

## Careers in Biology

Below is a sampling of possible careers in Biology. However, obtaining a B.S. degree in Biology is just the first step. An advanced degree will be required for the majority of these and other careers.

### **ACADEMIA**

Community college instructor  
High school teacher  
Researcher  
University professor

### **GOVERNMENT AGENCIES**

Center for Disease Control  
Department of Agriculture  
Department of Energy  
Environmental Protection Agency  
Fish hatcheries  
Health & Human Services Dept.  
Museum curator  
Museum technician  
National Institutes of Health  
National Parks Service  
National Science Foundation  
Patent Office  
Peace Corps  
State Parks  
Researcher

### **HEALTH-RELATED PROFESSIONS**

**Biomedical Researcher** *[looks for ways to prevent & treat diseases that cause illness and death in people and in animals]*  
**Chiropractic medicine** *[emphasizes diagnosis, treatment and prevention of mechanical disorder of the musculoskeletal system, especially the spine]*  
**Clinical Laboratory Scientist** *[perform lab procedures, such as testing specimens and recording results]*  
**Dentist** *[specializes in the diagnosis, prevention, and treatment of diseases and conditions of the oral cavity]*  
**Dietitian/Nutritionist** *[expert in food and nutrition; advise people on what to eat in order to lead a healthy lifestyle or achieve a specific health-related goal]*  
**Medical genetics** *[specialty of medicine that involves the diagnosis and management of hereditary disorders]*  
**Medical illustrator** *[create visual material to help record & disseminate medical, biological & related information]*  
**Medical librarian** *[teach health care providers how to access and evaluate information; help them stay abreast of and learn about new developments in their fields; contribute expertise on a variety of topics]*  
**Nuclear medical technologist** *[highly specialized health care professional who use a scanner to create images of various areas of a patient's body; prepare radioactive drugs and administer them to patients undergoing the scans]*  
**Occupational health & safety inspector** *[collect data on the safety and health conditions of the workplace]*  
**Occupational therapist** *[treat injured, ill, or disabled patients through the therapeutic use of everyday activities]*  
**Optometrist** *[trained to prescribe and fit lenses to improve vision]*  
**Osteopath** *[doctor who practices a whole-person approach, meaning they consider both the physical and mental needs of their patients; a "holistic" approach to health care]*  
**Pathologist** *[study diseases]*

**Physical therapist** *[help injured or ill to improve movement and manage pain]*

**Physician** *[promotes, maintains or restores human health through diagnosis and treatment of disease, injury, and other physical & mental impairments]*

**Physician assistant** *[practice medicine under the supervision of physicians and surgeons]*

**Podiatrist** *[provide medical care for people with foot, ankle, and lower leg problems; diagnose illnesses, treat injuries, and perform surgery involving the lower extremities]*

**Psychiatrist** *[medical doctor who evaluates patients to determine whether or not their symptoms are the result of a physical illness, or a combination of physical and mental, or strictly a psychiatric one]*

**Psychologist** *[evaluate, diagnose, treat, and study behavior and mental processes]*

**Public health educator** *[teach people about behaviors that promote wellness]*

**Veterinarian** *[treat disease, disorder and injury in animals]*

**Veterinarian assistant** *[helps veterinarian during patient examination]*

**Veterinarian technician** *[able to give medical tests to animals and administer various types of medical care]*

## **INDUSTRY/PRIVATE SECTOR**

Advertising agencies

Aquariums

Beverage companies

Biological illustrator

Biological photographer

Chemical industries

Consulting firms

Environmental consulting firms

Environmental Law-Attorney

Medical supply companies

Pharmaceutical companies

Researcher

Sales: Agro-industry, Biotechnology, Pharmaceutical, Scientific equipment, Zoological parks

## **RESEARCH AND DEVELOPMENT (opportunities exist in academia, government, and private industry)**

**Animal ecologist** *[study the ways animals fit into their environment and how these relationships can be improved to benefit both the environment and animal production]*

**Arachnologist** *[study spiders and related animals such as scorpions]*

**Aquaculturist** *[raise a diverse array of aquatic plants and animals in controlled or semi-controlled settings]*

**Bacteriologist** *[review bacteria growth and its effects on animals and the ecosystem]*

**Behavioral biologist** *[study the interaction between behavior and biology and the interconnected ways in which they influence each other]*

**Biochemist** *[study the chemical and physical principles of living things and of biological processes, such as cell development, growth, and heredity]*

**Bioinformatician** *[create mathematical models, develop dynamic simulations, and perform analyses of biological systems. Also known as biostatisticians, biometricians, and computational biologists.]*

**Biophysicist** *[look for the patterns in life and analyze them with math and physics]*

**Biotechnologist** *[develop products from living systems]*

**Botanist** *[scientist who specializes in plant life]*

**Cell biologist** *[study all aspects of cells, from their interactions with each other and their environments to their cellular and atomic composition]*

**Climatologist** *[study climate change, climate variability, and the effects of climate on the biosphere]*

**Conservation biologist** *[study of the nature and status of Earth's biodiversity with the aim of protecting species, their habitats, and ecosystems from excessive rates of extinction and erosion]*

**Cytologist** *[work in labs using a variety of tests to investigate human cell samples for signs of cancer and other diseases]*

**Developmental biologist** *[seek to understand the emergence of all the complexity of a human, an insect, or a flower from a single fertilized ovum]*

**Ecologist** *[study the interactions among organisms and their environment]*

**Embryologist** *[most commonly work with physicians to assist their patients with reproductive health issues and clinical research]*

**Endocrinologist** *[a physician who specializes in the management of hormone conditions]*

**Entomologist** *[scientist who studies insects]*

**Environmental analyst** *[the use of analytical chemistry and other techniques to study the environment, commonly to monitor and study levels of pollutants in the atmosphere, rivers and other specific settings]*

