Biochemistry describes the structure, organization and function of living systems at the molecular level. Biochemists explore how molecules catalyze chemical reactions, generate forces, transduce signals, regulate genetic processes, and conduct ions. The applications of our discoveries are limited only by our imaginations.

The Graduate Program in Biochemistry provides outstanding graduate training in a world-class research environment. The Program is distinguished by the breadth of research opportunities available for students within the University’s medical and Danforth campuses. Research projects range from the study of purified macromolecules in vitro, to computational investigations of biological functions, to the study of cellular processes, to the biochemistry of model organisms.

The Program provides a collegial environment for students and faculty, who together create an exciting and vital community for scientific research. Students may study at the medical school campus, where they can work directly in medical research as well as in basic science laboratories, or at the Danforth Campus, where the biology and chemistry departments reside.

**what is biochemistry?**

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**Research Environment**

The Biochemistry Program conducts a wide variety of research in a multidisciplinary environment.

**Areas of research include:**

- protein structure and folding
- ion channels and membrane biology
- allostery and molecular signaling in proteins and complexes
- enzymology
- extracellular matrix and tissue mechanics
- vascular biology and coagulation
- cell motility
- cellular trafficking of proteins
- amyloidogenesis and mechanisms of neural degeneration
- regulation of the cell cycle
- regulation of gene expression and translational control
- chromosome biology and genomic maintenance
- RNA structure and function
- DNA repair, replication and recombination
- microbial pathogenesis
- new imaging technologies for cells and whole animals
- computational modeling of biological interactions and responses

**For More Information:**

[http://dbbs.wustl.edu/divprograms/biochemistry/](http://dbbs.wustl.edu/divprograms/biochemistry/)

To request information: [dbbs-info@wustl.edu](mailto:dbbs-info@wustl.edu)
Faculty Honors
Among the Biochemistry faculty are the following awardees:

- Burroughs Wellcome Clinical Scientist Award in Translational Research
- Anfinsen Award from the Protein Society
- 2006 Presidential Early Career Award for Scientists and Engineers
- Arthur Neish Young Investigator Award, Phytochemical Society of North America

Find information on Biochemistry faculty research by visiting:

http://dbbs.wustl.edu/divprograms/biochemistry/Pages/Faculty.aspx

Admissions Information:
September 1 - December 1
No Application Fee

Typical Schedule

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<th>First Year</th>
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<th>Fourth Year &amp; Beyond</th>
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<tbody>
<tr>
<td>Pre-Candidacy</td>
<td>Qualifying Exam</td>
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<tr>
<td>Research Rotations (3)</td>
<td>Thesis Research</td>
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- Teaching Assistantship (one semester)

<table>
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<tr>
<th>Required Courses</th>
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<tr>
<td>- Chemistry and Physics of Biological Molecules</td>
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<td>- Biochemistry Student Seminar</td>
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<td>- Advanced elective</td>
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<td>- Ethics and Research Science</td>
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- Organic Chemistry III
- Modern Medicinal Chemistry
- Nucleic Acids and Protein Synthesis
- Molecular Cell Biology
- Immunobiology I
- Macromolecular Interactions
- Cellular Neurobiology
- Molecular Microbiology & Pathogenesis

Journal Clubs: choice of several, including: Nucleic Acid-Protein Interactions, Proteins, Genetics

Benefits
- Health, life and disability coverage are provided.
- Students in the Division enjoy access to all of Washington University’s educational, entertainment and recreational resources.
- The University’s MetroPass provides all students with free use of Metro-Link light rail and Metro buses. MetroLink connects students to all Washington University campuses, Forest Park, Clayton, Lambert Airport and downtown.

Stipend and Support
- Each student accepted into the Division is guaranteed a generous stipend and tuition is provided for the duration of training as long as all academic standards are upheld.
- Many students hold national fellowship awards, such as those offered by the National Science Foundation.
- Funds are provided for students to attend and participate in a scientific meeting.

DBBS celebrates diversity in all of its forms. We invite all students to apply, especially those from backgrounds historically underrepresented in the sciences such as African, Latin and Native Americans, those with disabilities and individuals from low-income backgrounds.

To learn more about diversity initiatives in DBBS please visit http://dbbs.wustl.edu/divoutreach/Pages/DiversityOutreach.aspx