BIOLOGY

What is Biology? (from http://uncw.edu/career/biology.html)

According to the American Institute of Biological Sciences, “Biologists learn how living things work, how they interact with one another, and how they evolve. They may study cells under a microscope, insects in a rainforest, viruses that affect human beings, plants in a greenhouse, or lions in the African grasslands. Their work increases our understanding about the natural world in which we live and helps us address issues of personal well being and worldwide concern, such as environmental depletion, threats to human health, and maintaining viable and abundant food supplies.”

What is this career like?

“Many biological scientists work in research and development. Many research scientists must submit grant proposals to obtain funding for their projects. Colleges and universities, private industry and federal government agencies such as the National Institutes of Health and the National Science Foundation contribute to the support of scientists whose research proposals are determined to be financially feasible and to have the potential to advance new ideas or processes. Scientists usually conduct research in laboratories using a wide variety of other equipment. Some conduct experiments involving animals or plants. Scientists often work in teams, interacting with engineers, scientists of other disciplines, business managers, and technicians. Some biological scientists also work with customers or suppliers and manage budgets. Biological scientists typically work regular hours. While the 40-hour workweek is common, longer hours are not uncommon. Researchers may be required to work odd hours in laboratories or other locations (especially while in the field), depending on the nature of their research.”

Related Career Titles (from http://uncw.edu/career/biology.html)

<table>
<thead>
<tr>
<th>Agronomist</th>
<th>Environmental Engineer</th>
<th>Marine Engineering Tech</th>
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<tbody>
<tr>
<td>Animal Scientist</td>
<td>Environmental Health</td>
<td>Marine Fisheries/Worker</td>
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<tr>
<td>Aquaculture Farmer</td>
<td>Environmental Protection</td>
<td>Marine Geologist</td>
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<tr>
<td>Aqua Culturist</td>
<td>Ergonomist</td>
<td>Marine Sales</td>
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<tr>
<td>Aquarium &amp; Museum</td>
<td>Fish Hatchery Tech</td>
<td>Marine Tourist Worker</td>
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<tr>
<td>Aquarium Technician</td>
<td>Fisheries Conservation</td>
<td>Market Research Analyst</td>
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<tr>
<td>Aquatic Biologist</td>
<td>Florist</td>
<td>Medical Illustrator</td>
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<tr>
<td>Barrier Beach Mgr.</td>
<td>Food Scientist-Tech</td>
<td>Medical Laboratory Tech.</td>
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<tr>
<td>Bio-Engineer</td>
<td>Forester</td>
<td>Medical Librarian</td>
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<tr>
<td>Bio-Technologist</td>
<td>Genetic Eng. Research</td>
<td>Medical Technologist</td>
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<tr>
<td>Biochemist</td>
<td>Geographer</td>
<td>Meteorologist</td>
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<tr>
<td>Biometrician</td>
<td>Health Officer</td>
<td>Microbiologist</td>
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<tr>
<td>Boat Builder &amp; Repair</td>
<td>Horticulturist</td>
<td>Molecular Biologist</td>
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<tr>
<td>Botanist</td>
<td>Hospital Administrator</td>
<td>Mortician</td>
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<tr>
<td>Chiropractor</td>
<td>Industrial Hygienist</td>
<td>Mycologist</td>
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<tr>
<td>Coastal Resources Mgr.</td>
<td>Industrial Marine Econ.</td>
<td>Naval Architect</td>
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<tr>
<td>Commercial Fishing Eng.</td>
<td>Limnological Technician</td>
<td>Net Designer</td>
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<td>Coroner</td>
<td>Marine-Coastal Consult.</td>
<td>Neurobiologist</td>
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<tr>
<td>Dentist</td>
<td>Marine Bacteriologist</td>
<td>Oceanographer</td>
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<tr>
<td>Dietitian &amp; Nutritionist</td>
<td>Marine Biologist</td>
<td>Paramedic</td>
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<tr>
<td>Ecologist</td>
<td>Marine Ecologist</td>
<td>Parasitologist</td>
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<tr>
<td>Pharmacy Technician</td>
<td>Physical Therapist</td>
<td>Pharmaceutical Sales</td>
</tr>
<tr>
<td>Science Lab Tech.</td>
<td>Public Health Worker</td>
<td>Physician</td>
</tr>
<tr>
<td>Zoologist</td>
<td>Science Teacher</td>
<td>Salt Marsh Manager</td>
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<tr>
<td>Wildlife Resources Mgr.</td>
<td>State Parks &amp; Recreation</td>
<td>Science Writer</td>
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<tr>
<td>Technical Writer</td>
<td>Test-Inspection Tech.</td>
<td>Soil Conservationist</td>
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<tr>
<td>Underwater Technician</td>
<td>Veterinarian</td>
<td>Systems Analyst</td>
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<tr>
<td>Geophysicist/Physicist</td>
<td>Wildlife Biologist</td>
<td>Toxicologist</td>
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<tr>
<td>Water Quality Technician</td>
<td>Film Maker</td>
<td>Science Illustrator</td>
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<tr>
<td>Commercial Inland Water Transportation Worker</td>
<td>Seafood Processor-Researcher</td>
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**How do you get ready?**