**Environmental scientist** *[uses a multidisciplinary approach that integrates physical, biological, and information sciences to study the environment and the solution of environmental problems]*

**Epidemiologist** *[public health professional who investigates patterns and causes of disease and injury in humans]*

**Evolutionary biologist** *[study & research biodiversity, the way in which life on earth has evolved and how organisms interact]*

**Food Safety Specialist** *[preserve our food supply by assuring that it is wholesome, sound, and safe; understand and apply federal, state, and local laws, rules, and regulations governing food protection]*

**Forensic biologist** *[work with police departments and other law enforcement agencies using scientific methods to discover and process evidence that can be used to solve crimes]*

**Forensic pathologist (medical examiner)** *[specially trained physicians who examine the bodies of people who died suddenly, unexpectedly, or violently. Responsible for determining the cause and manner of death.]*

**Geneticist** *[biologist who studies genetics, the science of genes, heredity, and variation of organisms]*

**Herpetologist** *[study amphibians and reptiles]*

**Histologist** *[examine & analyze cells and body fluids, searching for parasites, bacteria and other microorganisms.]*

**Histopathologist** *[provides expert medical interpretation of cells and tissue samples; determines the cause of death by performing autopsies and is integral to cancer management through staging and grading of tumors]*

**Horticulturalist** *[performs research designed to promote efficiency in the growth, harvest, and storage of crops]*

**Hydrologist** *[help assess and protect our water supplies and water quality]*

**Ichthyologist** *[works to solve the problems that fish & their environment face through analysis and research]*

**Immunologist** *[study, analyze and/or treat disease processes that involve the immune system]*

**Invertebrate zoologist** *[study animals w/out a backbone, ex: sponges]*

**Limnologist** *[study inland waters, ex: lakes, ponds, rivers, springs, wetlands]*

**Mammalogist** *[sometimes called zoologists or wildlife biologists, study mammal population management, taxonomy, evolutionary history, behavior, anatomy and physiology]*

**Marine biologist** *[study life—plant & animal—in oceans & other saltwater environments such as estuaries & wetlands]*

**Microbiologist** *[study living organisms that are invisible to the naked eye, such as bacteria and fungi; or nonliving organisms-- viruses]*

**Molecular biologist** *[study the molecular basis of the phenomena of living things. Can be researchers, technicians, or teachers]*

**Molecular geneticist** *[examine samples of patients' DNA to identify genetic abnormalities which may be part of inherited diseases]*

**Mycologist** *[study fungi, including their genetic and biochemical properties, their taxonomy, and their use to humans as a source for medicine, food, etc]*

**Nematologist** *[study roundworms; interested in plant and animal agriculture, or in soil or water ecology]*

**Neurobiologist** *[study the biology of the nervous system to determine how it functions in order to better understand and treat neurological disorders such as strokes, Alzheimer's disease, Parkinson's disease and schizophrenia]*

**Oceanographer** *[uses science and mathematics to study and explain the complex interactions between seawater, freshwater, polar ice caps, the atmosphere and biosphere]*

**Ornithologist** *[study birds]*

**Paleobotanist** *[studies fossil plants]*

**Paleontologist** *[study what fossils tell us about the ecologies of the past, about evolution, and about our place, as humans, in the world]*

**Parasitologist** *[study parasites wherever they occur and whether they are viruses, bacteria, worms or insects]*

**Plant pathologist** *[deal with the symptoms, causes, damage, spread, and control of plant diseases]*

**Plant physiologist** *[study the physical, chemical, and biological functions of living plants, from the whole plant down to the cellular level]*

**Population biologist** *[conduct basic and applied research into the factors that affect the population sizes of specific biological organisms, ranging from prolific insects to endangered mammals]*

**Soil scientist** *[gathers, interprets and evaluates information about the chemistry, biology and physics of soils to inform and influence issues as diverse as agricultural production, environmental quality, human health, climate change]*

**Toxicologist** *[study the effects of potentially harmful chemicals on people, animals, and the environment]*

**Virologist** *[study the structure of viruses; develop strategies to interfere with the stages of virus replication; can discover new viruses or identify viruses causing epidemics in plants or animals]*

**Wildlife biologist** *[complete research that helps to better manage our natural resources; may specialize in fields such as genetics, ecology, behavior, disease, nutrition, population dynamics, land use, pollution]*

**Zoologist** *[study animals and other wildlife and how they interact with their ecosystems; study the physical characteristics of animals, animal behaviors, and the impacts humans have on wildlife and natural habitats]*

**Most recent undergraduates from UNCW have been accepted to the following professional schools:**

- Barry University [Florida] (PA)
- Brenau University [Georgia] (Occupational Therapy)
- Campbell University [North Carolina] (DO & Pharmacy)
- Des Moines University [Iowa] (DO)
- Drexel University [Pennsylvania] (MD)
- Duke University [North Carolina] (PA)
- East Carolina University [North Carolina] (Dental & PA)
- Eastern Virginia Medical School (PA)
- LECOM School of Dental Medicine [Florida]
- Methodist College [North Carolina] (PA)
- New York College of Podiatric Medicine
- New York Institute of Technology College of Osteopathic Medicine
- Penn State (Optometry)
- Philadelphia College of Osteopathic Medicine
- UNC-Chapel Hill (Dentistry & Pharmacy)
- UNC-Greensboro (Master of Public Health)
- University of Alabama (MD)
- University of Cincinnati (MD)
- University of Detroit School of Dentistry
- Virginia Commonwealth University (Pharmacy)
- Virginia Tech School of Medicine
- Wingate University [North Carolina] (Pharmacy)