

BIOL 707, Advanced Cell Biology
MWF 1:30
Ackert 324B

Course organizers: Gary Conrad (gwconrad@ksu.edu)
Ruth Welti (welti@ksu.edu)
Rollie Clem (rclem@ksu.edu)

Textbook: Alberts et al., Molecular Biology of the Cell, 4th edition
ISBN 0-8153-3218-1

Course website: <http://online.ksu.edu>
Course LISTSERV: advcellbiology@ksu.edu

This 3-credit course will meet three times a week for one hour. The course will be divided into three sections of about 5 weeks, each of which will be the responsibility of one of the course organizers. Each section contains four topics/modules. Classes will include overview lectures on the module topics, student and instructor discussion of relevant review article(s), and presentation of research papers from the literature.

Grades: One third of the grade will be determined by student work in each section. In each section, the instructor will explain how he/she will determine the grade. Grades will be based on a combination of written and oral work.

Section I. Organizer: Gary Conrad

The intracellular matrix - Microtubules
The intracellular matrix - Microfilaments
The extracellular matrix - Collagens
The extracellular matrix - Proteoglycans

Aug. 21, 23, 25
Aug. 28, 30, Sept. 1
(no class Sept. 4), Sept. 6, 8
Sept. 11, 13, 15
Sept. 18, 20, 22
Sept. 25

Section II. Organizer: Ruth Welti

Biomembranes and the subcellular organization of cells
Transport across cell membranes
Sorting
Location and compartmentalization as regulators of function

Sept. 27, 29
(no class Oct. 2), Oct. 4, 6
Oct. 9, 11, 13
Oct. 16, 18, 20
Oct. 23, 25, 27
Oct. 30

Section III. Organizer: Rollie Clem

Cell cycle regulation
Cell cycle checkpoints
Apoptosis
Specialized cell function (Bone)

Nov. 1, 3

Nov. 6, 8, 10

(no class Nov. 13, 15) Nov. 17

Nov. 20 (no class Nov. 22 and 24)

Nov. 27, 29, Dec. 1

Dec. 4, 6, 8

Exam over Section III, Tues. Dec 12 (11:50 am -1:40 pm)