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.

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

UNIVERSITY
University of Maryland, College Park

CAMPUS
The Universities at Shady Grove

PROGRAM CONTACT
Tracy Odim
Program Coordinator
usgbiosci@umd.edu

Dr. Hadiya Woodham
Program Director
usgbiosci@umd.edu

HOW TO APPLY
Visit: 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
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.

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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Rockville, MD 20850
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## COURSEWORK REQUIREMENTS BY COURSE NUMBER

<table>
<thead>
<tr>
<th>Course</th>
<th>University of Maryland</th>
<th>Montgomery College</th>
<th>Howard Community College</th>
<th>Frederick Community College</th>
<th>Prince George’s Community College</th>
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<tr>
<td>*Principles of Biology I</td>
<td>BSCI170 &amp; 171</td>
<td>BIOL150</td>
<td>BIOL101</td>
<td>BSCI150</td>
<td>BIO1140</td>
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<td>CHEM101</td>
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<td>*General Chemistry II</td>
<td>CHEM271 &amp; 272</td>
<td>CHEM132</td>
<td>CHEM102</td>
<td>CHEM102</td>
<td>CHM1020</td>
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<td>*Organic Chemistry I</td>
<td>CHEM231 &amp; 232</td>
<td>CHEM203</td>
<td>CHEM201</td>
<td>CHEM201</td>
<td>CHM2010</td>
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<tr>
<td>*Organic Chemistry II</td>
<td>CHEM241 &amp; 242</td>
<td>CHEM204</td>
<td>CHEM202</td>
<td>CHEM202</td>
<td>CHM2020</td>
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<td>*Calculus I</td>
<td>MATH130 or 140</td>
<td>MATH170/181</td>
<td>MATH181</td>
<td>MATH185</td>
<td>MAT2410</td>
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<td>**Genetics</td>
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<td>BIOL222</td>
<td>BIOL201 &amp; 202</td>
<td>BSCI240</td>
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<td>**Microbiology</td>
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<td>BIOL200</td>
<td>BSCI223</td>
<td>BIO2010</td>
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<tr>
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<td>BIOL102</td>
<td>BSCI160</td>
<td>BIO1130</td>
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<tr>
<td>**Calculus II</td>
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<td>MATH171/182</td>
<td>MATH182</td>
<td>MATH195</td>
<td>MAT2420</td>
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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) 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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