

# What can I do with a degree in... Biochemistry?



## 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