

Majoring in

Biology

Description of Biology

What is biology?

Biology is the study the science of living systems.

What do biology majors study?

Biology majors study living organisms and life processes by observing the structure, function, reproduction, growth, evolution, and behavior of microorganisms, plants, and animals. Biology majors learn interrelationships of all living organisms to themselves and to their natural environment.

What skills do biology majors have?

Biology majors usually possess:

- Good math skills;
- Ability to organize, analyze and interpret data;
- Ability to observe things critically;
- Proficiency and interest in laboratory work; and
- Ability to conduct and explain scientific research.

What else do biology majors study?

Biology is considered a liberal arts major. This means that students take a variety of courses in addition to those required in the major. These courses help develop knowledge and skills that are applied throughout one's lifetime.

Liberal arts courses provide a background to strengthen critical thinking; problem solving; written, oral, and interpersonal communication; quantitative, analytical, and reasoning skills. These skills are considered very important for future success in the workplace. A strong liberal arts background also provides the foundation of an educated person.

Course Requirements

General education: About 60 credit hours of general education courses are required. These courses give a broad range of knowledge in math, general chemistry, behavioral science, foreign language, writing, arts, ethics, civilization, literature, and urban environment.

Major courses: A minimum of 40 credit hours of biology courses are required including at least six lab courses. Biology majors take courses such as:

- Bioinformatics
- Cell biology
- Ecology
- Genetics
- Histology
- Immunology
- Marine biology
- Microbiology
- Molecular biology
- Ornithology
- Physiology
- Plant development
- Vertebrate natural history

Collateral courses: A minimum of 21 credits of additional science courses are required in this major, including two semesters of organic chemistry with labs and two semesters of physics with labs.

Electives: Generally, biology majors take few elective credits because their general education, major and collateral courses give them enough hours to graduate. By taking an additional chemistry class (either qualitative analysis with the lab or physical chemistry), biology majors will earn a minor in chemistry.

Careers in Biology

The biology major provides a good background for entry to any number of professional fields. Some of these careers include:

- Aquarium and museum worker
- Environmental analyst
- Forester
- Horticulturist
- Lab technician
- Management trainee
- Paramedic
- Pharmaceutical sales rep
- Pharmacy technician
- Scientific writer
- State parks and recreation worker
- Wildlife resource worker

About half of biology majors go on to graduate school. Many are admitted to medical, dental, veterinary, or other health sciences programs. Other students enter Ph.D. program in biology or related disciplines. The following are examples of careers that require an advanced degree.

- Biology professor
- Chiropractor
- Dentist
- High school biology teacher
- Hospital administrator
- Pharmacist
- Physical therapist
- Physician
- Physician assistant
- Public health official
- Veterinarian

Next Steps

If you are interested in learning more about becoming a biology major at VCU, consider doing each of the following things. Check them off as you complete each step.

- Check out the VCU biology webpage at www.has.vcu.edu/bio/.
- Take a general biology and general chemistry course.
- Read about the major in the *Undergraduate Bulletin*.
- Review the biology major graduation worksheet with an academic advisor.
- Talk to one or more upper-level biology students about their major experience.
- Discuss the major with one or more biology professors.
- Go to the Career Center to read about careers in biology.
- Go to the VCU bookstore and browse through the biology textbook section.
- Explore undergraduate research and internship possibilities through the Biology Department and the Career Center.

☐ Check out the American Institute of Biological Sciences' webpage at www.aibs.org for information on topics related to the study of biology.

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