TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER™

Graduate School *of* Biomedical Sciences

Biomedical Sciences Ph.D. Undeclared Student Information

Students in the Biomedical Sciences Ph.D. program enter as undeclared, complete the core curriculum, and rotate in faculty labs prior to selecting a mentor and concentration. This document is intended to provide information for new students up to the time of mentor/concentration selection.

At the earliest possible date, whether that be before or after New Student Orientation, each student will meet with the First-year Student PhD Advisor to discuss Year 1 course selection, lab rotations, GSBS policy for selecting a concentration, and other academic issues.

Core Curriculum Overview

All biomedical science fields recognize the need for high levels of integration of scientific knowledge to accelerate opportunities for basic and translational research. Toward that end, full-time research is preceded by a curriculum that introduces scientific facts and provides opportunities for the development of critical thinking, synthesis of information, development of factual knowledge, and the ability to read and comprehend original literature. These skills serve as a foundation for all concentrations/programs in the GSBS.

Core Curriculum Courses

1. GSBS 5471 — Core I: Molecules – This course offers a broad coverage of biochemistry with an emphasis on structure and function of macromolecules, biosynthesis of small molecule precursors of macromolecules, and the pathways of intermediary metabolism.
2. GSBS 5372 — Core II: Cells – The structure/function relationships that underlie basic cellular processes, including translation protein trafficking, cytoskeletal organization and motility, cell adhesion, and cell division.
3. GSBS 5373 — Core III: Genes – Teaches essential scientific concepts underlying the field of Molecular biology and Molecular Genetics.
4. GSBS 5174 — Core IV: Biomedical Seminar Series – Students will attend and participate in seminars.
5. GSBS 5275 — Core V: Introduction to Biomedical Research – Introduces the first-year graduate student to the fundamental principles and techniques in basic biomedical research.

<u>Opting Out of CORE CURRICULUM Courses</u>

Students who have a master's degree in a biomedical or biological sciences discipline may request to opt out of the individual core courses, Core I, Core II or Core III. GSBS 5174 (Core IV), and GSBS 5275 (Core V) may not be waived. A waiver request to the GSBS Dean must come from the student's graduate

program/concentration advisor, or in the case of undeclared students, from the GSBS Senior Associate Dean. When applicable, the request should include a course syllabus and grade received for each course that is considered equivalent to the core courses for which a waiver is requested (for transfer credit, a syllabus and grade are required). The waiver request must be made prior to the first day of class. The request will be reviewed by the Course Director of the course requesting to be waived, and the recommendation evaluated by the Core Curriculum Coordination (CCC) Committee. The GSBS Office will notify the student and graduate advisor prior to the 12th day of class. During the time prior to the waiver, the student must audit the core course for which a waiver is requested.

Probation and Dismissal

GSBS students are required to maintain a minimum overall grade point average (GPA) of 3.0. If a student fails to maintain the required minimum GPA, she or he will be placed on academic probation. For more information, see the Academic Probation Policy in the catalog.

- Students may also be placed on probation for not completing the Core Courses within the first semester.
- Students may not drop a Core Course for academic reasons (reasonable exceptions will be made for sickness, etc., at the discretion of the GSBS Dean).
- Students receiving a grade of C or below in Core Course I, II or III will be required to repeat the course.
- Students receiving grades of C or below in two or more Core Courses will be at risk of dismissal.

Tutoring. Group tutoring is available through the GSBS. Once tutoring dates have been scheduled, the GSBS Student Affairs Advocate (SAA) will notify students. Some group tutoring is also available and conducted by course directors or organized through the graduate student association (GSA).

Other Requirements. All GSBS students are required to take the ethics course (GSBS 5101, Responsible Conduct of Research), GSBS 5000 Interprofessional Collaborative Practice course, as well as complete an Interprofessional Education event. Most programs/concentrations also have a statistics course requirement; GSBS offers the GSBS 5310 Introduction to Statistical Methods course, though other courses may meet the requirement.

During the first Fall semester, all students complete the core curriculum. One of the core curriculum courses is GSBS 5275 Introduction to Biomedical Research. During the first 6 weeks of the course, advisors will present concentration specific information and discuss research opportunities within each concentration. After the initial 6 weeks, students will complete two lab rotations of their choosing based on faculty availability as well as receive additional advisement regarding mentor and concentration selection. Students should refer to the course syllabus for additional information.

Students are encouraged to complete at least three lab rotations prior to selecting a mentor and concentration, however at minimum students must complete two rotations. The earliest students may select a mentor and concentration is the last day of the first Fall semester. If a student is still undecided after the Fall semester, additional lab rotations may be completed during the Spring term and a mentor and concentration must be selected by the end of the Summer term.