- A bachelor’s degree will qualify one for 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.
- An advanced degree provides the opportunity to specialize in fields of interest.
- The biological sciences are good preparation for a career in healthcare, such as medicine, dentistry and veterinary science, but professional degrees and licenses are also necessary to practice in these fields.
- Learn laboratory procedures and become familiar with equipment.
- Obtain summer, part-time, volunteer, co-op, or internship experience to test the fields of interest and gain valuable experience. Take independent research classes if possible.
• Participate in summer research institutes. Submit research to local poster competitions or research symposiums.
• Develop strong analytical, computer, mathematics and communications skills.
• Join professional associations and community organizations to stay abreast of current issues in the field and to develop networking contacts.
• Read scientific journals related to your area of interest.
• Maintain a high grade point average to improve chances of graduate and professional school admission.
• Become familiar with the specific entrance exam for graduate or professional schools in your area of interest.
• Secure strong relationships and personal recommendations from professors and/or employers.
• Consider completing a post doctoral experience after graduate school.
• Learn federal, state, and local government job application process. The federal government is the largest employer of biologists.
• Gain experience with grant writing and fundraising techniques. Often research must be funded in this manner.

Related Major Skills (from http://uncw.edu/career/biology.html)

<table>
<thead>
<tr>
<th>Operate scientific equipment</th>
<th>Independent worker</th>
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<tbody>
<tr>
<td>Information handling &amp; organization</td>
<td>Curiosity and creativity</td>
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<tr>
<td>Biology theory &amp; practical knowledge</td>
<td>Statistical awareness</td>
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<tr>
<td>Oral &amp; written communication</td>
<td>Numerical computation</td>
</tr>
<tr>
<td>Analytical &amp; quantitative abilities</td>
<td>Innovative talents</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Technical skills</td>
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<tr>
<td>Teamwork</td>
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</table>

What about the future?

“Employment of biological technicians is projected to grow 10 percent from 2012 to 2022, about as fast as the average for all occupations. Greater demand for biotechnology research is expected to increase the need for these workers.”

For specific career information, go to http://www.bls.gov/ooh/

Available at Albright College Career Development’s Resource Library

• Great Jobs for Biology Majors, by Blythe Camenson
• Careers for Animal Lovers and Other Zoological Types, by Louise Miller
• Careers for Environmental Types and Others Who Respect the Earth, by Jane Kinney and Michael Fasulo
• Careers for Nature Lovers and Other Outdoor Types, by Louise Miller
• Careers for Plant Lovers and Other Green Thumb Types, by Blythe Camenson
• Careers for Scientific Types and Others with Inquiring Minds, by Jan Goldberg
• Opportunities in Biological Science Careers, by Charles A. Winter
• Opportunities in Biotechnology Careers, by Sheldon S. Brown
• Opportunities in Dental Care Careers, by Bonnie Kendall
• Opportunities in Environmental Careers, by Odom Fanning
• Opportunities in Eye Care Careers, by Kathleen Belikoff
• Opportunities in Forestry Careers, by Christopher M. Wille
• Opportunities in Horticulture Careers, by Jan Goldberg
• Opportunities in Physical Therapy Careers, by Bernice R. Krumhansl
• Opportunities in Physician Careers, by Jan Sugar-Webb
• Opportunities in Public Health Careers, by George E. Pickett and Terry W. Pickett
• Opportunities in Research and Development Careers, by Jan Goldberg
• Opportunities in Sports Medicine Careers, by William R. Heitzmann
• Opportunities in Veterinary Medicine Careers, by Robert E. Swope

