

What can I do with a degree in... **BIOLOGY**

What is **BIOLOGY?**

Biology is the science of life. Under the biology umbrella are life-related topics such as zoology, botany, genetics, biotechnology, evolution, structures of organisms, processes that organisms undergo to sustain life, reproduction, classification of organisms, and more. Biologists make observations about life, evaluate these observations, and solve problems. Through their studies, biologists use discoveries to aid in awareness of life, and find new ways to protect life against dangers. Graduates with bachelor's degrees in biology often start out as technicians in the field. With further education, it is possible to teach, become a doctor, or advance in an area of specialty.

Our inclusive curriculum produces graduates who understand the scope and perspective of modern biology. The biology program prepares students to succeed at the next level, whether that's pursuing a career in biological research, health professions, business, or education, or going on to post-graduate studies. We offer a broad range of learning opportunities, including traditional classroom experiences, hands-on experiences in the field and the laboratory, independent study, and full student engagement in research.

What are the **DEGREE OPTIONS?**

Bachelor of Science (B.S.) in Biology

NOTE: Students who wish to teach Biology at the high school level may earn a Bachelor of Science in Education (B.S. Ed.) in Secondary Science Education and choose the Biology concentration. Students may also opt to minor in Biology.



What are the **CONCENTRATIONS?**

There are four undergraduate degree options available to students within the biology major: **Pre-Health Professional, Ecology, Molecular Biology, and General Biology.**

- **Pre-Health Professional:** Students wishing to apply for medical or other health-related professional school may select this concentration.
 - **Ecology:** Students interested in studying the interactions of organisms and their environment should choose this option.
 - **Molecular Biology:** Students interested in studying biology at the molecular level should choose this option.
- General Biology:** Students who seek an introductory understanding of all types of Biology taught at WCU should choose this option.

What is the **ADMISSION PROCESS?**

Students declare the Biology major with the Advising Center, 2nd floor of Killian Annex. Please make an ap-

pointment with your advisor via your MyWCU student portal.

What **JOBS ARE AVAILABLE?**

Our graduates work in a variety of careers including agricultural technician, dentist lab technician, atmospheric scientist, doctor, meteorologist, avian biologist, ecologist, molecular cell biologist, biology technician, forensic scientist, professor/teacher, bioengineer, food scientist, product development, wildlife biologist, industrial quality control, environmental protection research, medical and science research, and more. *NOTE: Many careers require advanced degrees. Talk to your advisor or a career counselor in the CCPD for further information.*

Who employs **BIOLOGY** graduates?

Our graduates work in a variety of industrial sectors including healthcare, non-profit conservation organizations, primary and secondary schools, colleges and universities, science museums, zoos and aquariums, business and industries, and government agencies.

MAJOR MAP

How to use this map: Review the four categories and suggestions of activities and when you should consider engaging in them. Remember, these are just suggestions! There is a fillable space for you to add in any other ideas you have to set yourself up for success in life after college.

1st YEAR

2nd YEAR

EXCEL IN ACADEMICS

The courses you take your first year will depend on your concentration and when you declare your major. However, many students focus on liberal studies requirements and introductory biology classes. Check out the [8-semester plan for your concentration](#) and make an appointment with your advisor.

Courses your second year will likely focus more on biology, chemistry, and math courses. Be sure to check out the [8-Semester Plan or your concentration](#) and make an appointment with your advisor.

GET HANDS-ON EXPERIENCE

Check out [WCU's DegreePlus program](#) and choose which events in any of the four categories you want to attend. Categories include: Professionalism, Teamwork, Leadership, or Cultural Responsiveness.

See what on-campus employment opportunities are available by logging in to [JobCat 2.0](#).

Get involved with the Biology Club.

If you are thinking about attending a health-related professional or other graduate school, start engaging in hands-on experiences required in professional school admissions.

Engage deeper with [DegreePlus](#); choose an additional competency to complete

BE PART OF THE COMMUNITY

Connect with the [Center for Service Learning](#) and ask about the [Lily Award](#), a program aimed to encourage students to be connected with their community.

Develop deeper relationships with the organizations for which you volunteer. Ask for special projects or responsibilities that you can highlight on a resume.

Consider [study abroad opportunities related to Biology](#). Talk with a study abroad advisor about targeted experience for your concentration.

