

CAMB 6910. Advanced Topics in Cell Biology and Physiology I.

Course Organizers: Mickey Marks and Erika Holzbaur (contact: Mickey Marks)

Prerequisite(s): BIOM 600 or a similar survey course in cell biology. Permission required prior to registration for all non-BGS students.

An in-depth consideration of key topics in cell biology and physiology. This course will focus on key issues at the forefront of research in the areas of ion channels, intracellular organelles and membrane transport, cytoskeletal dynamics and cell division, and molecular biomechanics. The course format pairs faculty presentations with student-led discussion sessions highlighting important papers from the primary literature. Students will be evaluated on their presentations and participation in class discussions. There are no exams.

Course Overview

CAMB 6910 is a seminar course for first and second year graduate students focusing on the in-depth consideration of key topics in cell biology and physiology. We will emphasize current questions in the field and how these questions can be addressed with new experimental approaches. This year the course will be organized into pairs of themes around a similar focus, led by faculty experts in each theme. The themes will include: (1) ion channels, (2) membraneless organelles as regulators of cell processes, (3) lysosomal biology and regulation of metabolism, (4) control of membrane lipids by membrane contact sites and lipid droplets, (5) cellular and tissue biomechanics of striated and cardiac muscle, (6) specialization of the secretory and endolysosomal systems in neuronal tissues, and (7) molecular mechanisms of mitosis and cell division. CAMB 691 will meet twice a week. New topics will be generally introduced in lectures presented by the faculty during the Monday sessions, and then will be discussed in depth in student-led presentations of relevant papers during the Friday sessions. Students will be evaluated based on their presentations and participation in class discussions.

Class will meet **Mondays and Fridays from 10:30 AM to 12:00 PM in CRB 205** from 26 January 2026 to 1 May 2026. An organizational meeting will be held on Friday January 23rd at 10:30 AM in CRB 205.

Course Organizers:

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