What I CAN Do with A Major in Biology

General Information

- A **Bachelor's degree** will qualify you to work as a laboratory assistant, technician, technologist, or research assistant in education, industry, government, museums, parks, and gardens.
- An undergraduate degree can also be used for nontechnical work in writing, illustration, sales, photography, and legislation.
- **Master's degrees** allow for more opportunities in research and administration. Some community colleges will hire Master's level teachers.
- **Doctoral degrees** are necessary for advanced research and administrative positions, university teaching, and independent research.
- Master's and doctoral degrees also provide the opportunity to specialize in fields of interest.
- In general, the biological sciences are good preparation for a career in healthcare such as medicine, dentistry, optometry, pharmacy, and veterinary science, but professional degrees and licenses are also necessary to practice in these fields.

Activities that you should do as an undergraduate to make yourself competitive for a job:

- Learn and understand laboratory procedures and become familiar with equipment.
- Learn to work well as a member of a team.
- Develop work habits that are systematic, precise, and patient.
- Learn how to precisely follow instructions.
- Learn to problem solve using critical thinking skills.
- Develop strong analytical, computer, mathematics, and communications skills.
- Get involved in undergraduate research under the direction of a faculty member.
- Become proficient in Microsoft Office Suite products.
- Learn R statistical software.
- Maintain a high GPA to improve your chances of graduate and professional school admission.
- Join the Biology Honor Society, Beta Beta Beta, and be an active participant.
- Develop strong relationships with professors outside the classroom.
- Find summer, part-time, volunteer, or internship experience to test your fields of interest and gain valuable experience.
- Participate in summer research institutes and participate in research symposiums.
- Join professional associations and community organizations to stay well-informed of current issues in the field and to develop networking contacts.
- Read scientific journals related to your area of interest.
- Learn the federal, state, and local government job application process. The federal government is the largest employer of biologists.
- Get experience with writing research proposals. Often research must be funded in this manner.

With a bachelor's degree in biology, you can be employed in:

- Governmental laboratories such as the Department of Agriculture, Fish and Wildlife Services
- Federal and state laboratories and agencies
- State laboratories and agencies
- Food, chemical, and cosmetic companies
- Agricultural industry including animal and plant breeding and production
- Agricultural experiment stations
- Industry, including wood products, paper, textiles, leather, and electrical equipment
- Colleges and universities
- Professional schools of medicine, dentistry, public health, pharmacy, veterinary medicine
- Pharmaceutical companies
- Public Health Service
- Botanical gardens and arboretums
- Zoos and aquariums
- Conservation agencies
- Environmental agencies
- Environmental research
- Environmental education
- Pollution control agencies
- Museums
- Fish hatcheries and organizations raising fish
- Large producers of seed, livestock, and poultry
- Wildlife preserves and parks
- Nature centers
- Hospitals, medical centers and clinics
- Research laboratories in medical schools
- Independent testing laboratories
- Private research laboratories and service agencies
- Armed services
- Manufacturing firms including pharmaceuticals, animal pharmaceuticals, laboratory equipment, medical supplies, and prostheses
- Chemical manufacturers
- National and international environmental research programs
- Inspection agencies and control boards
- Drug companies
- Biotechnology industry, including bioinformatics

Where you end up being employed depends upon the job market, location of the above facilities, as well as where you are willing to relocate. Finding that initial job may take a lot of work on your part through applications and interviews. Be persistent.

Why are there four options and two majors in the Biology Department and for what careers are they designed?

The **cellular and molecular biology option** is designed for students who wish to prepare for positions in biotechnology, biochemistry, or medical research at the entry level or to pursue graduate study in these fields. This option prescribes additional coursework in biology, mathematics and physics. A minor in chemistry is required.

The **environmental biology option** is designed for students who wish to prepare for positions requiring a general background in biology, with additional work in chemistry, physics, earth science, and mathematics. This option should prepare the student for positions in natural resource utilization, environmental research, and environmental education; or for graduate work in environmental biology.

The **general biology option** is designed for students who wish to prepare for fields requiring a general background in biology or to follow preprofessional curricula for which general preparation in biology is required or recommended. The major requires additional coursework in chemistry and mathematics as well as coursework to complete a minor in any discipline. This option is particularly popular with students who have other interests besides the sciences for study. Some of our more popular minors include psychology, geography, sustainability and business.

The **professional biology option** is designed especially for students who wish to prepare for positions in biology through graduate study or through research and technical areas at the baccalaureate level. This major prescribes a minor in chemistry and additional course work in mathematics and physics.

The **marine biology major** is designed for students who wish to prepare for positions in the area of marine or aquatic biology or who plan graduate study in these fields. The standard courses for the major are offered on the university campus, with the specialized courses being taken through the Dauphin Island Sea Laboratory (DISL) near Mobile, Alabama. Students interested in this major should consult early with the chair of the department concerning courses, prerequisites, special arrangements, and costs. Requirements include a prescribed minor in chemistry and additional coursework in mathematics and physics.

All options and majors give you a strong background in biology, chemistry and mathematics to pursue any career path that interests you.