What can I do with a degree in… Biochemistry?

OSU
ARTS & SCIENCES
CAREER SERVICES

OSU Department of Biochemistry and Molecular Biology

The Department of Biochemistry and Molecular Biology offers the following degree programs: Bachelor of Science, Master of Science and Doctor of Philosophy in Biochemistry.

Career Options for Biochemistry graduates

Biochemistry study combines the knowledge of biology and chemistry to explain life processes in terms of chemical reactions within living cells. The subdivisions within this field include *metabolism*, the study of the chemical changes through which organisms obtain energy to develop and reproduce; *descriptive biochemistry*, which analyzes cell structures to determine how they adapt and survive; *molecular biology*, which emphasizes the role of DNA in controlling all biological processes; and *biophysical chemistry*, which is the study of the underlying physical principles controlling cell growth and function.

Career Areas include

- Molecular Biology
- Industrial Chemistry
- Marine Biology
- Entomology
- Pharmacology
- Vaccine & Hormone Production
- Plant Physiology
- Technical Sales
- Virology
- Genetics
- Horticulture
- Mycology
- Immunology
- Quality Control
- Forestry

For More Information

Arts & Sciences Career Services
Oklahoma State University
203 Life Sciences East
Stillwater, OK 74078-3016
405.744.7547, 405.744.2134, 405.744.1189
jmich@okstate.edu or elizaao@okstate.edu

Biochemistry Web Sites for Jobs & Internships

National Science Foundation
http://www.nsf.gov/oirm/hrm/jobs/

United States Office of Personnel Management
http://www.usajobs.opm.gov/

Office of Science
http://www.scied.science.doe.gov/

National Institute of Health
http://www.training.nih.gov/student/index.asp

NASA
http://www.nasajobs.nasa.gov/

Science Job.com
http://www.sciencejobs.com

American Society for Biochemical and Molecular Biology
http://www.asbmb.org

Biochemical Society
http://www.biochemistry.org

Job Science
http://www.jobscience.com

The Student Conservation Association, Inc.
http://www.sca-inc.org

Cell & Molecular Biology Online
http://www.cellbio.com/

National Center for BioTechnology Information
http://www.ncbi.nlm.nih.gov

The BioWeb
http://cellbiol.com

Bio Space
http://www.biospace.com/

Bioexchange
http://www.bioexchange.com

Biology On-line
http://biology-online.org

Educating the Biology Workforce
http://bio-link.org/centerok.html

Sample Careers in Biochemistry

Biochemist

Biochemists study the chemistry of living organisms to increase scientific knowledge and develop ways to apply this knowledge in areas such as medicine, veterinary science, agriculture, environmental science and manufacturing. Biochemistry provides a basis for all the life sciences.

A biochemist may perform the following tasks:

- Study the chemical processes that occur within individual cells.
- Study the processes, such as digestion and growth, which involve whole organisms.
- Undertake detailed chemical analysis using sophisticated instruments and techniques

Health Careers

Biochemistry majors are well prepared for advanced study in medicine and other health professions. Many choose to obtain advanced degrees and pursue careers in the following areas:

- Hospital Diagnosis and Research
- Pharmaceutical Services
- Clinical Research

Sample Careers

- Anesthesiologist
- Physician
- Cytologist
- Pharmacist
- Geneticist
- Dentist
- Virologist
- Immunologist

Biomedical Engineer

Biomedical engineers apply engineering and scientific methods to find solutions to problems in medicine and the life sciences.

A biomedical engineer may perform the following tasks:

- Design new medical monitoring, diagnostic equipment
- Specify, set up and maintain biomedical equipment
- Specify equipment for particular purposes
- Design and deliver technology to assist people with disabilities
- Analyze and design prosthetic and orthotic devices

Industry

Many majors pursue careers in private industry where they may be involved with the creation of genetically engineered crops, programming bacteria to clean up the environment or developing computerized portraits of enzymes and other chemicals to help researchers design better products.

Sample Careers

- Chemist
- Process Development Specialist
- Product Development Manager
- Quality Control Inspector
- Pharmaceutical Sales Representative
- Perfumer

Government & Law Enforcement

Government agencies look for employees to conduct research in a variety of areas. Law Enforcement agencies use methods of evidence collection that depend on professionals with a background in biochemistry.

Sample Employers

- Centers for Disease Control
- Department of Agriculture
- Department of Defense
- Department of Interior
- Drug Enforcement Agency
- Environmental Protection Agency
- National, State and Local Forensic Labs
- Food and Drug Administration
- Nuclear Regulatory Commission
- Department of Health and Human Services
- Regulatory Affairs Specialist

Other Careers in Biochemistry

Many other careers options await biochemistry majors. Some pursue advanced degrees and choose careers in education, law, agriculture, sales, or research.

Sample Careers

- College Professor
- Dairy Technologist
- Formulation Chemist
- Biotechnologist
- Environmental Scientist
- Toxicologist
- Laboratory Supervisor
- Patent Attorney
- Science Teacher

For more career information visit us at http://cas.okstate.edu/career/index.html