the nation and the world for its innovative programs, exceptional faculty, and cutting edge facilities. In fact, Ohio State is consistently ranked among the country's best public institutions for overall academic reputation. Because Ohio State is a major teaching and research university, our students receive excellent preparation for entry into top graduate/professional programs and the job market.

Offering over 170 majors and more than 12,000 courses, Ohio State allows students to tailor their education to their interests through double majors, minors, and personalized study programs.

### **Apply to Ohio State**

Students wishing to apply for undergraduate admission have a number of options. Those with Internet access can download application materials or apply online by visiting [undergrad.osu.edu](http://undergrad.osu.edu). Students may also contact the Office of Undergraduate Admissions and First Year Experience at (614) 292-3980 or [askabuckeye@osu.edu](mailto:askabuckeye@osu.edu) to have an application mailed.

**Revised July 2007.** For the most up-to-date information on preparing for a career in pharmacy at Ohio State, please visit [www.pharmacy.ohio-state.edu](http://www.pharmacy.ohio-state.edu).

### **Contact information:**

College of Pharmacy | 150 Parks Hall  
500 West 12th Avenue | Columbus, Ohio 43210-1291  
(614) 292-5001 | Fax (614) 292-6396