

Physiology and Pharmacology Discipline Curriculum and Plan of Study

I. Physiology and Pharmacology Discipline Curriculum

A. Required Courses

IBMS	5000	Fundamentals of Biomedical Sciences (required for all GSBS students)
IBMS	5008	IMGP Laboratory Rotations
PHAR	5013	Principles of Pharmacology and Physiology
PHAR	5014	Integrative Physiology and Therapeutics
PHAR	5020	Basics of Research Design
TSCI	5070	Responsible Conduct of Research
CSBL	5095	Experimental Design & Analysis (Statistics)
PHAR	5092	Research Practicum
IBMS	6090-8PP	Departmental Seminar (Physiology and/or Pharmacology departmental seminars)
IBMS	7010-8PP	Student Journal Club and Research Presentations
IBMS	7001-8PP	Qualifying Exam
IBMS	6097-8PP	Research
IBMS	7099-8PP	Dissertation

B. Electives (must take at least 4 hrs. and can include any courses offered at the UTHSCSA)

Frequent options include:

INTD	5040	Fundamentals of Neuroscience I: Molecular, Cellular, Developmental
INTD	5043	Fundamentals of Neuroscience II: Systems
INTD	7074	Topics in Translational Medical Product Development
PHAR	5091	Micro electives (Seminar-style specialized courses)
	5091-1	Monoaminergic Neurotransmission and Transporters
	5091-2	Drug Discovery: Nuts & Bolts
	5091-3	Historical Perspectives of Receptor Theory
	5091-6	Serotonin- Soup to Nuts
	5091-8	Neural Substrates of Regulated Behaviors
	5091-10	Appetite Control: Adiposity Hormones & Neuropeptides
	5091-11	Fundamentals of Behavioral Pharmacology
	5091-18	G protein-coupled receptor heteromers: pharmacological and physiological relevance
PHYL	5041	Excitable Membranes
	6091	Selected Topics
	6091-2	Calcium Signaling
	6091-3	Cell Biology in Neural Science
	6091-7	Ion Channels in Disease
BIOC	5091	Special Topics in Biochemistry
BIOC	6035	Biochemistry of Multimolecular Complexes
BIOC	6010	Gene Expression
BIOC	6043	Structure and Function of Membrane Proteins
BIOC	6033	Cellular Signaling Mechanisms
CSBL	6048	Biology of Aging
CSBL	6021	Animal Models
CSBL	6064	Genetics
CSBL	6020	Concepts in Vertebrate Development
PHAR	7003	Electrophysiology in Neuroscience Research
PHAR	6027	Fundamentals of Neuroethics
PHAR	7002	Bridging the Gap from Bench to Bedside: Pharmacology Clinical Practicum

We will offer the following modules as electives for other disciplines:

PHAR 5021 - Autonomic Control and Therapeutics (0.5 SCH)
 PHAR 5018 - Cardiovascular, Renal and Respiratory Physiology and Therapeutics (2.0 SCH)
 PHAR 5019 - Metabolism, Hormones, GI Physiology and Therapeutics (2.0 SCH)

II. Physiology and Pharmacology Discipline Plan of Study

Year 1

Fall semester

IBMS 5000 - Fundamentals of Biomedical Sciences (required for all GSBS students)	8.0 SCH
TSCI 5070 - Responsible Conduct of Research	2.0 SCH
IBMS 5008 - Laboratory Rotations (3 rotations, 5 weeks each)	3.0 SCH

TOTAL 13.0 SCH

Spring semester

PHAR 5013 – Principles of Pharmacology and Physiology	3.0 SCH
CSBL 5095 – Experimental Design and Data Analysis (Statistics)	3.0 SCH
IBMS 7010 – Student Journal Club and Research Presentations.	1.0 SCH
IBMS 6090-8PP – Pharmacology and/or Physiology Departmental Seminars	1.5 SCH
IBMS 6097-8PP – Research	X SCH

**** ELECTIVE COURSES FROM PHYS/PHARM or OTHER DISCIPLINES** X SCH

TOTAL 12.0 SCH

Year 2

Fall semester

PHAR 5020 – Basics of Research Design	2.0 SCH
PHAR 5014 – Integrated Physiology and Therapeutics	4.5 SCH
PHAR 5092 – Research Practicum	1.0 SCH
IBMS 7010 – Student Journal Club and Research Presentations.	1.0 SCH
IBMS 6090-8PP – Pharmacology and/or Physiology Departmental Seminars	1.5 SCH
IBMS 6097-8PP – Research	X SCH

**** ELECTIVE COURSES FROM PHYS/PHARM or OTHER DISCIPLINES** *** SCH

TOTAL 12.0 SCH

Spring semester

IBMS 7010 – Student Journal Club and Research Presentations.	1.0 SCH
IBMS 6090-8PP – Pharmacology and/or Physiology Departmental Seminars	1.5 SCH
IBMS 6097-8PP – Research	X SCH
IBMS 7001-8PP - Qualifying Exam	1.0 SCH

**** ELECTIVE COURSES FROM PHYS/PHARM or OTHER DISCIPLINES** *** SCH

TOTAL 12.0 SCH

Years 3 through completion ~ each semester

IBMS 7010 – Student Journal Club and Research Presentations.	1.0 SCH
IBMS 6090-8PP – Pharmacology and/or Physiology Departmental Seminars	1.5 SCH
IBMS 6097-8PP – Research	X SCH
ADVANCED ELECTIVE COURSES FROM PHYS/PHARM or OTHER DISCIPLINES	X SCH

TOTAL 12.0 hrs

*Their last two semester's students will take IBMS 7099-8PP Dissertation Research in place of IBMS 6097-8PP Research.