



# What can I do with a major in **BIOCHEMISTRY** from Valparaíso University?

## Description of major:

By studying the very nature of matter, changes in energy, and compositional changes in matter, individuals are building a knowledge base and gaining experience in the classroom, the lab, and the real world. This experience will position individuals for an influential and exciting, ever-expanding field.

## Relevant skills for a BIOCHEMISTRY major:

- ◆ Analyze & interpret numerical data
- ◆ Anticipate problems
- ◆ Clarify problems/situations
- ◆ Collect & organize data
- ◆ Conduct & clearly explain scientific research
- ◆ Correctly maintain a laboratory notebook
- ◆ Critique
- ◆ Diagnose
- ◆ Have manual dexterity
- ◆ Have mathematical skills
- ◆ Make critical observations
- ◆ Make decisions
- ◆ Operate specific scientific instruments
- ◆ Organize/classify
- ◆ Perceive/define cause and effect relationship
- ◆ Perform ambiguous or abstract tasks
- ◆ Plan pertinent experiments
- ◆ Recognize elements, relationships, structures, and organizing principles
- ◆ Review large amounts of material and extract essence
- ◆ Solve problems at various levels of complexity
- ◆ Survey
- ◆ Systematize/organize/classify
- ◆ Trace problems to their sources
- ◆ Trouble-shoot
- ◆ Use a spread sheet
- ◆ Work independently
- ◆ And others!

## Sample work activities for Graduates in BIOCHEMISTRY (some may require an advanced degree)

- Agricultural Scientist
- Analytic chemist
- Assayer
- Biochemist
- Biological researcher
- Biostatistician
- Botanist
- Brewer Lab Assistant
- Chemical Engineer
- Chemical Oceanographer
- Chemistry Technologist
- College Professor
- Consumer Product Researcher
- Dentist
- Dietetics Technician
- Ecologist
- Entomologist
- Environmental Educator
- Environmental Health Specialist
- Environmental Impact Specialist
- Enzyme Production Chemist
- Food Scientist
- Forensic Chemist
- Genetic Counselor
- Health information specialist
- High School Teacher
- Horticulturist
- Hospital Administrator
- Industrial Hygienist
- Lab Coordinator
- Materials scientist
- Medical Illustrator
- Medical Technologist
- Medicinal Chemist
- Microbiologist
- Occupational Safety Specialist
- Patent Attorney
- Perfumer
- Petroleum chemist
- Pharmaceutical Researcher
- Pharmaceutical Sales Representative
- Pharmacist
- Pharmacologist
- Physician
- Product Development Chemist
- Product Testing Analyst
- Production Superintendent
- Quality Control Supervisor
- Research Technician
- Risk Manager
- Science Librarian
- Science Writer
- Scientific Illustrator
- Scientific Information Specialist
- Technical Representative
- Technical Salesman
- Technical Writer
- Tissue Technologist
- Toxicologist
- Veterinarian
- Wastewater Treatment Chemist
- Yeast Culture Developer
- And others!

### **Potential hiring institutions for BIOCHEMISTRY majors:**

- ◆ Agriculture Department
- ◆ Analytical laboratories
- ◆ Biotechnology Companies
- ◆ Chemical Industries
- ◆ Colleges and Universities
- ◆ Consulting Firms
- ◆ Cosmetic Companies
- ◆ Environmental organizations & labs
- ◆ Food Processors
- ◆ Government Agencies
- ◆ Government laboratories (NASA, Argonne National Labs, state crime labs, etc)
- ◆ Hospitals
- ◆ Museums
- ◆ Pharmaceutical Companies
- ◆ Plant & Animal Industries
- ◆ Public Health Agencies
- ◆ Publishers
- ◆ Research & Development
- ◆ Schools
- ◆ Universities
- ◆ Utility Companies & Industries
- ◆ And others!

### **Area of further education for BIOCHEMISTRY majors:**

- Agricultural Science
- Analytical Chemistry
- Anatomy
- Biochemistry
- Biological Immunology
- Biometrics
- Biophysics
- Biostatistics
- Biotechnology
- Botany
- Cell Biology
- Chemical Engineering
- Chemistry
- Chiropractic Medicine
- Dentistry
- Ecology
- Education
- Evolutionary Biology
- Food Sciences & Technology
- Forensics
- Genetics
- Inorganic Chemistry
- Law
- Marine Biology
- Medicine
- Microbiology
- Molecular Biology
- Neuroscience
- Nutrition
- Occupational Therapy
- Optometry
- Organic Chemistry
- Parasitology
- Pharmacy
- Physical Chemistry
- Physical Therapy
- Physiology
- Podiatry
- Theoretical Chemistry
- Toxicology
- Veterinary Medicine
- Virology
- Zoology
- And others!

