SYLLABUS for CELL AND MOLECULAR BIOLOGY: BIO 302

Spring 2007 MWF 11:00-11:50 (Lab Tu. 10:50- 1:30)

Dr. James R. Yates (Rm 205) (X3390) Office Hours (by appointment) **any time** that is mutually convenient

Text: Molecular Biology, 3rd Ed. Weaver
Lab Supplies: Lab Manual Pencil Ruler Calculator Safety glasses Lab coat (optional)

Grading policy: (68%) Weekly Quizzes (multiple choice and short answer, etc.)
(7%) Final Quiz (same as above)
(20%) Lab Reports
(5%) 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 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 and DNA replication (with special emphasis on the proteins involved).

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 on: weekly quizzes, final quiz, laboratory write ups, a brief presentation. ***Extra credit (up to 5%) will be awarded to students who actively participate in class discussions***.

Course Outline (Tentative)

Section	Topic		Section	Topic		Section	Topic
2.1	Nature of DNA		6.3	Transcription (Init.)		*8.3 & 4*	*Sporulation*
2.2	DNA Struct I		6.4	Transcription (Elong.)		8.5	Heat Shock
2.4	DNA Struct II		6.5	Transcription (Term.)		8.6	Phage λ
3.1	Protein Syn & Struct		7.1	*lac* operon		9.1	Phage λ Repressor
3.2	DNA Replication		7.2	*ara* Operon		9.3	DNA-Protein interact
3.3	Mutations		7.3	*trp* Operon		9.4	More " " "
6.1	RNA Pol. Struct.		8.1	Mod. RNA Pol.			
6.2	Promoters		8.2	T7 RNA Pol.		((∞))	Meaning of Life

Final: May 7, 2007 (Mon) @ 11:00