CAREER DEVELOPMENT CENTER
MAJOR DISCOVERY SERIES

BIOCHEMISTRY

Bachelor of Science: Biochemistry
Track: Pharmacy
Minor: Biochemistry

Biochemistry is the study of the chemistry of living matter. The KU Biochemistry program provides extensive hands-on laboratory experience to develop the skills required for industry and graduate school. Biochemistry majors may go on to have careers in a variety of industries, research laboratories and government agencies. With a Bachelor of Science degree, graduates may find employment doing routine laboratory work, assisting on a research team, working in product development, or may work in the business-related areas of plant management, marketing or sales. Employers recommend one or more internships to be successful and competitive when entering this field.

Career types associated with Biochemistry

(Is this a good fit for you? Are you a…)

- Investigative - "Thinker"
- Realistic - "Doer"
- Social - "Helper"

Related skills, values, and qualities

- Proficiency in reading, writing, thinking, questioning, analyzing and problem solving
- Ability to organize, analyze and interpret scientific research
- Strong math skills
- Proficiency with computers
- Good manual dexterity and ability to operate scientific equipment
- Aptitude for accuracy and detail
- Ability to conduct and explain scientific research

Courses Biochemistry majors typically enjoy

- Algebra, Trigonometry, Calculus
- Chemistry
- Computer Science
- Earth Science
- Geometry
- Physical Science

Common interests of Biochemistry majors

- Conducting research and participating in science fairs and competitions
- Attending science exhibits, museums, and demonstrations
- Participating in biology, chemistry or science clubs
- Working part-time or volunteering in a pharmacy, hospital, or with an environmental conservation organization
- Watching scientific programs
- Cooking

For more information about the major

Contact the Physical Sciences Department, 425 Boehm, 610-683-4447 or visit www.kutztown.edu/Biochemistry

KU Majors related to Biochemistry

Biology, Chemistry, Marine Biology, Secondary Education– Science

Investigative students may also be interested in: Anthropology, Biology, Chemistry, Computer Science, Criminal Justice, Economics*, Environmental Science, Geography, Geology, German Studies, History, International Studies*, Marine Science, Mathematics, Multicultural Studies*, PA German Studies*, Physics, Political Science, Psychology, Sociology, Spanish, and Women's Studies*

* minor only

FOUR STEPS TO SUCCESS

EXPLORE — 1ST YEAR

- Enroll in the Career Exploration Certificate.
- Attend info sessions to learn about career development and personal branding.
- Take a career assessment to identify and confirm interests.
- Get involved in campus clubs and organizations.
- Develop basic workplace skills through jobs or volunteer work.
- Talk with professors, family, and friends about career ideas.
- Conduct informational interviews with professionals working in fields of interest.
- Develop a relationship with your professors and faculty advisor.

DISCOVER — 2ND YEAR

- Meet with CDC career coach.
- Attend info sessions to learn about resume writing, and externships.
- Confirm your choice of major and consider options for double major or minor.
- Research careers of interest.
- Complete a job shadowing (externship) experience.
- Seek meaningful employment or volunteer work in a field related to your major.
- Explore options for undergraduate research and study abroad.
- Write a resume and have it reviewed by the CDC.
- Manage your online presence.

EXPERIENCE — 3RD YEAR

- Enroll in the Career Success Certificate.
- Complete an internship and/or undergraduate research.
- Attend info sessions about internships, interviewing, job search strategies, and grad school.
- Build a LinkedIn profile and continue to monitor your online presence.
- Complete a mock interview.
- Build skills through research projects, part-time employment, and volunteer work.
- Participate in employer panels, site visits & networking events.
- Attend internship & job fairs.
- Take on a leadership role in a student organization or work.
- Consider graduate school options and prepare for admissions tests.

IMPLEMENT — 4TH YEAR

- Attend your Senior kick-off and other info sessions to prepare for job search/grad school.
- Update your resume and LinkedIn profile.
- Create cover letter drafts.
- Gain experience through internships and/or undergraduate research.
- Secure references for job/grad school applications.
- Create your "30 second" commercial/elevator pitch.
- Meet with CDC to develop job search strategies.
- Research employers.
- Network with professionals through events and social media.
- Join a professional organization in your discipline.
- Attend the senior etiquette luncheon or dinner.
- Participate in job fairs and on-campus interviewing.

