

# BIOPHYSICS (BPH)

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## **BPH 201. Seminar I: Introduction to Biophysics. (1 Units)**

Prerequisite: PHY 120. Course is designed to inform students about the field of biophysics, its career applications, and college success. Students will understand how physics can be integrated into biology and explore basic computational tools through a tutorial approach.

Offered Fall

## **BPH 202. SeminarII: The Art of Scientific Presentation and The Frontiers of Physics. (1 Units)**

Prerequisites: BPH 201, PHY 120 are required or consent of instructor. Students learn how to prepare and give presentations on their research interests or discipline topics. Emphasis is given to the preparation, execution, and critique of effective scientific presentations.

Offered Spring, Summer

## **BPH 330. Biological Physics. (3 Units)**

Prerequisites: BIO 122, BPH 202, PHY 306 and CHE 310 are required. Introduction to the interface between biology and physics, applying the results of thermodynamics to topics such as protein folding, molecular machines, brain function, with a focus on molecular and cellular biology.

Offered Fall

## **BPH 340. Experimental Biophysics. (3 Units)**

Prerequisites: BPH 202, BIO 122, CHE 310 and PHY 306 are required. Co requisite: PHY 346 is required. A laboratory course introducing interdisciplinary research techniques and research writing in biophysics. Basic concepts behind commonly used biological techniques and how to collect and communicate discipline-specific data.

Offered Spring

## **BPH 402. BIOPHYSICS RESEARCH. (1-3 Units)**

Prerequisite: PHY 306, BPH 340, or faculty permission. An independent research project, supervised by a faculty mentor in the physics or biophysics department.

## **BPH 406. Computational Biophysics. (3 Units)**

Prerequisites: PHY 306, BPH 330, BPH 340. An introduction to scientific computational methods and their application in physics, using various numerical and symbolic computing techniques.

## **BPH 410. Medical Biophysical Education and Medical Industry Impact on Society. (3 Units)**

Prerequisites: BPH 201, BPH 202, BPH 340. This course will help students meet the criteria for professional schools. The students will practice professional communication skills through healthcare practices. The course's service-learning component requires shadowing of healthcare professionals for eight weeks and completing thirty volunteer hours with community organizations.

## **BPH 460. Advanced Microscopy. (3 Units)**

Prerequisite: PHY 306, PHY 320, BPH 330, BPH 340. An introduction to the use of quantitative fluorescence microscopy procedures in modern biophysics laboratories.