DEADLINE FOR APPLICATIONS IS DECEMBER 1st.

How to Apply

DEADLINE FOR APPLICATIONS IS DECEMBER 1st.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STBB 7660</td>
<td>Structure Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Summer</strong></td>
<td></td>
</tr>
<tr>
<td>STBB 8990</td>
<td>Doctoral Thesis</td>
<td>1-10</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>1-10</td>
</tr>
</tbody>
</table>

### Second Year

#### Course

<table>
<thead>
<tr>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Structure A</td>
<td>1.5</td>
</tr>
<tr>
<td>Molecular Structure B</td>
<td>1.5</td>
</tr>
<tr>
<td>Molecular Structure C</td>
<td>1.5</td>
</tr>
<tr>
<td>Structure Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Responsible Conduct of Research</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td>6.5</td>
</tr>
</tbody>
</table>

### Third Year & Beyond

#### Fall/Spring/Summer

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STBB 8990</td>
<td>Doctoral Thesis</td>
<td>1-10</td>
</tr>
</tbody>
</table>

### Learning Objectives

The goals of the Structural Biology and Biochemistry Program are to:

- Foster scientific excellence and innovation in the field of bimolecular structure and function.
- Develop and advance expertise and technology to support cutting-edge research in biomedical sciences.
- Provide training and career development for outstanding scientists.
- Identify and characterize molecular targets and develop innovative therapeutics and diagnostic tools.
- Exploit discoveries and intellectual properties through strategic partnerships with the industry.

### Learning Outcomes

The PhD program in Structural Biology and Biochemistry trains graduate students to become proficient and successful investigators who are able to:

- Demonstrate a basic knowledge of central concepts in the biomedical sciences.
PHCL 7605 - Responsible Conduct of Research (1 Credit)
The Department of Pharmacology in the University of Colorado School of Medicine organizes and offers an interactive course during the fall semester entitled "Responsible Conduct of Research". The course is designed to inform students, trainees and faculty to the NIH requirements for ethical and responsible research.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Fall.

STBB 7608 - Molecular Interactions (3 Credits)
Provides chemical/physical basis for protein structure, folding, function & stability; presents methods/principles of protein/peptide purification & enzyme catalysis including electron transfer & mutagenesis. The role of molecular dynamics & use of molecular simulations in the investigations of protein-ligand/protein-protein interactions. Cross-listed with PHSC 7608.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Spring.

STBB 7609 - Biophysics & Spectroscopy (3 Credits)
This course will teach fundamentals of modern molecular spectroscopies and biophysical techniques as applied to biomolecules and the structural/dynamic information they afford. Cross listed with PHSC 7609
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Spring.

STBB 7631 - Molecular Structure A (1.5 Credits)
Gain an in-depth understanding of the underlying principles of an NMR experiment, so that student can turn NMR theory into NMR practice for their research.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Fall.

STBB 7632 - Molecular Structure B (1.5 Credits)
Understand the theory and practice of structural determination using x-ray crystallography.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Fall.

STBB 7633 - Molecular Structure C (1.5 Credits)
The purpose of this course is to provide students with a concise understanding of biological mass spectrometry and its application to study and characterize various classes of biomolecules in state of the art research. Course is 7.5 weeks.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Fall.

STBB 7650 - Research in Structural Biology & Biochemistry (1-10 Credits)
Research work in Structural Biology and Biochemistry. 2 laboratory hours per week per credit.
Grading Basis: Letter Grade with IP
Repeatable. Max Credits: 10.
A-GRAD Restricted to graduate students only.
Typically Offered: Fall, Spring, Summer.