Sample Career Titles

Biochemistry majors can be found working in a wide variety of career fields. Here are just some career titles that may be of interest. Please note that some jobs may require further education and training. To learn more about these careers, visit http://online.onetcenter.org or www.bls.gov/oco.

- Agricultural Scientist
- Agronomist
- Anesthesiologist
- Biochemist
- Bioterrorism Expert
- Cepalometric Analyst
- Ceramic Engineer
- Chemical Engineer
- Chemical Oceanographer
- Chemist
- Chemistry Technologist
- Clarifying Plant Operator
- College/High School Teacher
- Color Development Chemist
- Consumer Protection Specialist
- Crime Lab Analyst
- Cytotechnologist
- Dentist
- Dietician
- Environmental Health Specialist
- Environmental/Patent Lawyer
- Food and Drug Analyst
- Forensic Chemist
- Genetic Counselor
- Geneticist
- Hospital Administrator
- Hydrologist
- Industrial Health Engineer
- Industrial Hygienist
- Internist
- Laboratory Assistant/Technician
- Medical Librarian
- Medical Technologist
- Metallurgist
- Molecular Biologist
- Museum/Aquarium Administrator
- Mycologist
- Nuclear Scientist
- Nutritionist
- Occupational Safety Specialist
- Patent Examiner
- Perfumer
- Pharmaceutical Sales Rep.
- Pharmacist
- Pharmacologist
- Physician
- Physicist
- Plastics Engineer
- Product Tester
- Quality Assurance Manager
- Risk Manager
- Soil Scientist
- System Analyst
- Technical Writer
- Technician
- Tissue Technologist
- Toxicologist
- Veterinarian
- Wastewater Treatment Chemist
- Water Purification Specialist
- Wildlife Biologist

Common Internship Sites and Employers

Biochemistry majors often find internships and employment in the following fields/industries.

- Technical Publishers
- Biological Testing Laboratories
- Chemical Companies
- Schools, Colleges, & Universities
- Food Companies/Administration
- Mining Companies
- Pharmaceutical Companies
- Research Organizations
- State & Federal Government
- Zoos & Ecological Organizations

Handshake

Handshake is the primary online resource
for preparing and connecting students and alumni with employers.
www.kutztown.edu/handshake

Useful Websites for Biochemistry Majors

Whether you are researching related career fields, applying for internships or jobs, or planning to join a professional association, these websites are for you!

Industry/Employment Information

Careers in Federal Government
www.makingthedifference.org

Careers Resources for STEM
www.careercornerstone.org

Chemical Week Magazine
www.chemweek.com

CIRRUS—Chemistry Internet Resource for Research
cirrus.chem.plu.edu

ChemWeb.com
chemweb.com

Chemical Elements
chemicalelements.com

Journal of Chemical Education
jchemed.chem.wisc.edu

Life Sciences World
www.lifesciencesworld.com

National Academies
www.nas.edu

Pharma. Research & Manufacturing
www.phrma.org

Job/Internship Search Sites

BioSpace
www.biospace.com

BioPharmGuy
http://biopharmguy.com

Chemistry Jobs
chemistryjobs.com

Environmental Careers World Job Bank
www.environmentaljobs.com

Medical Jobs
www.medicaljobs.org

MedZilla
www.medzilla.com

New Scientist Jobs
www.newscientistjobs.com

Science Careers
www.sciencecareers.org

LinkedIn Jobs
www.linkedin.com/jobs

Research Experience for Undergraduates REU's
https://new.nsf.gov/funding/opportunities/research-experiences-undergraduates-reu

