

TO: Mellon College of Science, College Council
FROM: Department of Biological Sciences
DATE: 30 April 2004
SUBJECT: Request for creation of a New Course: Cellular and Genetic Mechanisms
of Development (03-450)

The Department of Biological Sciences proposes to add a new course to the curriculum of the Developmental Biology offerings within the Department. This course, entitled Cellular and Genetic Mechanisms of Development, is designed to be taken by second semester juniors or seniors and will represent the second course in the sequence of Developmental Biology courses within the department.

The course represents an intermediate step to the upper-level Advanced Developmental Biology (03-751). It broadens the scope of the previously taught Developmental Genetics (03-550) course to include issues of cellular development in addition to developmental genetics. The specifics for the course are as follows.

Due to faculty leaves during the 2004/05 academic year, this proposed course will be offered for the first time in the Spring of 2006.

Course Title: Cellular and Genetic Mechanisms of Development
Proposed Number: 03-450
Period Taught: Spring Semester
Units: 9 units
Class Meeting: MWF, 10:30 AM

Focus of the class:

The development of a single fertilized egg into a complex multi-cellular organism is an amazing biological phenomenon that we are only beginning to understand. This course will explore our current understanding of the cellular and genetic mechanisms that underlie this fundamental process. Focus will be on experimental approaches taken in model systems (*C. elegans*, *Drosophila*, mouse, etc.) to unravel the mysteries of development. Topics to be covered will include, but not be limited to, aspects of signal transduction pathways and their consequences, cell cycle regulation, and molecular control of differential gene expression as they relate to developmental processes using examples drawn from the primary literature. The course will be a blend of lectures and student presentations of current topics from the literature.

Prerequisites: 03-350 (Developmental Biology) and 03-330 (Genetics)

Participating Faculty:
Brooke McCartney Carnegie Mellon

TO: Mellon College of Science, College Council
FROM: Department of Biological Sciences
DATE: 30 April 2004
SUBJECT: Creating a cross-registration number for the graduate course in Membrane Trafficking

The Department of Biological Sciences requests approval to have the course, Membrane Trafficking, jointly taught by faculty at Carnegie Mellon University and the University of Pittsburgh, have a Carnegie Mellon course number assigned.

Course Title: Membrane Trafficking
Proposed Number: 03-744
Period Taught: Spring Semester
Units: 9 units
Class Meeting: Thursday, 1:30 to 3:30 PM

Focus of class:

While the focus of this course is to analyze membrane/protein traffic along both the biosynthetic and endocytic pathways, our general goal is to teach students how to read and interpret the literature. In particular, we emphasize the conclusions and discuss their validity. The course is updated each year to include topics in which new and interesting developments have occurred. Emphasis is placed on how membrane traffic is regulated and where applicable how it is disrupted or subverted during disease processes. The course is of general interest to students, fellows, and faculty interested in cell biology, immunology, neurobiology, pharmacology and virology.

Prerequisites: 03-240 (cell biology) and permission of instructor.

Participating Faculty:	Adam Linstedt	Carnegie Mellon
	Gerard Apodaca	Univ. Pittsburgh
	Meir Aridor	Univ. Pittsburgh
	Jeff Brodsky	Univ. Pittsburgh
	Linton Traub	Univ. Pittsburgh
	Ora Weisz	Univ. Pittsburgh

Structure of course and how students will be evaluated:

There will be no formal test. Instead, the grade will depend on participation (50%) and a ~30 minute mini-lecture (50%) that will be prepared by the student as an introduction for one of the sessions described below.

Each session begins with a mini-lecture. In the mini-lecture the student will provide background information on a designated subject so that any reasonable person can understand the subject and its significance. The student will prepare a handout that his/her classmates can use as a reference in their future studies. In this handout a

bibliography citing any reference material that was found useful in preparing the lecture will be given. The lecture should be no longer than 30 minutes. Consultation with the faculty will guide the topics that will be included in the mini-lecture.

Participation in the discussion sessions will be assessed as follows. The faculty will promote exciting discussion and an open exchange of ideas. In return, it is expected that the students will be dynamic and excited about the lectures, presenters and papers. These qualities will be reflected in the numerous questions the students will ask of the other participants. There is no expectation that the student will know or understand everything. Participation means that the student asks questions when they don't understand or when they want to know more. The organizers will ensure that everyone participates.