

SYLLABUS for CELL AND MOLECULAR BIOLOGY: ABIO 302

Spring 2003 MWF 11:00-11:50 (Lab M 2:30- 5:10)

Dr. Yates (205) Office Hours (by appointment) Tu Th 10:00–12:00 & any time that is mutually convenient

Text: Molecular Cell Biology, 4th Ed. Lodish *et al.*

Lab Supplies: Pencil Ruler Calculator Safety glasses Lab coat (optional)

Grading policy: (20%) Midterm (multiple choice and short answer, etc.)
(20%) Final (same as above)
(35%) Weekly Quizzes
(18%) Lab Reports
(7%) Presentation

The policy on class attendance: You are expected to attend all class meetings (including Labs) If you are unable to be in class on days when quizzes or tests are given please notify me. Make-up exams will be given if you have a legal excuse. No make-up labs can be offered.

Statement for disabled students: "If you have a physical, psychological, or learning disability which might affect your performance in this class, please contact the Office of Disability Services, 126 B&E 641-3609 as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation."

Course Description In this course we will examine the molecular organization and the interaction of cellular components in prokaryotic (and when applicable - eukaryotic) cells. The organization and expression of genes will be examined including: gene structure, gene regulation and transcription, DNA replication (with special emphasis on the proteins involved) and DNA repair.

Course goals and objectives: 1) Introduce students to the basic theoretical concepts of Cell/Molecular Biology including: (a) interactions between molecules in cells (b) protein structure and function (c) nucleic acid structure and function (d) biosynthesis of macromolecules. 2) Introduce students to some of the basic laboratory procedures commonly used in Cell/Molecular Biology. 3) Provide students with the opportunity to review recent discoveries in the field. 4) Attempts will be made to integrate the concepts of Cell/Molecular Biology with other areas of Biology.

Assessment of students: Students will be evaluated on their performance in: a midterm exam, a final exam, weekly quizzes, laboratory exercises, a brief presentation **and participation in class discussions.**

Course Outline (Tentative)

Section	Topic	Section	Topic	Section	Topic
1.2	Cell Molecules	3.4	Membrane Proteins	10.2	Transcription Init.
1.3	Cell Architecture	4.1	N.A. Structure	10.2	Euk. Gene Control
2.1	Covalent Bonds	4.3	DNA & RNA syn.	11.1	Termination
2.2	Non-covalent Bonds	4.4	Roles of RNA	12.1	DNA Replication
4.2	Biosynthesis	4.5	Protein synthesis	12.2	DNA Rep. Enzymes
3.1	Protein Structure	7.4	Genomics	12.3	Topoisomerases
3.2	Protein Folding	8.1	Mutations	12.4	DNA Damage
3.3	Design of Proteins	10.1	Gene Regulation	((0))	Meaning of Life

Midterm: Feb. 28, 2003 (Fri) (tentative)

Final: May 2, 2003 (Fri) @ 11:00