

# CELL PHYSIOLOGY 2007

**Director:**

Colleen E. Clancy, Ph.D.  
Assistant Professor  
Department of Physiology and Biophysics  
Institute for Computational Biomedicine  
Weill Medical College of Cornell University  
1305 York Avenue  
Office 13-06  
New York, NY 10021  
P: 646-962-6374  
clc7003@med.cornell.edu

**TA:**

Byron Roberts  
P: 212-203-1069  
byr2001@med.cornell.edu

**Course Summary:**

This course will focus on important aspects of cell physiology from the level of the gene to the cell. Important molecular pathways and their interactions related normal cell functioning and disease processes will be discussed in the context of the cell as a complex system. Topics in theories of biophysics and bioelectricity will also be covered.

**Course Specifics:**

This course will introduce graduate students in the physiological sciences and related disciplines to major categories of cell physiology. The course will focus on modern topics relevant to important areas of research as pursued by faculty in the Graduate school and will provide a basic level of knowledge required for students as they embark on research rotations or thesis research.

**Modules:**

The course is divided into 5 modules to address each of the following areas:

- 1) Genes, proteins and membranes
- 2) Biophysics of the cell
- 3) Proteins in the cell
- 4) Signaling in the cell
- 5) The cell as a complex system

Each module consists of several lectures relevant to the module topic. Each module will be followed by a quiz to test students' knowledge of material

presented in that module. For each class session, a basic science lectures will present genetic, molecular, and/or cellular phenomena relevant to the lecture topic. This material will be followed by a discussion of the topic as it relates to physiological function and provide some information on current research in the field.

**Course materials:** The course will rely heavily on assigned readings and lecture materials provided by individual lecturers.

**Audience:** Predoctoral students in the first through third years. Graduate introductory course work in organ physiology, biochemistry and molecular biology may be taken concomitantly or following this course.

**Days:** Tuesday and Thursday, 3:45pm - 5:15pm (Lectures)

**Hours:** 3 hours per week

**Location:** LC building, 5th floor conference room in the department of physiology and biophysics.