Disclaimer
Links to Internet sites are provided for your convenience and do not constitute an endorsement by Albright College Experiential Learning and Career Development Center.

Job and Internship Search Links

• Medzilla http://www.medzilla.com/
• HireHealth http://www.hirehealth.com
• Health Care Job Store http://www.healthcarejobstore.com
• Health Care Job http://healthcarejob.com
• Naturejobs http://naturejobs.nature.com/js.php
• Tiny Tech Jobs http://www.tinytechjobs.com
• Pre-Med Internship Opportunities http://people.rit.edu/gtfsbi/Symp/premed.htm
• Careers with the Agricultural Research Service http://www.ars.usda.gov/careers
• Life Sciences World http://www.lifesciencesworld.com/
• BioSpace http://www.biospace.com
• BIOTECH Career Center http://www.biotechcareercenter.com/index.html
• Maritime Employment Opportunities http://www.maritimeemployment.com
• CDC Jobs http://jobs.cdc.gov/
• Biology Jobs http://www.BiologyJobs.com
• National Institutes of Health http://www.jobs.nih.gov/
• New Scientist Jobs.com, www.newscientistjobs.com
• AstraZeneca http://www.astrazeneca-us.com/careers/
• TEVA Pharmaceuticals http://www.tevausa.com/
• Merck http://www.merck.com/
• Pfizer http://www.pfizer.com/careers/
• Bayer http://www.mybayerjob.us/en/
• Glaxo Smith Kline http://www.gsk.com/
• Sanofi-Aventis http://www.sanofi-aventis.us/
• Johnson and Johnson http://www.careers.jnj.com/
• Novartis http://www.novartis.com/
• Cabot Corporation http://www.cabotcorp.com/company/careers
• Lancaster Labs http://pharm.lancasterlabs.com/
• Colgate-Palmolive http://www.colgate.com/app/Colgate/US/Corp/ContactUs.cvsp
• Carbogen Amcis http://www.carbogen-amcis.com/
• Hovione http://www.hovione.com/
• Firmenich http://www.firmenich.com/
• DOW Chemical http://www.dow.com/
• UCT, Inc http://www.unitedchem.com/
• Heraeus http://www.heraeus.com/en/home/default.html
• Environmental Standards, Inc. http://www.envstd.com/
• Croda http://www.croda.com/home.aspx?s=1
• Innospec http://www.innospecinc.com/
• Aerotek http://www.aerotek.com/
• Joulescientific http://www.joulescientific.com/
• Adecco http://www.adeccousa.com/pages/welcome.aspx

Career Planning Links

• Medical/Health Exploration http://www.nlm.nih.gov/services/medicaled.html#general
• AIBS Careers http://www.aibs.org/careers/
• Marine Biology Career Information http://marinebio.org/marinebio/careers/

Professional Association Links

• The American Society for Cell Biology http://www.ascb.org
• American Association of Zoo Keepers http://www.aazk.org
• American Aquarium and Zoo Association http://aza.org/
• The American Institute of Biological Sciences http://www.aibs.org
• International Biometric Society http://www.biometricsociety.org/
• Federation of American Societies for Experimental Biology http://www.faseb.org
• The Botanical Society of America http://www.botany.org
• American Physiology Society http://www.the-aps.org
• American Society for Microbiology http://www.asmusa.org
• The American Academy of Forensic Sciences http://www.aafs.org