Professional Associations

American Academy of Forensic Science
www.aafs.org

American Association for the Advancement of Science
www.aaas.org

American Assoc. of Clinical Chemistry
www.aacc.org

American Chemical Society
www.acs.org

American Institute of Chemists
www.theaic.org

American Society for Biochemistry and Molecular Biology
www.asbmb.org

Biotechnology Industry Organization
www.bio.org

Council for Chemical Research
www.ccrhq.org

The National Academies
www.nas.edu

Related Area Employers

Aptagen, BioSpectra, Borough of Kutztown Water Department, Carpenter Technology, DaVinci Science Center, East Penn Manufacturing, Eurofins Scientific, EnerSys, Environmental Protection Agency, International Flavors and Fragrances, Lehigh County Authority, Lubrizol Life Sciences, NSF-Research Experience for Undergraduates, Merck & Co., M.J. Reider Associates, Nestle Waters, Olympus Corporation, PA-Department of Environmental Protection, Pfizer, Suburban Testing Labs, Teva Pharmaceuticals, Quaker Chemical, VWR, Wacker Chemical

Building Your Resume for a Career in Biochemistry

Building a strong resume for your career field starts long before you ever start your job search. Employers want to hire graduates who not only have the necessary educational background but also have experience applying that knowledge.

Brooke Biochemistry

bbiol000@live.kutztown.edu, www.linkedin.com/in/brooke, 555-555-5555

PROFILE

Interested in working as a Pharmacist at a local pharmacy.

INSTRUMENTATION EXPERIENCE

Hewlett Packard 1100 HPLC
Agilent Cary 60 UV-Visible Spectrometer
SSI 500 Detector Variable UV/Vis
Shimadzu LC-MS-8030
Shimadzu Nexera XR LC-20AD

Beckman 110B Solvent Delivery Mobile
7725i Rheodyne P/N
Agilent InfinityLab Poroshell 120 EC-C18
Varian Cary 50 Spectrometer
Epsilon Potentiostat E5

EDUCATION

B.S. Kutztown University of Pennsylvania — Kutztown, PA
Major: Biochemistry, Minor: Biology — May 20xx
GPA: 3.88
Dean's List — Fall 20xx-Spring 20xx

Related Courses: Advanced Biochemistry, Advanced Organic Chemistry, Advanced Inorganic Chemistry, Molecular Biology, Cell Biology, Genetics, Medical Microbiology, Immunology, Developmental Biology

RESEARCH EXPERIENCE

Testing Purified Apoptosis in a Caspase Activity Assay — Fall 20xx-Present
Kutztown University, Dr. Biochem
- Work alongside advisor to test the effects of purified apoptosis in a caspase activity assay
- Compile results for submission to *The Journal of Biochemistry*

Synthesis of Artificial Dipeptides to Mimic DNA — Spring 20xx
Kutztown University, Dr. DNA
- Organized original research focused on DNA imitation with supervising professor
- Maintained laboratory notebook while collecting data

RELATED WORK & EXTERNSHIP EXPERIENCE

CVS Pharmacy — Kutztown, PA
Pharmacy Technician — Fall 20xx-Present
- Fill prescriptions and ensure accurate distribution
- Resolve insurance issues and complete data entries
- Handle and maintain confidential information
- Research customer orders and document internal employee errors

Pharmacy Extern — Dec 20xx
- Observe daily duties of pharmacist including research of potential therapeutic incompatibilities

CAMPUS INVOLVEMENT & PROFESSIONAL DEVELOPMENT

Member, Biology International Club, Kutztown University — Fall 20xx-Present
Treasurer, Student Affiliates of the American Chemical Society — Fall 20xx-Present
STEM Shadow Day Volunteer, Kutztown University — Spring 20xx & 20xx
- Presented on biochemistry careers and answered student inquiries

Recipient, Career Success Certificate, Kutztown University Career Development Center — Fall 20xx
Recipient, Career Exploration Certificate, Kutztown University Career Development Center — Fall 20xx

WORK EXPERIENCE

Texas Roadhouse — Trexlertown, PA
Server/Hostess — Sept 20xx-May 20xx
- Train new employees by reviewing restaurant procedures and proper customer service techniques
- Ensure customer satisfaction

Learn more about your field and develop the necessary skills for employment by gaining hands-on experience through internships & related experiences.

Utilize summer breaks to acquire valuable experience via volunteer or employment opportunities related to your major.

Develop professionally through campus involvement and professional memberships. This illustrates responsibility, leadership abilities and time management skills.

For More Information on Biochemistry careers or to speak to a Career Counselor, contact KU Career Development Center
113 Stratton Administration Center * 610-683-4067 * careerhelp@kutztown.edu * www.kutztown.edu/careercenter