Pharmaceutical Sciences

Program Description
The Department of Pharmaceutical Sciences offers graduate study leading to the Master of Science and Doctor of Philosophy degrees. Advanced work may be selected from pharmaceutics, pharmacokinetics, pharmacology, and medicinal chemistry.

The pharmaceutical sciences curriculum consists of a core of courses involving both basic and pharmaceutical sciences. In addition, students will select courses that will prepare them to be competent scientists in their fields.

Admissions Requirements
The Department of Pharmaceutical Sciences graduate program is open to all qualified graduates of recognized universities and colleges. In addition to the Graduate School requirements, the applicant must have adequate preparation in pharmacy or a biological or physical science related to pharmaceutical sciences.

Students interested in the Master of Science degree should contact the Department of Pharmaceutical Sciences for more information.

Financial Assistance
Graduate assistantships are available. To be considered for an assistantship, the student must have completed a Graduate School application, be accepted by the department, and submit a formal letter to the department chair requesting an assistantship.

Doctor of Philosophy
The Doctor of Philosophy program requires the completion of 30 semester credits of letter-graded course work with a GPA of 3.0 or better. Of the 30 credits, at least 18 credits must be at 700 level. Candidates defend their dissertations. Candidates for the Ph.D. will be required to take an examination directed at determining competency in the pharmaceutical sciences.

The department requires the following core courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSCI 611</td>
<td>Principles of Pharmacokinetics and Pharmacodynamics</td>
<td>3</td>
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<tr>
<td>PSCI 670</td>
<td>Pharmacokinetics</td>
<td>3</td>
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<td>PSCI 790</td>
<td>Graduate Seminar</td>
<td>1.3</td>
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<td>BIOC 701</td>
<td>Comprehensive Biochemistry I</td>
<td>4</td>
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<td>BIOC 702</td>
<td>Comprehensive Biochemistry II</td>
<td>4</td>
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<td>STAT 725</td>
<td>Applied Statistics</td>
<td>3</td>
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Master of Science

In consultation with the adviser and student's supervisory committee a Plan of Study would be developed. The Master of Science in Pharmaceutical Sciences program follows Graduate College degree requirements (https://bulletin.ndsu.edu/graduate/graduate-school-policies/masters-program-policies).

**Amanda Brooks, Ph.D.**
University of Wyoming, 2006
Postdoctoral: University of California San Diego, 2006-2007; University of Utah, 2008-2010
Assistant Research Professor, 2011-2014
Research interests: Biomimetics, Recombinant Protein Expression for Biomedical Devices, Controlled Drug Delivery to Combat Antibiotic Resistance

**Ang Guo, Ph.D.**
Chinese Academy of Sciences, 2010
Postdoctoral: University of Iowa, 2009-2014
Research Interests: Metabolomics and Epi-Transcriptomic in Cardiovascular Diseases

**Yagna Jarajapu, M.Pharm., Ph.D.**
University of Strathclyde, 1998
Glasgow Caledonian University, 2002
Postdoctoral: University of Florida and Wake Forest University 2003-2008
Research Interests: ACE2/Angiotensin-(1-7) and Bone Marrow Progenitor Cells in Diabetes

**Estelle Leclerc, Ph.D.**
University Paris XI, 1994
Junior Group Leader Children's Hospital Zurich, 2004
Research Assistant Professor Florida Atlantic University, 2005-2009
Research Interests: Biopharmaceutics

**Sanku Mallik, Ph.D.**
Case Western Reserve University, 1992
Postdoctoral: California Institute of Technology, 1993-95
Research Interests: Synthetic medicinal chemistry

**Stephen T. O'Rourke, Ph.D.**
University of Wisconsin, 1985
Postdoctoral: Mayo Clinic and Foundation, 1985-87
Research Interests: Vascular Pharmacology

**Steven Qian, Ph.D.**
The University of Iowa, 1999
Postdoctoral: National Institute of Environmental Health Science (NIEHS, NIH) 2000-2004
Research Interests: Roles of Lipid Derived and Protein-Derived Free Radical Metabolites in All Kinds of Health Related Problems

**Jagdish Singh, Ph.D.**
Banaras Hindu University, 1982
Research Interests: Novel Dosage and Drug Delivery Systems, Biopharmaceutics

**Kristine Steffen, Pharm.D., Ph.D.**
North Dakota State University, 2002
North Dakota State University, 2007
Postdoctoral: Neuropsychiatric Research Institute, 2007-2009
Research Interests: Pharmacokinetics, Bariatric Surgery, Eating Disorder and Obesity Pharmacotherapy

**Chengwen Sun, M.D., Ph.D.**
Norman Bethune University of Medical Sciences, 1988
Norman Bethune University of Medical Sciences, 1996
Postdoctoral: Department of Physiology, Medical College of Wisconsin, 1996-2000
Research Interests: Central Blood Pressure Control and Hypertension Gene Therapy

**Sathish Venkatachalem, Ph.D.**
University of Madras, 2003
Postdoctoral: University of Western Ontario, 2004-2006
Research Interests: Human Lung Diseases (Asthma, Chronic Obstructive Pulmonary Disease and Pulmonary Hypertension)