

# SCHOOL OF PHARMACY

If you are interested in becoming a pharmacist, a PharmD (Doctor of Pharmacy) degree is needed. PharmD degrees do not require a bachelor's degree first, but you do need to complete a set of college prerequisite courses and a specific number of college credits to apply to the PharmD degree program.

- For more information on the PharmD degree and program, visit the PharmD section of the Guide (<https://guide.wisc.edu/pharmacy/pharmacy-school-wide/pharmacy-dph/>).
- If you are a current or prospective UW–Madison undergraduate student, and interested in entering the PharmD program in the future, visit our pre-pharmacy at (<https://students.pharmacy.wisc.edu/student-services/sop-advising/pre-pharmacy-uwmadison/>) UW (<https://students.pharmacy.wisc.edu/student-services/sop-advising/pre-pharmacy-uwmadison/>)– (<https://students.pharmacy.wisc.edu/student-services/sop-advising/pre-pharmacy-uwmadison/>)Madison (<https://students.pharmacy.wisc.edu/student-services/sop-advising/pre-pharmacy-uwmadison/>) website (<https://students.pharmacy.wisc.edu/student-services/sop-advising/pre-pharmacy-uwmadison/>) for more information on resources and pre-pharmacy advising available to you.
- If you are a high school student or a first-semester college freshman interested in becoming a pharmacist, learn about our PharmD Early Assurance (<https://pharmacy.wisc.edu/academics/pharmd/early-assurance/>) program and how you can get conditional admission to UW–Madison's PharmD program.
- For prerequisite and admissions information for all other students, visit the PharmD admissions website (<https://pharmacy.wisc.edu/academics/pharmd/admissions/>).

If you are interested in a pharmacy or biomedical sciences-related career that does not require a pharmacist license, consider checking out our BS in Pharmacology and Toxicology program below.

## BS IN PHARMACOLOGY AND TOXICOLOGY

The BS in Pharmacology and Toxicology (PharmTox) focuses on the biomedical sciences. **Pharmacology** is concerned with the properties, effects, and mechanisms of action of drugs, and with the interactions between chemical agents and biological systems. **Toxicology**, the science of poisons, combines the elements of biology and chemistry with those of many other disciplines to help us understand the harmful effects of chemicals on living organisms.

A major challenge for the **pharmacologist** is to determine how drugs act. This can be carried out at the subcellular and molecular level, the cellular level, the tissue level, the organ level, or the whole-animal level. Pharmacologists also are concerned with the development of new drugs that produce fewer side effects while curing disease, and provide more effective and/or more rapid treatment of disease in humans or animals.

**Toxicologists** find scientifically sound answers to questions about chemicals that may potentially threaten our health, about pesticides in the food we eat, pollutants in the air we breathe, chemicals in the water we drink, and toxic waste sites near our homes. Some toxicologists are

concerned with determining the cellular mechanisms by which drugs and chemicals produce toxic effects. Many are involved in subspecialty areas in toxicology research, such as reproductive and developmental toxicology, neurotoxicology, immunotoxicology, and inhalation toxicology. Researchers in these areas utilize both laboratory animals and in vitro systems to examine the cellular, biochemical, and molecular processes underlying toxic responses.

## BS IN PHARMACEUTICAL SCIENCES

The BS in Pharmaceutical Sciences **is not a major** but is an internal degree granted to current Doctor of Pharmacy (PharmD) students after they complete at least one year of the PharmD program. In order to qualify for the BS in Pharmaceutical Sciences, students must have attended UW–Madison as an undergraduate prior to entering the School of Pharmacy and must meet all degree requirements.