



## B.S. Biological Sciences–Physiology & Neurobiology Specialization (PHNB)

### PROGRAM OVERVIEW

The University of Maryland's Biological Sciences Program offers a rigorous exposure to the modern experimental disciplines within Biology. The Physiology and Neurobiology specialization provides students with a strong background in the biochemical, molecular, and cellular processes of life and explores how these processes underly normal physiology, as well as a range of human diseases.

### CAREER OUTLOOK

Students who complete our program are prepared for:

- » Entry-level positions in a variety of biomedical career fields, including but not limited to:
  - » Cancer Research
  - » Neuroscience
  - » Infectious Disease
  - » Biotechnology & Pharmaceuticals
  
- » Acceptance into graduate/professional programs in:
  - » Medicine\*
  - » Dentistry\*
  - » Physical Therapy\*
  - » Physician's Assistant\*
  - » Pharmacy\*
  - » Human Physiology
  - » Animal Science

\*This program satisfies ALL Medical and Dental School science requirements and MOST Pharmacy, Physical Therapy and Physician's Assistant Program science requirements.



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### PROGRAM

B.S. Biological Sciences, Specialization in Physiology & Neurobiology

### UNIVERSITY

University of Maryland, College Park

### CAMPUS

The Universities at Shady Grove

### PROGRAM CONTACT

#### Tracy Odum

Program Coordinator  
[usgbiosci@umd.edu](mailto:usgbiosci@umd.edu)

#### Dr. Hadiya Woodham

Program Director  
[usgbiosci@umd.edu](mailto:usgbiosci@umd.edu)

### HOW TO APPLY

Visit: [www.admission.umd.edu](http://www.admission.umd.edu)

\*Make sure that you check Shady Grove campus when you apply!

### PRIORITY DEADLINES

Fall Admission–June 1

9636 Gudelsky Drive  
Rockville, MD 20850  
[www.shadygrove.umd.edu/UMCP](http://www.shadygrove.umd.edu/UMCP)

## WHY BE A TERP AT USG?

- » Shady Grove offers much smaller class sizes, averaging 30-35 students per class, which allows for more one-on-one interactions with instructors and peers.
- » Shady Grove students are eligible for scholarships from both College Park and Shady Grove, and pay lower parking and school fees.
- » Biology students will get to take their science courses in a state-of-the-art, 220,000 square ft Biomedical Sciences and Engineering (BSE) Facility that is specifically tailored to STEMM education.

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## ADMISSION REQUIREMENTS

- » Minimum 2.5 GPA
- » Completion of 60 undergraduate credits at an outside institution (two- or four-year), including pre-requisite coursework
- » Associate's Degree from State of Maryland preferred

## CURRICULUM & DEGREE REQUIREMENTS

 See next page for course number information

### PREREQUISITE COURSES

- » Principles of Biology I
- » General Chemistry I
- » General Chemistry II
- » Organic Chemistry I
- » Organic Chemistry II
- » Calculus I

### PRIOR TO SENIOR YEAR AND/OR GRADUATION

- » Genetics
- » Microbiology
- » Principles of Biology II
- » Calculus II

### REQUIRED COURSES

- » Cell Biology and Physiology
- » Biochemistry of Physiology
- » Physics for Life Science 1 & 2
- » Biometrics
- » Mammalian Physiology
- » Principles of Neuroscience
- » Neurobiology Laboratory
- » Writing for Health Professionals

### ELECTIVE COURSES

- » Cellular Mechanisms of Aging and Disease
- » General Virology
- » Neurophysiology Research Seminar
- » Comparative Physiology
- » Recombinant DNA Technology Lab
- » Apoptosis and Cancer Research Seminar

## INTERNSHIPS

Students are given an opportunity to complete either a clinical or research-based internship for course credit. Research-based internships are typically completed at the Institute for Bioscience & Biotechnology (IBBR) or local biotechnology companies.

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## COURSEWORK REQUIREMENTS BY COURSE NUMBER

Course	University of Maryland	Montgomery College	Howard Community College	Frederick Community College	Prince George's Community College
*Principles of Biology I	BSCI170 & 171	BIOL150	BIOL101	BSCI150	BIO1140
*General Chemistry I	CHEM131 & 132	CHEM131	CHEM101	CHEM101	CHM1010
*General Chemistry II	CHEM271 & 272	CHEM132	CHEM102	CHEM102	CHM1020
*Organic Chemistry I	CHEM231 & 232	CHEM203	CHEM201	CHEM201	CHM2010
*Organic Chemistry II	CHEM241 & 242	CHEM204	CHEM202	CHEM202	CHM2020
*Calculus I	MATH130 or 140	MATH170/181	MATH181	MATH185	MAT2410
**Genetics	BSCI222	BIOL222	BIOL201 & 202	BSCI240	BIO2030
**Microbiology	BSCI223	BIOL210	BIOL200	BSCI223	BIO2010
**Principles of Biology I	BSCI160 & 161	BIOL151	BIOL102	BSCI160	BIO1130
**Calculus II	MATH131or141	MATH171/182	MATH182	MATH195	MAT2420

Students cannot be admitted without completion any course above marked with \*.

Note that exceptions can be made on a case-by-case basis for students missing Organic Chemistry I or II. Students should contact the Program Coordinator ([usgbiosci@umd.edu](mailto:usgbiosci@umd.edu)) regarding this policy.

Students can be admitted without completing any TWO courses above marked with \*\*. Such courses would need to be completed prior to senior year and/or graduation.

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