

Neuroscience

Theme Information

Neuroscience is one of eight interdisciplinary PhD themes within Graduate Biomedical Sciences (GBS). Students select a theme upon application but have access to faculty and courses from across GBS, allowing for flexibility in both research and academics.

The Neuroscience Theme provides training opportunities in multiple and contemporary areas of neuroscience research — from fundamental discovery science at the molecular, cellular, systems, and behavioral levels, to translational studies in cellular and animal models of diseases of the nervous system. Outstanding research faculty from various schools, departments, and centers participate in training the next generation of neuroscientists. The Neuroscience Theme seeks to equip and train students to become tomorrow's innovative neuroscientists by:

- Teaching fundamental neuroscience concepts that are the stepping-stones needed for a deeper understanding of nervous system function.
- Providing unique professional and scientific avenues through which they can develop their presentation skills and learn critical thinking and experimental design.
- Offering the opportunity to choose neuroscience research from multiple options available through laboratories across the UAB campus — not limiting students to a department but, rather, a discipline.
- Providing opportunities for informal interactions with other students to discuss research, scientific writing, and life outside and beyond graduate school.

Admissions

Prospective students should visit the [GBS Admissions page](#) for information on admissions requirements, application deadlines, and how to apply.

Financial Support

All students accepted into GBS programs receive a competitive annual stipend and fully paid tuition and fees. Single coverage health insurance is also provided at no cost to the student. Please reference the [GBS Financial Support page](#) for further information.

Curriculum

Requirements	Hours
Lab Rotations	3
GBS 795 Lab Rotation 1	
GBS 796 Lab Rotation 2	
GBS 797 Lab Rotation 3	
Core Courses	7
GBS 701 Core Concepts in Research: Critical Thinking & Error Analysis	
GBS 707 Basic Biochemistry and Metabolism	
GBS 708 Basic Genetics and Molecular Biology	

GBS 709 Basic Biological Organization

Module Courses 8

GBSC 744 Neuroanatomy

GBSC 729 Cell Neurophysiology

GBS 714 Developmental Neuroscience

GBSC 727 Neuro Systems

Theme Required Courses 18

GBS 730 Introduction to Neurobiology (Dauphin Island Course) ¹

GBS 737 Neuro Student Summer Seminar Series ²

NBL 703 Neurobiology Seminar Series ³

GBS Required Courses 49

GRD 717 Principles of Scientific Integrity

Grant-Writing/Scientific Communication ⁴

Biostatistics ⁵

Journal Clubs ⁶

Three Advanced Courses ⁷

Research ⁸

Total Hours 85

¹ Dauphin Island course- required summer before the 1st year

² Required each summer semester

³ Required fall and spring semester, 2nd year until graduation.

⁴ Course selected from the following: GBS 716, GBS 725, GBSC 726, GRD 709

⁵ Course selected from the following:

GRD 770, BST 611, BST 612, BY 755, PY 716

⁶ Required each fall and spring semester, 2nd year until graduation.

Courses selected from the following: GBS 736, GBS 746J, GBS 747J, GBS 756, GBS 766, GBS 776, GBS 786J, GBS 793, GBSC 700, GBSC 713, GBSC 720, INFO 673, INFO 793

⁷ Three advanced courses selected from the following: GBS 700,

GBS 702, GBS 715, GBS 718, GBS 726, GBS 727, GBS 729,

GBS 739, GBS 742, GBS 749, GBS 754, GBS 757, GBS 758,

GBS 765, GBS 775, GBS 778, GBS 779, GBS 783, GBSC 705,

GBSC 706, GBSC 707, GBSC 709, GBSC 710, GBSC 712,

GBSC 714, GBSC 715, GBSC 717, GBSC 721, GBSC 724,

GBSC 725, GBSC 728, GBSC 730, GBSC 732, GBSC 734,

GBSC 735, GBSC 740, GBSC 741, GBSC 743, GBSC 745,

GBSC 746, GBSC 748, INFO 701, INFO 702, INFO 703, INFO 704,

INFO 751, INFO 762, INFO 796, INFO 797, BME 723, BME 770,

BME 772, BME 780, or other approved course.

⁸ Student must complete 24 hours total of dissertation research, GBS 799.

Theme Directors

The theme directors listing for Neuroscience is located [here](#).

Theme Faculty

[The faculty listing for the Neuroscience theme is located here.](#)

For further information, please reference the [GBS website](#).