Established by the Wisconsin Legislature in 1883, the "Department of Pharmacy" was the second pharmacy school in the United States associated with a state university. The School of Pharmacy offers two degrees available to undergraduate-level students: the Doctor of Pharmacy (Pharm.D.) degree, and the Bachelor of Science in Pharmacology and Toxicology (PharmTox) degree. The school also offers several M.S. and Ph.D. degrees.

With an enrollment of more than 500 undergraduate and professional students, the School of Pharmacy is part of the Center for Health Sciences, which includes the School of Medicine and Public Health, the School of Nursing, University Hospital and Clinics, and the State Laboratory of Hygiene. Students have opportunities to interact with other students and professional personnel in related fields as they prepare to meet the health care needs of society.

**DOCTOR OF PHARMACY (PHARM.D.)**

Pharm.D. graduates are presented with opportunity and challenge: the opportunity to participate in the exciting field of health care and the challenge of expanding the role of the pharmacy professional within this changing system. Pharmacists are important members of the comprehensive health care team; the expertise of pharmacists is vital to the success of the health care team as it designs, implements, and monitors drug therapy for the benefit of patients. Pharmacists use their expertise to keep pace with the rapid changes taking place in the health care system and the growing complexities of providing optimal pharmaceutical care to patients. This care requires that pharmacists be effective health educators. The ultimate success of drug therapy can depend upon how well patients understand and follow their drug regimens. Therefore, opportunities for the development and improvement of communication skills, both written and oral, are essential components of the Pharm.D. professional curriculum; required and elective courses throughout the curriculum provide valuable practical experience in effective interaction with patients and other health practitioners.

Pharmacy offers many career opportunities. Graduates traditionally have pursued careers in community, hospital, and long-term care pharmacy, the pharmaceutical industry, pharmacy education, and government agencies. Pharmacists serve also in other roles, including managed care, home care, and primary care, to increase the availability and quality of pharmaceutical care.

**B.S. IN PHARMACOLOGY AND TOXICOLOGY**

The B.S. 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-organism 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.

**B.S. IN PHARMACEUTICAL SCIENCES**

The B.S. in Pharmaceutical Sciences is not a major, but is an internal degree granted to current Doctor of Pharmacy (Pharm.D.) students after they complete at least one year of the Pharm.D. program. In order to qualify for the B.S. 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.