

7.61 Minicourse Structure – fall 2006

The course is organized into a series of topics or minicourses (some of them taught by guest lecturers who are experts on the specific topics). Each topic is covered in a mixture of lectures and class discussion groups to allow both an overview and in-depth analysis. Those discussions (except for the first) are led by students.

- I. Cell Surface Receptors—Ligand Recognition and Signal Transduction
- II. Membrane Structure & Function,
Membrane proteins – how they are built and how they function and interact
- III. The roles of Heptahelical Receptors and their GTPase transducers
- IV. Kinase-coupled receptors and their adapters in the control of cell proliferation, death and differentiation.
- V. Analysis of signal transduction pathways.
- VI. Proteomic approaches to protein interactions and signal transduction.
- VII. Cell adhesion molecules and their associated proteins and their control of cell organization and behavior.
- VIII. Endocytosis and membrane trafficking
- IX. The cell biology of immune cells
- X. Cytoskeleton and Cell Motility
- XI. Pumps & Channels: Structure and function of membrane transporters.
- XII. The secretory pathway.
- XIII. Pre-synaptic cell biology
- XIV. Post-synaptic cell biology