During the first Spring term, undeclared students register for GSBS 5098 (6 hours) Techniques in Biomedical Research, advanced course work and seminar in the concentration of interest, and GSBS

5101 Responsible Conduct of Research. To assist, sample first year curriculum registration examples are below, and students are encouraged to speak to the concentration advisor and Student Affairs Advocate for additional guidance and information.

Prior to selecting a mentor and concentration, students are encouraged to review concentration guidelines and become familiar with concentration expectations.

Helpful Links:

Application for Change in Major (Mentor/Concentration Selection)

Faculty/Student Mentoring Resources

Concentration Guidelines:

Biochemistry, Cellular & Molecular Biology

Immunology & Infectious Diseases

Molecular Biophysics

Translational Neurosciences & Pharmacology

Biochemistry, Cellular & Molecular Biology Sample Curriculum Registration

Fall Term:

Course Number	Course Name	Credit Hours
GSBS 5000	Interprofessional Collaborative Practice	0
GSBS 5471	Core I: Molecules	4
GSBS 5372	Core II: Cells	3
GSBS 5373	Core III: Genes	3
GSBS 5174	Core IV: Biomedical Seminar	1
GSBS 5275	Core V: Introduction to Biomedical Research	2
		13 Hours Total

Spring Term:

Course Number	Course Name	Credit Hours
GBCM 6320	Advanced Cell Biology	3
GBCM 6333	Advanced Protein Biochemistry	3
GBCM 7101	Seminar	1
GSBS 5098	Laboratory Methods/Techniques in Biomedical Research	6
GSBS 5101	Responsible Conduct of Research	1
		14 Hours Total

Summer Term:

Course Number	Course Name	Credit Hours
GSBS 5098	Laboratory Methods/Techniques in Biomedical Research	6
		6 Hours Total

Immunology & Infectious Diseases Sample Curriculum Registration

Fall Term:

Course Number	Course Name	Credit Hours
GSBS 5000	Interprofessional Collaborative Practice	0
GSBS 5471	Core I: Molecules	4
GSBS 5372	Core II: Cells	3
GSBS 5373	Core III: Genes	3
GSBS 5174	Core IV: Biomedical Seminar	1
GSBS 5275	Core V: Introduction to Biomedical Research	2
		13 Hours Total

Spring Term:

Course Number	Course Name	Credit Hours
GBTC 5212	Fundamentals of Bacteriology	2
GBTC 5213	Fundamentals of Virology/Parasitology	2
GBTC 5214	Fundamentals of Immunology	2
GIID 7101	Seminar	1
GSBS 5098	Techniques in Biomedical Research	6
GSBS 5101	Responsible Conduct of Research	1
		14 Hours Total

Summer Term:

Course Number	Course Name	Credit Hours
GSBS 5098	Techniques in Biomedical Research	6
		9 Hours Total

Molecular Biophysics Sample Curriculum Registration

Fall Term:

Course Number	Course Name	Credit Hours
GSBS 5000	Interprofessional Collaborative Practice	0
GSBS 5471	Core I: Molecules	4
GSBS 5372	Core II: Cells	3
GSBS 5373	Core III: Genes	3
GSBS 5174	Core IV: Biomedical Seminar	1
GSBS 5275	Core V: Introduction to Biomedical Research	2
		13 Hours Total

Spring Term:

Course Number	Course Name	Credit Hours
GMBP 5220	Experiments in Molecular Cell Physiology	2
GMBP 5320	Molecular Cell Physiology	3
GMBP 7101	Seminar	1
GMBP 7202	Readings in Molecular Biophysics	1
GSBS 5098	Techniques in Biomedical Research	6
GSBS 5101	Responsible Conduct of Research	1
		14 Hours Total

Summer Term:

Course Number	Course Name	Credit Hours
GSBS 5098	Techniques in Biomedical Research	6
		6 Hours Total

Translational Neuroscience & Pharmacology Sample Curriculum Registration

Fall Term:

Course Number	Course Name	Credit Hours
GSBS 5000	Interprofessional Collaborative Practice	0
GSBS 5471	Core I: Molecules	4
GSBS 5372	Core II: Cells	3
GSBS 5373	Core III: Genes	3
GSBS 5174	Core IV: Biomedical Seminar	1
GSBS 5275	Core V: Introduction to Biomedical Research	2
		13 Hours Total

Spring Term:

Course Number	Course Name	Credit Hours
GTNP 5303	Principles of Translational Neuroscience and Pharmacology	3
GTNP 7101	Seminar	1
GTNP 7102	Readings	1
GSBS 5098	Techniques in Biomedical Research	6
GSBS 5101	Responsible Conduct of Research	1
		12 Hours Total

Summer Term:

Course Number	Course Name	Credit Hours
GSBS 5098	Techniques in Biomedical Research	6
		6 Hours Total