

EXPLORE
PURSUE
REALIZE



The Hood College

Department of Biology

www.hood.edu/bio



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.

You'll be able to take advantage of co-curricular activities like seminars offered at the laboratories we visit, extended field experiences in natural areas, and day-trips to sites of unique ecological, historical and cultural interest. You'll also have the opportunity to be involved with local policy issues by inviting local experts to discuss currently relevant issues. As part of the Coastal Semester experience, you will also attend a professional scientific meeting and hear and interact with research scientists and students from other colleges and universities.

Our interdisciplinary research practicum – an open-ended inquiry into environmental issues – weaves together scientific, historical and cultural threads to act as a unifying element for the semester-long experience. It will be adapted to your interests and to each of the sites you visit, so that your research develops as the class moves from site to site.



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.

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**
- **Environmental Science 5-Year Dual Degree Program (B.A./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**
- **Smithsonian National Zoo**
- **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

Whether the focus is stingrays, seas anemones, manatees, microbial source tracking or more, students working with Susan Carney use a variety of genetic methods to address questions at the individual, population and community levels of ecology.

Drew Ferrier is a broadly trained aquatic biologist who works with students to investigate the organisms and processes found in oceans, estuaries, lakes and rivers.

With a highly interdisciplinary background in molecular, cellular and developmental biology, genetics and cancer, Georgette Jones works with students on a variety of research studies ranging from early frog development to protein interactions in the human tumor syndrome, Neurofibromatosis Type I.

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

Miranda Darby teaches bioinformatics, a field that combines biology, biostatistics and computer science to develop new tools to analyze and interpret biological data. Students can work with her towards the discovery of new functional elements in the 97 percent of the human genome that does not code for proteins.

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.

As a collaborator with the USDA-ARS Foreign Disease-Weed Science Research Unit, Oney Smith works with Hood students and USDA plant scientists on problems that address the identification and biology of plant pathogens that pose a threat to U.S. agriculture.



About Hood

Founded in 1893 in Frederick, Maryland, Hood College is a coeducational, independent, liberal arts college, which offers bachelor's, master's and doctoral degrees and post-baccalaureate certificates. Home to approximately 1,200 undergraduate students from 25 states and 15 countries, Hood offers 32 majors, 50 minors, and pre-professional preparation in medicine, veterinary science, pharmacy, dentistry and law. Hood students experience small class sizes, where they receive individual attention from supportive faculty. With its proximity to Washington, D.C., Baltimore and the I-270 biotech corridor, Hood gives its students access to countless internships and research opportunities.

At Hood, we are challenging students to improve their critical thinking, communication and collaborative skills and preparing them not just for their first jobs, but for their careers. For high-achieving students, we offer a four-year honors program with a living and learning setting expanding the curriculum with an emphasis on interdisciplinary education through discussion-based seminars, collaborative projects and experiential learning opportunities. Eighty-five percent of first-year students live on campus; more than 40 campus clubs and organizations as well as 22 NCAA Division III athletic teams and two club-level athletic teams create an active and vibrant campus environment.

Hood, in addition to its exceptional undergraduate programs, also offers 19 master's degrees, 10 certificate programs and two doctoral programs. Our graduate programs are designed to work in tandem with our bachelor's degrees so that students can take advantage of five-year, dual-degree programs. Hood is located in a fantastic college town; students are within walking distance of shops, galleries and restaurants and a vibrant downtown. A tremendous alumni network offers students and graduates mentoring, connections, guidance and advice. The Princeton Review, U.S. News & World Report and many other publications have recognized Hood as an affordable top-tier institution.

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Apply: www.hood.edu/apply
Visit: www.hood.edu/visit

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