### **Sources of additional information for BIOCHEMISTRY majors:**

- ◆ VU Department of Chemistry: <http://www.valpo.edu/chemistry/>
- ◆ VU Majors & Areas of Study: <http://www.valpo.edu/academics/majors/biochemistry.html>
- ◆ Occupational Outlook Handbook: the US Bureau of Labor Statistics compiles information about various occupations, including the nature of the work, the job outlook, the earnings, and other relevant information. <http://www.bls.gov/oco/oco1002.htm>
- ◆ American Association for the Advancement of Science: the world's largest general science organization and publisher of the peer-reviewed journal Science. With more than 138,000 members and 275 affiliated societies, AAAS serves as an authoritative source for information on the latest developments in science and bridges gaps among scientists, policy-makers and the public to advance science and science education. Site includes a page on Science Careers. <http://www.aaas.org/>
- ◆ American Chemical Council: represents the leading companies engaged in the business of chemistry. Includes job opportunities. <http://www.americanchemistry.com/>
- ◆ American Institute of Biological Sciences: a national center for biologists and biological sciences. Site includes Classifieds and Careers. <http://www.aibs.org/core/index.html>
- ◆ American Society for Microbiology: the oldest and largest single life science membership organization in the world. Site includes Career Information and a Student Section. <http://www.asm.org/>
- ◆ Bio Online: a distributed on-line community of scientists, professionals, businesses, and organizations supporting the life sciences for the purposes of facilitating communications and disseminating information within that community. Site includes a Career Center. <http://www.bio.com>
- ◆ BioExchange: Job board for biotechnology & pharmaceutical industries, hundreds of jobs, entry-level to executive. <http://career.bioexchange.com>
- ◆ BiologyJobs: Employment resource for life science jobs. <http://www.biologyjobs.com>
- ◆ BioSpace.Com: a business-to-business life sciences "hubsite" for the industry with the overriding goal of improving productivity in the process of discovery. Site include job opportunities. <http://www.biospace.com/>
- ◆ BioView: The web's premier site for Biopharmaceutical jobs, news, information and resources.

Chemistry.org: Sponsored by the American Chemical Society, provides resources for chemists in industry and education as well as students and individuals that want reliable, accurate information about the chemistry-related sciences and the American Chemical Society. Site includes a "Build Your Career" section that includes jobs and salaries. <http://www.chemcenter.org/portal/chemistry>

Hirehealth.com: A national database of jobs in the pharmaceutical, biotechnology, life science, clinical research, medical & health industries. <http://www.hirehealth.com>

Journal of Chemical Education: a publication of the Division of Chemical Education, Inc. of the American Chemical Society. Available for a fee. <http://jchemed.chem.wisc.edu/index.html>

National Science Foundation: an independent U.S. government agency responsible for promoting science and engineering through programs that invest over \$3.3 billion per year in almost 20,000 research and education projects in science and engineering. The Biology component is funded by The Directorate of Biological Sciences. This site contains information specific to students and Job Opportunities. <http://www.nsf.gov/>

### **VU Career Center Resource Library Materials:**

- *Career Opportunities in Health Care*
- *Careers for Animal Lovers & Other Zoological Types*
- *Careers for Environmental Types & Others Who Respect the Earth*
- *Careers for Gourmets & Others Who Relish Food*
- *Careers for Nature Lovers & Other Outdoor Types*
- *Graduate Admissions Essays: Write Your Way into the Graduate School of Your Choice*
- *Graduate Programs in Biology*
- *Graduate Programs in Physical Sciences*
- *Graduate Programs in the Health Professions*
- *Graduate Schools in the U.S*
- *Great Jobs for Biology Majors*
- *Guide to America's Federal Jobs*
- *Hospital Blue Book*
- *How to Write a Winning Personal Statement for Graduate and Professional School*
- *Job Surfing: The Sciences - Research & Medicine*
- *Opportunities in Animal and Pet Care Careers*
- *Opportunities in Biotechnology Careers*
- *Opportunities in Chemistry Careers*
- *Opportunities in Chiropractic Health Care Careers*
- *Opportunities in Clinical Laboratory Careers*
- *Opportunities in Culinary Careers*
- *Opportunities in Environmental Careers*
- *Opportunities in Forensic Science Careers*
- *Opportunities in Government Careers*
- *Opportunities in Health and Medical Careers*
- *Opportunities in Law Careers*
- *Opportunities in Occupational therapy Careers*
- *Opportunities in Osteopathic Medicine Careers*
- *Opportunities in Physical therapy Careers*
- *Opportunities in Physician Careers*
- *Opportunities in Technical Sales Careers*
- *Opportunities in Veterinary Medicine Careers*
- *Peterson's Game Plan for Getting into Graduate School*
- *Peterson's Game Plan for Getting into Law School*
- *Peterson's Graduate & Professional Programs, 6 Vol Set*
- *Peterson's Job Opportunities: Health and Science*
- *Peterson's U.S. & Canadian Medical Schools*
- *Resumes for Environmental Careers*
- *Resumes for Health and Medical Careers*
- *Resumes for Scientific and Technical Careers*
- *and others!*

### **For more information about majoring in BIOCHEMISTRY, contact:**

Warren Kosman, Ph.D.  
Chemistry Department Chair  
Neils Science Center 211  
464-5387  
[Warren.Kosman@valpo.edu](mailto:Warren.Kosman@valpo.edu)

**For more questions about your career decisions, please make an appointment with a VU Career Counselor by calling 464-5005, stopping by the Career Center in Alumni Hall or e-mailing us at [Career.Center@valpo.edu](mailto:Career.Center@valpo.edu)**