

# Department of Biochemistry and Molecular Biology

---

The mission of the Department of Biochemistry and Molecular Biology is to provide:

- a dynamic research environment with programs in the disciplines of biochemistry and molecular biology.
- a superior educational experience for graduate students and medical students.
- a rich training environment for postdoctoral fellows.
- service to our institution and community.

Our areas of research strength include:

- Regulation of gene expression, emphasizing but not limited to transcription regulation.
- Protein folding and structure determination.
- Allosteric regulation of protein function.
- Signal transduction.

Our faculty members are associated with a variety of cross-disciplinary centers within the university.

Core services are available, which includes: a transgenic mouse facility; a biotechnology support center that offers DNA synthesis, sequencing, and microchip analysis; a state-of-the-art mass spectrometry facility (<http://www.kumc.edu/mspc.html>); in-house x-ray crystallographic equipment; and a variety of spectroscopy and calorimetry instruments, including advanced fluorescence equipment.

## Courses

### **BCHM 802. Biochemistry Seminar. 1 Credits.**

Weekly meetings.

### **BCHM 808. Methods for Analyzing Biomolecules. 3 Credits.**

Application of physical techniques to the study of biological macromolecules in solution. Emphasis on utilization of data obtained from such studies in interpreting biological processes at the molecular level. Course will be taught in the spring. Prerequisite: Consent of instructor.

### **BCHM 850. Topics in Biochemistry. 1-3 Credits.**

Selected topics in biochemistry with varying subject matter. Students should inquire before enrolling. Topics are in-depth studies of current research areas. The course may consist of formal lectures and/or directed readings and studies.

### **BCHM 862. Biochemical Research-Literature Seminar. 1 Credits.**

Students and faculty meet once weekly to discuss the research of students or the current biochemical literature. The student is required to make one presentation. Prerequisite: Consent of instructor.

### **BCHM 890. Research in Biochemistry. 1-15 Credits.**

Research for the M.S. degree or for Ph.D. students prior to completion of their comprehensive exam. RSH.

### **BCHM 899. Master's Thesis. 1-15 Credits.**

Restricted to the writing of the master's thesis.

### **BCHM 922. Advanced Molecular Genetics. 3 Credits.**

An in-depth analysis of the structure and function of gene regulatory proteins and the mechanisms of gene transcription, and DNA replication and repair. Lectures and discussion of current literature. Prerequisite: consent of instructor. Course will be presented in the fall semester and will include several faculty leading discussions in their area of research interests.

### **BCHM 923. Protein Structure and Function. 3 Credits.**

The relationship between protein structure, binding, and physiological function. Emphasis is on proteins as enzymes, structural components, and regulators. Course will be taught in the spring. Prerequisite: consent of instructor.

### **BCHM 990. Doctoral Research. 1-15 Credits.**

Research for the doctoral degree.

### **BCHM 999. Doctoral Dissertation. 1-15 Credits.**

Restricted to the writing of the doctoral dissertation.