

# Biochemistry



## Career Pathways

### School of Sciences

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#### Overview:

Biochemistry explores the chemical processes within and related to living organisms. It is a laboratory based science that brings together biology and chemistry. By using chemical knowledge and techniques, biochemists can understand and solve biological problems. Biochemistry focuses on processes happening at a molecular level. It focuses on what's happening inside our cells, studying components like proteins, lipids and organelles. It also looks at how cells communicate with each other, for example during growth or fighting illness. Biochemists need to understand how the structure of a molecule relates to its function, allowing them to predict how molecules will interact.

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#### Acquired Skills **MOST** Valued by Employers:

- Chemistry of living system
  - Experimental design/execution
  - Interpretation of scientific data
  - Communicate experimental results
  - Critical Thinking/Problem Solving
  - Oral/Written Communications
  - Teamwork/Collaboration
  - Digital Technology
  - Leadership
  - Professionalism/Work Ethic
  - Career Management
  - Global/Intercultural Fluency
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#### Common Pathways:

- Medical research
  - Pharmaceutical laboratory work
  - Genetic research
  - Research assistant
  - Scientific writing
  - Sales and marketing
  - Technology officer
  - Natural science managers
  - Forensic Science
  - Teaching
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*Please note that some of these pathways require an advanced post bachelor's degree*

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#### Common Industries:

- Federal government laboratories/agencies
  - Private testing laboratories including forensics
  - Medical centers and clinics
  - Military
  - Education
  - Healthcare/Hospitals
  - Publishing
  - Independent research foundations
  - State and local public health departments
  - Cosmetic, food processing, chemical and pharmaceutical industries
  - Law
  - Agriculture
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#### Sample of Employers of Stevenson University students:

- Anne Arundel Dermatology
- Associates in Oncology & Hematology
- Foot and Ankle Institute
- Johns Hopkins School of Medicine
- Notre Dame
- Pharmaceuticals International

### Internship Sites for Stevenson Students:

- Athena
- Chesapeake Urology
- Giant Pharmacy
- Johns Hopkins Hospital
- Medstar Union Memorial Sports Medicine at Bel Air
- Sheppard Pratt Health System
- Sinai Hospital
- Stevenson University
- Tetra Tech, Inc.
- The Living Legacy Foundation
- University of MD Center for Vaccine Development

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### Graduate Schools Attended by Stevenson Alumni:

- University of Maryland School of Pharmacy
- Notre Dame of Maryland School of Pharmacy
- Shenandoah University Division of Physical Therapy
- Ohio State University Graduate School in Chemistry
- Lake Erie College of Osteopathic Medicine
- Virginia Commonwealth University School of Pharmacy
- Hofstra University Physician Assistant Studies Program

### An Employer's Perspective:

This is a rapidly expanding field and critical skills include analytical and critical thinking, communication, interpersonal abilities, math, problem solving, and perseverance.

“Employment of biochemists is projected to grow 19 percent from 2012 to 2022, faster than the average for all occupations. More biochemists will be needed to use the knowledge they have gained from basic research to develop biological products and processes that improve our lives.”

[<http://www.bls.gov/ooh/life-physical-and-social-science/biochemists-and-biophysicists.htm>]

### Salaries:

Salaries are dependent upon the industry, level of position, and geographical region. A few good resources for researching salaries of specific jobs within various industries are [www.salary.com](http://www.salary.com) and [www.payscale.com](http://www.payscale.com). Salary information is also available through the Bureau of Labor Statistics at <http://www.bls.gov/ooh/life-physical-and-social-science/>.

