
WHAT CAN I DO WITH A MAJOR IN ...

BIOCHEMISTRY

OCCUPATIONAL OVERVIEW:

The [Bureau of Labor Statistics \(BLS\) \(2012\)](#) explains that Biochemists study the chemical and physical principles of living things and of biological processes such as cell development, growth, and heredity. Biochemistry is a foundation for many careers. Majoring in Biochemistry can provide an excellent preparation for further graduate work in Biochemistry, microbiology, immunology, and other biomedical sciences. Biomedical engineering, the designing of materials and instruments for therapy and diagnosis, has roots in Biochemistry. Much of the work of the director of a clinical laboratory is biochemical. Recombinant DNA research and monoclonal antibody production provide new diagnostic tools, new therapies, different ways to combat pests, improve agriculture, and clean the environment. Pharmaceutical companies need biochemists to create and evaluate new drugs. The Biochemistry major can prepare you for many professional health science careers like: dentistry, medicine, clinical nutrition, public health, and veterinary medicine. Finally the Biochemistry major, with its broad foundation in biology, chemistry, physics, and math, can be an ideal program for future science professors and teachers. (UNM Department of Biochemistry and Molecular Biology Brochure, 2013)

EMPLOYMENT REQUIREMENTS:

A bachelor's degree is the minimum formal education required. However, many employers also require graduate school. For example, they may require a master's degree, and some require a Ph.D., M.D., or J.D. (law degree). Usually internships and experience is required for these positions.

THE UNIVERSITY OF NEW MEXICO:

The Biochemistry and Molecular Biology department offers a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) as well as M.S. and Ph.D. degrees. Graduate Education leading to the MS and Ph.D. degrees Graduate education is under the supervision of the Biomedical Sciences Education Programs ([BREP](#)). To complete the Biochemistry degree in 4 years requires both a strong high school science and math background as well as taking 5 courses each semester during college. The prospective student should understand that there is no typical 4-year program. Check [here](#) for an example of a 4-year schedule. The Department encourages all students to become involved in both the research and teaching opportunities available within the department. For more information about these opportunities or about the major in Biochemistry, consult the Departmental WEB site: <http://hsc.unm.edu/bmb>

INDUSTRIES & TARGET EMPLOYERS:

Research:

Agricultural industry, Biotechnology firms, Chemical and petroleum industries, Commercial medical laboratories, Cosmetic manufacturers, Federal government laboratories and agencies, Independent research foundations, Pharmaceutical companies, Private testing laboratories including forensics, State government laboratories and agencies, University laboratories

Teaching:

Four-year private or state institutions, Medical schools, Public and private high schools, Two-year community colleges or technical institutes

Healthcare:

Hospitals, Medical centers, Nursing homes, Private practice

Biomedical Engineering:

Medical Equipment and Supplies Manufacturing firms, Colleges and Universities, Pharmaceutical and Research Companies, Federal government laboratories and agencies, Independent research foundations

SUGGESTED STRATEGIES

- Gain related professional experience through involvement in internships, student employment, [Co-ops](#), and/or volunteer opportunities.
- View the research and teaching opportunities available within the department: <http://hsc.unm.edu/bmb>
- Shadow professionals in the field to gain a better understanding of the occupation and to build relationships with professional mentors.
- Conduct undergraduate research with professors. Join related professional organizations.
- Try to get into a lab as a work-study person or a volunteer or as a research assistant.
- Build your network and get involved on campus through student organizations and campus events. Find organizations and events at the [Student Activities Center website](#).
- Attend career related campus events such as career fairs, company information sessions, and or career workshops.
- Students who are interested in graduate school should maintain a high undergraduate GPA and develop relationships with faculty and community leaders. Opportunities for scholarships arise during the year—remember, someone has to know who you are and that you're interested so we can connect you with these opportunities.
- Speak with mentors and Biochemistry faculty members about career opportunities. A list of the Biochemistry faculty and their research interests can be found on the [Biochemistry website](#)
- Choose courses with laboratory work to gather experience.
- The [Biochemistry website](#) offers information on summer research, educational programs and summer opportunities – usually encouraged between your junior and senior years.

STATE AND NATIONAL WAGES:

[Adapted from CareerOneStop \(2013\)](#)

MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS

Location	2012				
	10%	25%	Median	75%	90%
United States	\$39,600	\$48,600	\$57,600	\$68,900	\$78,900
New Mexico	\$30,100	\$41,700	\$52,700	\$61,700	\$71,200

INFORMATIONAL WEBSITES:

UNM Department of Biochemistry and Molecular Biology
American Society of Biological Chemists and Molecular Biologists
American Chemical Society
Science Careers
HireHealth (Pharmaceutical Jobs)
Science Jobs
Biotechnology Industry Organization
Life Sciences World
American Society for Biochemistry & Molecular Biology
American Institute of Biological Sciences
International Union of Biochemistry & Molecular Biology
The National Academies
The Forensic Science Society

<http://biochemed.health.unm.edu>
ASBMB.org
chemistry.org
<http://recruit.sciencemag.org/>
<http://www.hirehealth.com/>
<http://www.scijobs.org/>
<http://www.bio.org/speeches/pubs/er/>
<http://www.lifesciencesworld.com/>
<http://www.asbmb.org>
<http://www.aibs.org/core/index.html>
<http://www.iubmb.org/>
<http://www.nas.edu/>
<http://www.forensic-science-society.org.uk/>

OTHER INFORMATIONAL WEBSITES:



<http://online.onetcenter.org>



<http://www.bls.gov/oco/>

REFERENCES

Bureau of Labor Statistics, U.S. Department of Labor, (2012, August 31). *Occupational Outlook Handbook, Medical and Clinical Laboratory Technologists and Technicians*. Retrieved from <http://www.bls.gov/ooh/Healthcare/Medical-and-clinical-laboratory-technologists-and-technicians.htm>

State of Minnesota, U. S. Department of Labor, Employment and Training Administration (2013). *CareerOneStop, Occupation Profile, Biological Scientists*. Retrieved from <http://www.careerinfonet.org>

University of New Mexico, Department of Biochemistry & Molecular Biology (2013). *Degrees*. Retrieved from <http://bmb.unm.edu/education/undergraduate/index.html>