



## BIOLOGY

### Program Objectives

The Department of Biological Sciences offers a B.S. with the opportunity to concentrate in human biology, biotechnology, and ecology, as well as a two-year non-degree program in pre-pharmacy and post-baccalaureate certificates in premedical studies and pre-veterinary studies.

All programs of study provide students with a liberal arts education emphasizing the sciences. Students also get strong hands-on experience by taking at least 4-6 lab classes, and many students get enhanced practical experience through research positions (volunteer, work study, grant funded, and fellowships) in science research labs at USM and elsewhere.

The Department of Biological Sciences also offers a master's degree in biology, with both thesis research and literature research options.

### Degrees & Concentrations Offered

**Graduation Planner:** [usm.maine.edu/advising/degreeplanning](http://usm.maine.edu/advising/degreeplanning)

**Degree Offered:** Bachelor of Science

**Majors Offered:** Biotechnology, Ecology, General Biology, Human Biology (Pre-Med), Teacher Certification in Life Sciences

**Minor Offered:** Biology

**Master of Science:** Biology

**Concentrations Offered:** Pre-pharmacy program (Non-degree)

**Post-Baccalaureate Certificates:** Pre-medical studies, Pre-veterinary studies

The **Human Biology major** is appropriate for students interested in **Pre-med, pre-dental, pre-professional health sciences**, and **General Biology major** is appropriate for **Pre-vet**.

### Department of Biological Sciences

Portland Campus, 105 Science Building  
(207) 780-4260

Web Address: [usm.maine.edu/bio](http://usm.maine.edu/bio)

### Career Possibilities\*

Animal Scientists  
Bioinformatics Technicians  
Biochemists and Biophysicists  
Biochemical Engineers  
Biological Technicians  
Biological Science Teachers, Postsecondary  
Biologists  
Biomedical Engineers  
Conservation Scientists and Foresters  
Dentists  
Environmental Science Teachers  
Environmental Restoration Planners  
Geneticists  
Molecular and Cellular Biologists  
Optometrists  
Pharmacists  
Physicians  
Veterinarians  
Zoologists and Wildlife Biologists

\* Additional education, training or experience may be required.

### Acquired Transferable Skills

Complex Problem Solving  
Critical Thinking  
Creativity  
Deductive Reasoning  
Information Ordering  
Judgment and Decision Making  
Mathematical Reasoning  
Oral & Written Communication  
Reading Comprehension

For more information on transferable skills go to:  
[usm.maine.edu/community-engagement-career-development/career-tools](http://usm.maine.edu/community-engagement-career-development/career-tools)

## What can I do with this major?\*

AREA	EMPLOYERS	INFORMATION/STRATEGIES
<b>Research &amp; Development</b> Basic or Applied Quality Control Administration	Industry and laboratories Private research institutions Public health departments State and federal government Colleges and universities	<ul style="list-style-type: none"> <li>Learn to set up, operate, maintain laboratory instruments and equipment, and monitor experiments.</li> <li>Seek research experience with professors.</li> <li>Gain experience through part-time jobs, internships, or volunteering.</li> <li>Earn a MS for advancement, more responsibility and higher pay.</li> </ul>
<b>Biomedical</b> Biophysics Biochemistry Cellular/Molecular Bio. Genetics, Immunology Pathology Pharmacology	Colleges and universities Federal government: NIH, CDC, FDA State and local public health depts. Clinics and hospitals Private research foundations Pharmaceutical companies	<ul style="list-style-type: none"> <li>Join related student organizations &amp; demonstrate leadership abilities.</li> <li>Gain laboratory experience through coursework and through faculty-led research projects.</li> <li>Learn to set up, operate, maintain laboratory instruments and equipment, and monitor experiments.</li> <li>Seek internships, part-time employment and volunteer opportunities in the biomedical field.</li> </ul>
<b>Organismal/ Ecological</b> Botany, Ecology Conservation Biology Entomology Marine Biology Genetics, Microbiology Zoology	Colleges and universities Veterinary hospitals NIH, CDC, FDA, EPA, Dept. of Ag Independent laboratories Zoos and aquariums Wildlife preserves and parks Conservation agencies Botanical gardens and arboreta	<ul style="list-style-type: none"> <li>Hone your ability to gather, assess, evaluate, interpret, and share technical and scientific information.</li> <li>Pursue extensive laboratory and research experience by working with faculty, through independent research classes, as a student employee, or through other departmental programs.</li> <li>Gain related part-time jobs, internships, or volunteer experiences.</li> <li>Join student chapters of professional organizations related to your area of interest.</li> </ul>

\*To learn about these areas and much more visit: [whatcanidowiththismajor.com/major](http://whatcanidowiththismajor.com/major) • © 2011 What Can I Do With This Major

## Enrichment Opportunities

<b><u>Internships</u></b>	BIO 441 Problems in Biology (Indep. Study) Various Research Opportunities: <a href="http://usm.maine.edu/cecd">usm.maine.edu/cecd</a>
<b><u>Study Abroad</u></b>	For more information contact the USM Office of International Programs. <a href="http://usm.maine.edu/international/study-abroad">usm.maine.edu/international/study-abroad</a>
<b><u>Clubs &amp; Organizations</u></b>	Biology Club, <a href="#">Biology Club Listserv</a> <a href="#">Biology Majors Listserv</a> .
<b><u>USM Corporate Partners</u></b>	The USM Corporate Partners are over 350 business people, from nearly 100 companies. <a href="http://usm.maine.edu/corporatepartners">usm.maine.edu/corporatepartners</a>

## Helpful Career Links

### **USMCareerConnections:**

USM's career network for job and internship searches. [usm.maine.edu/community-engagement-career-development/usmcareerconnections](http://usm.maine.edu/community-engagement-career-development/usmcareerconnections)

### **O\*NET OnLine:**

Learn more about a career opportunity by researching it with O\*NET. [onetonline.org](http://onetonline.org)

### **Occupational Outlook Handbook:**

Learn more about a career opportunity by researching it with OOH. [bls.gov/oooh](http://bls.gov/oooh)

### **PROFESSIONAL ASSOCIATIONS To name a few...**

[American Institute of Biological Sciences](#)

[American Society for Cell Biology](#)

[American Society for Microbiology](#)

[Biotechnology Institute](#)

[American Society of Human Genetics](#)

[Biotechnology Industry Organization](#)

[Association for the Sciences of Limnology and Oceanography](#)



PORTLAND • GORHAM • LEWISTON • ONLINE

Office of Community Engagement and Career Development • [usm.maine.edu/cecd](http://usm.maine.edu/cecd)

(207) 228-8091  
[usmcareers@maine.edu](mailto:usmcareers@maine.edu)

P.O. Box 9300, Portland, ME 04104-9300  
100 Payson Smith, 96 Falmouth St., Portland Campus