



EXPLORE
PURSUE
REALIZE



The Hood College

Department
of Biology

hood.edu/bio



The Sustainability Studies Major

Do you want to make a positive difference in the world of today and tomorrow while building a satisfying career? Then seriously consider our new major in Sustainability Studies. We have designed a program that combines the knowledge and skills necessary to develop tomorrow's sustainability changemakers. These are graduates, just like you, that have the know-how and motivation to solve pressing environmental and social issues that effect the well-being of our generation and generations to come.

Our program will introduce you to the workings and interactions among three primary human needs: water, food, and energy. Through a series of hands-on activities, systems thinking exercises, and experiential learning opportunities, we will prepare you to address many of the seemingly intractable problems that face us today, such as climate change, environmental degradation, social inequity, and environmental injustice.

Join us in this academic endeavor that will simultaneously prepare you for a life-long profession, while you learn by helping members of our local community to live better, more secure lives.

The Coastal Studies Program

The Coastal Studies Program is a travel-based, experiential learning program that provides a solid academic framework for the study of environmental science. As a member of a close-knit, motivated community, you'll gain an understanding and appreciation for the coast environment – not only in biological and ecological terms, but also by placing coastal issues into historical and cultural contexts.

Our semester-long program focuses on coastal environments from an interdisciplinary perspective, combining theory with practice. You'll be engaged in four closely inter-related courses that will go far beyond traditional classroom and lab settings. You'll apply your newly acquired knowledge to environmental problems that are facing communities and natural systems along the Atlantic coast and Chesapeake Bay.



The Biology Major

Our faculty are committed teachers and mentors who will work with you to study diverse aspects of the living world. You will integrate concepts from the broad curriculum to solve real world, biological problems. From investigating genes and cells to studying ecosystems, you will gain a strong foundation in biology that includes practical classroom, laboratory, and field experience. As a biology student, you will have the opportunity to take graduate-level elective courses that are generally not offered at other schools our size.

You will have access to our well-equipped labs for ecology, microbiology, molecular biology, cell culture and physiology; a greenhouse to grow and study plants; and a suite of labs for the growth and study of aquatic organisms. You can conduct research with our faculty using state-of-the-art equipment and facilities found right in our department. Collectively, our research and classroom experiences will provide you with the tools you need for graduate school and medical school, as well as other health professions or your career. For more information, see our departmental website at hood.edu/bio.

The Environmental Science and Policy Major

We offer this interdisciplinary, hands-on program that incorporates environmental biology, chemistry, economics and policy into one major that prepares students for careers as scientists or policy makers working on important ecological and environmental issues. Our close proximity to Baltimore, Washington, D.C. and natural areas in Maryland enable our students to take advantage of internships, work experience and participation in the science policy-making process.

You will gain hands-on experience in environmental science by participating in field-based programs and travel-based electives offered by the program. Furthermore, as a major you will have access to state-of-the-art instrumentation for soil and water analysis, GIS mapping, satellite image analysis, digital imaging, and sound and video recording. Both in the classroom and the field, we will provide you with the foundation needed to champion research and guide decisions on environmental research policy.



Majors, Minors and Concentrations

Majors and Concentrations

- **Biology Major (B.A.)**
- **Environmental Science and Policy Major (B.A.)**
 - **Biology Concentration**
 - **Chemistry Concentration**
 - **Coastal Studies Concentration**
 - **Environmental Policy Concentration**
- **Sustainability Studies Major (B.A.)**
- **4Plus Biology + Biomedical Science (M.S.)**
- **4Plus Environmental Science and Policy + Environmental Biology (M.S.)**

Minors

- **Biology Minor**
- **Coastal Studies Minor**
- **Environmental Studies Minor**

Beyond the Classroom

Hood's location is ideal for our faculty to be connected with leading researchers and employers to help you get your foot in the door. Just like many of our students, you could land an internship at places like:

- **National Cancer Institute – Frederick National Lab**
- **U.S. Army Medical Research Institute of Infectious Disease**
- **U.S. Department of Agriculture**
- **Kite Pharma**
- **The National Aquarium in Baltimore**
- **Maryland State Governor's Office**
- **The Nature Conservancy**

Going off campus is not your only option to gain research experience, however, as you can work side-by-side with experienced faculty in our department. You will have the opportunity to participate in the Summer Research Institute (a paid summer research experience) and senior-level honors projects which could be presented at regional or national scientific meetings or submitted for publication.

Faculty in the Department of Biology will help students find research or other experiential learning opportunities at Hood and beyond.



Faculty-Mentored Research

Ecological impacts of climate change and invasive species are the focus of research in Eric Annis' lab. Students examine the impact of warming ocean temperature on lobster larvae in the Gulf of Maine, and the biology of an invasive species of crayfish in local rivers.

Students can work with Craig Laufer to genetically engineer enzymes for use in converting agricultural waste products into biofuels.

Oney Smith works with students and USDA plant scientists on problems that address the identification and biology of plant pathogens that pose a threat to U.S. agriculture.

Eric Kindahl is a conservation biologist working on a stream restoration project near campus. His students use biomonitors such as salamanders, birds, and lichens to assess environmental quality.

Drew Ferrier is a broadly trained aquatic biologist who works with students to document the effects of global climate change in lakes and streams. Their investigations aim to increase the resilience and sustainability of Maryland's watersheds for future generations

Cherry Liu studies cell biology and trains students to use genetic editing techniques to genetically modify mammalian cell lines to better understand various health diseases.

In Daehwan Kim's lab, students apply techniques in biochemistry, microbial fermentation, and bioprocess engineering to convert agricultural biomass into useful products.

HOOD BY THE NUMBERS

32

BACHELOR'S
DEGREES

19

MASTER'S
DEGREES

11

POST-BACCALAUREATE
CERTIFICATES

2

DOCTORAL
PROGRAMS

8 MASTER'S PROGRAMS THAT CAN BE ACCELERATED AS PART OF THE 4PLUS PROGRAM

AVERAGE CLASS SIZE 15

STUDENT-TO-FACULTY RATIO 11:1

2,037

TOTAL
ENROLLMENT

1,182

NUMBER OF
UNDERGRADUATE
STUDENTS

30 & 14
STATES COUNTRIES

OF ORIGIN FOR
UNDERGRAD
STUDENTS

40%

UNDERGRADUATE
DIVERSITY

855 GRADUATE STUDENTS

97

FULL-TIME
PROFESSORS

95%

OF FULL-TIME
FACULTY HOLD A
TERMINAL DEGREE
IN THEIR FIELD

136

PART-TIME AND
ADJUNCT FACULTY
COMPLEMENT THE
FACULTY WITH
THEIR EXPERTISE

26%

DIVERSITY OF
FULL-TIME
FACULTY



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