PhD in Medical Pharmacology and Physiology

Degree Requirements

The PhD requires satisfactory completion of at least 72 credit hours of coursework and defense of dissertation. This includes at least two years of basic and advanced courses in physiology and/or pharmacology, as well as courses in cell and molecular biology. Included in course requirements is a minimum of 15 hours of 8000-9000 level courses, not including research courses (8090 or 9090). Students will also be trained in conducting physiological and pharmacological research in the laboratory of individual faculty members during the first year, including three 4-week laboratory rotations before the end of the first semester. The student will choose a dissertation mentor at or before the end of the first year and decide whether they wish to pursue the doctoral program in Pharmacology or Physiology. PhD students must serve as a teaching assistant for at least two semesters. Students are also required to present at the annual departmental student research update day each year that they are enrolled in the program. The doctoral program normally requires four to five years beyond the baccalaureate degree.

Required Courses		
STAT 7070	Statistical Methods for Research	3
or STAT 7530	Analysis of Variance	
or STAT 7510	Applied Statistical Models I	
MPP 7422	Medical Physiology	4
MPP 7424	Medical Pharmacology	4
MPP 8412	Seminar in Medical Pharmacology and Physiology (every semester)	1
MPP 8415	Responsible Conduct of Research thru Engagement, Enactment and Empowerment NIH and other Federal Age	2
MPP 9422	Medical Pharmacology and Physiology Journal Club (every semester)	1
TR_BIOSC 8550 & TR_BIOSC 8555	Skills in Translational Biosciences I and Professional Skills for Translational Biosciences II	2
MPP 9426	Transmembrane Signaling	4
BIOCHM 7270	Biochemistry	3
BIOCHM 7272	Biochemistry	3
Electives (must choose at least two)		
MPP 9430	Cardiovascular Physiology	4
MPP 9434	Microvascular Physiology	4
PIBS 8420	Veterinary Physiology	5
PIBS 5100	Veterinary Neuroscience	2

Qualifying Examination Policy

The department does not require a formal qualifying examination. Successful completion of the core curriculum and satisfactory performance in conducting scientific research and teaching will qualify students for continuation in the PhD program.

Comprehensive Examination

All PhD program students must pass a comprehensive examination before the end of the first semester of the third year of enrollment. The usual format of the comprehensive exam includes the writing and oral defense of a research proposal outside of the student's dissertation research area.

Dissertation

Each student must then carry out a dissertation research project, original in nature, which is expected to contribute significant new knowledge to the area of study. To facilitate this process, each student submits a dissertation research proposal within six months of passing the comprehensive examination.

Oral Defense

Finally, all PhD candidates must pass an oral defense of the dissertation and comply with all university and departmental regulations governing the PhD degree.

Admissions

Application Deadlines

The the PhD in Medical Pharmacology and Physiology program is no longer accepting applications. Please see the PhD in Translational Biosciences with emphasis in Integrative Physiology (https://catalog.missouri.edu/schoolofmedicine/translationalbiosciences/phd-translational-biosciences-emphasis-integrative-physiology/) for a similar degree program.