

INTRODUCTION TO BIOPHYSICAL METHODS

FROM BONDS TO BRAINS

MCDB 2200

The primary goals of this course are to gain an understanding of the breadth of biophysical methods used to study biological systems through the following learning goals:

1. Develop quantitative and physical understanding of molecular and cellular aspects of biology and the underlying logic of living systems.
2. Develop skills to identify meaningful, fundamental, critical questions of biological systems in the postgenomic era.
3. Understand fundamental concepts and methods of physics and their application to the study of biological molecules, living systems and life processes.
4. Describe the fundamental principles of various biophysical methods
5. Develop skills in critical thinking and reading, and in effective written and oral communication.
6. Identify a biophysical method or methods suitable for addressing a specific biological question.
7. Be able to use online tools to study biological systems
8. Prepare for careers in the biological and physical sciences and engineering, including medical and veterinary medicine, and for graduate studies in the biological sciences and biologically-focused chemistry, physics.