



## Biology

### FROM STUDY TO SKILLS

All academic programs offered at the UM help students develop valuable transferable skills. Biologists study life and living organisms, including their structure, function, growth, origin, evolution, distribution, and taxonomy. Subfields range widely from biochemistry and molecular biology to physiology and ecology.

The various biology concentrations are intended to be part of the broad intellectual experience of a liberal arts

education; at the same time they may prepare students for graduate and professional school. As a biology concentrator, you will develop project skills from research and investigation to analysis and communication.

**Related fields include** Program in the Environment, Chemistry, Psychology, Anthropology, Museum Studies, Pharmacy, Public Health, Medicine, and Statistics.

### SKILLS AND ABILITIES

#### Investigative Skills

- Identifying problems
- Assessing risks
- Defining expected/potential results
- Inspecting specimens
- Cataloging information

#### Research/Quantitative Skills

- Defining problems
- Designing experiments
- Utilizing laboratory equipment
- Using computers for computation/simulation
- Conducting studies
- Recording observations
- Interpreting results
- Utilizing statistical tests to predict outcomes
- Preparing statistical reports

#### Analytical Skills

- Examining components of problems/ideas
- Reasoning logically
- Categorizing data
- Making projections from data
- Organizing ideas/information
- Evaluating the effects of phenomena

#### Communication Skills

- Writing research proposals
- Contributing to teams
- Summarizing research findings
- Explaining complex ideas for technical and nontechnical audiences
- Designing charts, graphs and other visual aides
- Reporting results and conclusions orally and in writing
- Presenting alternative explanations

### BUILDING YOUR SKILLS OUTSIDE THE CLASSROOM

Employers seek out individuals who can demonstrate excellent verbal and written communication skills, teamwork and interpersonal skills, initiative, and a strong work ethic. Student organizations and campus employment offer valuable opportunities to add to the skills you are developing in your classes. The Society of Biology Students is sponsored by MCB and EEB and

presents seminars and sponsors other events, as initiated by the student membership. Other options include study abroad, off-campus employment or volunteering in the community. Finally, a summer internship may be the best way of all to test out a career field and develop marketable skills.

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## FROM SKILLS TO CAREER

Biology concentrators develop both general and technical skills applicable to a wide range of careers in the sciences, health care, business, government, and education. For example, the ability to conduct investigations and perform analyses may be equally useful whether working

as a college administrator, director of biomedical communications, curator of a natural history museum, or teacher. Many concentrators go on to graduate or professional school. The list below is a sample of careers undertaken by Biology graduates.

### Investigative Skills

Environmental protection specialist ✂  
Public health officer 📖  
Water quality inspector ✂  
Food and drug inspector 📖  
Conservationist  
Industrial hygienist  
Pest control consultant

### Quantitative/Research Skills

Biological researcher  
Biochemist 📖  
Biostatistician ✂ 📖  
Data analyst 📖  
Aquarist  
Parasitologist 📖  
Marine biologist 📖  
Botanist 📖  
Zoologist 📖  
Ichthyologist 📖  
Entomologist 📖  
Curator, botanical garden ✂ 📖  
Geneticist  
Food technician  
Toxicologist 📖  
Bacteriologist 📖  
Epidemiologist 📖

### Analytical Skills

Programmer/analyst  
Hunger policy analyst  
College professor 📖  
College administrator 📖  
Administrator, nuclear waste program 📖  
Ecologist 📖  
Bioengineer 📖  
Molecular biologist 📖  
Veterinarian 📖  
Physician 📖  
Health policy consultant 📖  
Administrator, HMO 📖  
Medical librarian 📖

### Communication Skills

Park ranger ✂  
Park naturalist ✂  
K-12 teacher  
Fundraiser, environmental organization ✂  
Science magazine editor  
Technical writer  
Wildlife photographer  
Medical illustrator 📖  
Pharmaceutical sales rep  
Trainer

✂ = Green Jobs

📖 = Further Study Required

For more career information, see O\*Net at [online.onetcenter.org](http://online.onetcenter.org)

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## CONCENTRATION REQUIREMENTS

The undergraduate biology program offers seven different concentrations: Biology, Cellular and Molecular Biology (CMB), Ecology and Evolutionary Biology (EEB), General Biology, Microbiology, Neuroscience, and Plant Biology. We also participate in interdepartmental concentrations in Anthropology-Zoology, Program in the Environment, Biochemistry, and Biophysics. In addition, we offer minors in Biology, EEB, and Plant Biology, along with an Honors program.

For more information, visit

[lsa.umich.edu/biology/concentrations.asp](http://lsa.umich.edu/biology/concentrations.asp)

### Biology Undergraduate Program

1111 Kraus Natural Science Building  
734-764-2446  
[lsa.umich.edu/biology/](http://lsa.umich.edu/biology/)

### Newnan Advising Center

1255 Angell Hall  
734-764-0332  
[lsa.umich.edu/advising](http://lsa.umich.edu/advising)

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## NEXT STEPS/RESOURCES

To begin connecting to professionals in fields that interest you, create your own LinkedIn account:

[careercenter.umich.edu/article/getting-started-linkedin](http://careercenter.umich.edu/article/getting-started-linkedin)

To identify internships or job opportunities, visit Career Center Connector: [careercenter.umich.edu/article/c3](http://careercenter.umich.edu/article/c3)

On campus jobs (work-study and non work-study jobs) are listed at: [studentemployment.umich.edu/JobX\\_Home.aspx](http://studentemployment.umich.edu/JobX_Home.aspx)

Maize Pages list hundreds of organizations for students to get involved in: [maizepages.umich.edu](http://maizepages.umich.edu)

Connect to Community lists volunteer opportunities in local organizations: [connect2community.umich.edu](http://connect2community.umich.edu)

### The Career Center

3200 Student Activities Building  
734-764-7460  
[www.careercenter.umich.edu](http://www.careercenter.umich.edu)  
[www.facebook.com/careercenter.umich](http://www.facebook.com/careercenter.umich)  
<http://twitter.com/careercenter>  
[linkedin.com/company/the-career-center-at-the-university-of-michigan](http://linkedin.com/company/the-career-center-at-the-university-of-michigan)

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