COURSE: BSCI 410: Molecular Genetics  Spring 2006

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TA: Jennifer Baxter  sugarpucker@gmail.com  X5-1758
   Lab: 2135 Microbiology Building
   Office hour: Th. 12:30-2PM at 2114 Microbiology

Lectures: Tu Th 11:00 to 12:15 H.J. P. Room 2242

Required Books: (The University Book Center has both of the texts)
   1. Hartwell et al. "Genetics: From Genes to Genomes."
This book is not expensive and you’ll definitely want to have it. It provides a split-
screen online web tutorial for bioinformatics resources, primarily those at NCBI.
Beware: the access code provided in the book is essential, which means that used
books may be worthless.

Other useful reference textbook and Additional readings from the literature may
be assigned and will be posted on the course website.

Lectures: I will post lectures after they are given.

Office Hours: The TA will give an office hour each week. Before each homework
due date or exam, additional office hours will be given. The time and place will be
announced at class.

Grading:
Three Homeworks: 300 (each how work is worth 100 points)
Two mid-term exams: 200 (Only the higher score of the two exams will be
used toward calculating the final grade)
One final exam: 300
Total 800

Course website: http://www.life.umd.edu/classroom/BSCI410-Liu/BSCI410/

Course mail: bsci410-0101-spr06@coursemail.umd.edu
SYLLABUS
Jan 26 Th. Lecture 1 Mutation type and effect I
Ch 7 p192-193; Ch 8 p239-243; 265-266
Jan 31 Tu. Lecture 2 Mutation and mutagen
Ch 7 193-203; 215-217; Ch8 250-255; Ch 13 460-464
Feb 2 Th. Lecture 3 Mutagenesis screen Ch7 p220-224
Feb 7 Tu. Lecture 4 Mutant characterization
Ch 7 p206-208; p214-215; p220-224
Home work I posted)
Feb 9 Th. Lecture 5 Molecular Techniques Ch 9 p279-307
Feb 14 Tu. Lecture 6 Classical mapping Ch 5 p114-117; 123-127
(Home work I due)
Feb 16 Th. Lecture 7 Molecular marker and mapping Ch 11 p374-387
Feb 21 Tu. In class review
Feb 23 Th. Midterm Exam 1
Feb 28 Tu. Lecture 8 Map-based cloning
Mar 2 Th. Lecture 9 Bioinformatic data mining (Young’s Book)
Mar 7 Tu. Lecture 10 Genome analyses I Ch 11
Mar 9 Th. Lecture 11 Genomic analyses II
Home work II posted
Mar 14 Tu. Lecture 12 Functional genomics I Ch10p348-357
Mar 16 Th. Lecture 13 Functional genomics II (Home work II due)
Mar 20-24 Spring break
Mar 28 Tu. Lecture 14 Topics to be determined
Mar 30 Th. In class review
Apr 4 Tu. Midterm Exam 2
Apr 6 Th. Lecture 14 E. Coli and Yeast Ap739-754
Apr 11 Tu. Lecture 15 Arabidopsis Bp759-785
Apr 13 Th. Lecture 16 C. elegans C p789-809
Apr 18 Tu. Lecture 17 Drosophila D p813-839
Home work III posted
Apr 20 Th. Lecture 18 Mouse E
Apr 25 Tu. Lecture 19 Cancer & Cell cycle Ch 18 (Home work III due)
Apr 27 Th. Lecture 20 Diagnosis and gene therapy
May 2 Tu. Lecture 21 Plant Biotechnology
May 4 Th. Lecture 22 GMO
May 9 Tu. Topics to be determined
May 11 Th. In class review
May 13 Sat. Final exam (8-10AM)