PREPARE FOR LIFE AFTER COLLEGE

Further explore your career options or career interests using the [Center for Career and Professional Development's](#) online resources, [Vault](#), [Focus 2](#), and Onet Online.

Connect with a career counselor early on to explore opportunities and experiences you can do while in college to further develop your professional resume.

Attend the [Catamount Career and Networking Day](#) to identify summer, part-time, or internship opportunities for additional hands-on opportunities.

Start a spreadsheet of professional/ graduate schools you wish to apply to in a few years with their admission requirements so that you are aware of what the expectations are.

Looking for a minor? Consider these options:

Chemistry
Environmental Health
Geology

Natural Resource Management
Parks & Recreation Management
Philosophy

Psychology

3rd YEAR

Third level courses focus heavily on science courses including biology and chemistry. Be sure to check the [8-Semester Plan for your concentration and your advisor](#) for more information.

Consider internship experiences that will give you practical and hands-on experience to put on a resume.

Consider networking with professionals in your field at national or regional professional conferences such as the [American Institute of Biological Sciences' professional development workshops](#) or the [American Society for Biochemistry and Molecular Biology annual conference](#).

Continue to build relationships and volunteer with area organizations in your field.

Connect with alumni in your field through [LinkedIn](#)

Visit the CCPD to hone your professional resume and cover letter. Apply for internships. Utilize the [Writing and Learning Commons](#) for MCAT, GRE, and other professional exam preparation sessions. Take the MCAT, GRE, etc. Use [Big Interview](#) to learn more about professional interviews.

Schedule a visit to tour professional schools of your choice, if applicable.

4th YEAR

Courses in your final year will focus on biology courses within your interests of study. Be sure to review the [8-semester plan](#), make an appointment with your advisor, complete your degree audit, and [apply for graduation!](#)

Investigate requirements for full-time jobs. Assess what skills or experiences you're lacking and invest time in seeking additional opportunities such as certification programs, classes, or professional development workshops during your last year to fill that gap. Connect with your faculty advisor or career counselor.

Join professional Biology organizations such as the [American Institute of Biological Sciences](#) and the [American Society for Cell Biology](#).

Network with employers and non-profits at the [Cata-mountain Career and Networking Days](#).

Apply to professional/ graduate schools, if applicable.

Look for and [apply for jobs](#) between 4 and 6 months before graduation.

Polish your resume, cover letter, and interview skills by using the [CCPD](#).

Internships are still the number-one educational experience employers look for in a recent college graduate resume. (Chronicle of Higher Education's study on 59,000 employers)

DID YOU KNOW?

MORE INFORMATION

INTERNSHIP Information

At Western Carolina University there are numerous internship opportunities for students. In some cases internships are established through a faculty member in the student's major. Oftentimes students find part-time jobs in an area related to their field of study. When this happens, students should discuss with their academic advisor the possibility of receiving college credit. Generally, three hours of general elective credit can be earned for a minimum of 200 hours of experience.

SKILLS LEARNED in the classroom

The core competencies will center on developing skills, knowledge, and attitudes such as:

- independent thinking
- critical thinking
- problem solving
- written and oral communication
- professional teamwork
- analytical and quantitative reasoning
- curiosity and creativity
- statistical evaluation
- scientific research skills
- technical skills

KNOWLEDGE Base

This program will prepare students to:

- understand the basic principles of biology and how they are connected by evolutionary processes
- perform basic biological investigations, apply biological

principles across the disciplines of biology, mathematical, chemical and the ability to apply physical concepts/applications to biological problems.

- Develop quantitative, communication, and technical skills for successful contributions to the sciences and to society

Professional **RESOURCES**

- American Institute of Biological Sciences: www.aibs.org/home/index.html
- Botanical Society of America: www.botany.org
- Ecological Society of America: www.esa.org
- Federation of American Societies for Experimental Biology: www.faseb.org
- Professional forum for Cell Biology: www.ascb.org
- Society for Conservation Biology: conbio.org
- Job boards: sciencejobs.com, biologyjobs.com, aibs.org/careers

QUESTIONS?

For questions, please call the Biology program at 828-227-3648 or visit biology.wcu.edu.

To schedule an appointment with a career counselor, contact the Center for Career and Professional Development, 828-227-7133 or careerservices@wcu.edu.