MBIOS 404
Molecular Genetics
Spring 2008

Course Number: MBIOS 404 3 credits
Lecture Time: Monday, Wednesday, and Friday 10:10 – 11:00 AM
Lecture Location: Todd 133

Required Textbooks: *Molecular Biology of the Gene (MBG), Sixth Edition*
Recommended Resource: MBG Companion Website: www.aw-bc.com/watson

Expectation: The course will begin with Chapter 7 in *MBG*. You should be thoroughly familiar with the material covered in Chapters 1-6. If not, consider dropping the course. Although the course will follow the linear progression of each chapter, lectures will frequently provide additional material. Therefore, concepts provided in the text and in each lecture are considered "fair game" for exam questions. The text book is the syllabus; you should read it! You should also attend each lecture since the content will not be provided outside of class. The only exception will be slides presented that are not in the text book. These will be available on WSU MyClass.

Instructors:

Dr. John H. Nilson (Course Director)
jhn@wsu.edu
Office: Fulmer 631 phone: 335-8724
Office hours: By appointment

Dr. John Dahl
johndahl@wsu.edu
Office: Eastlick 379 phone: 335-7719
Office hours: Friday 3-5pm or by appointment

Dr. Terry Hassold
terryhassold@wsu.edu
Office: Fulmer 542 phone: 335-5537
Office hours: Friday 3-5pm or by appointment

Dr. Consetta M. Helmick (Resource Instructor)
helmick@wsu.edu
Office: Eastlick Rm. 383 phone: 335-1601
Office hours: Tuesday, Thursday mornings or by appointment

Dr. Michael Kahn
kahn@wsu.edu
Office: Clark 203 phone: 335-8327
Office hours: Friday 3-5pm or by appointment

Dr. Michael Smerdon
smerdon@wsu.edu
Fulmer 670A phone: 335-6853
Office hours: Friday 3-5pm or by appointment

Dr. John Wyrick
jwyrick@mail.wsu.edu
Fulmer 675A phone: 335-8785
Office hours: Friday 3-5pm or by appointment

Instructor's Accessibility:

Since there are several instructors for this class, Dr. Helmick will be the contact instructor for grade information or other resource help, including arranging tutorials. Also, be sure to seek out the other instructors and ask questions; we can only help you if we know you're having trouble or are confused. Please don't wait until the end of the semester, speak-up early!

Lecture Classroom behavior:

Attendance is required, but on the honor system. If you will be gone contact Dr. Helmick. If called on and you are not in lecture, it will be noted. In class you are expected to conduct yourself responsibly and courteously. Disruptive or distracting behavior will not be tolerated; no talking, reading newspapers, playing games on lap top computers, using cell phones (unless it is an emergency), sleeping, etc. Disruptive people will be dismissed from class; two dismissals will result in assigned grade of an F for the course. You need to police yourself. If a person in front, behind or beside you are very disruptive and will not take a hint, please inform us so we can resolve the problem.

Academic Dishonesty:

Consist of copying answers, offering answers to other classmates, or soliciting help from other individuals during the take-home exams. In other words-- Cheating!!!!!! Plagiarism will not be tolerated. If you are unclear of what plagiarism is check the WSU web site concerning plagiarism website; http://www.wsulibs.wsu.edu/plagiarism/ Anyone caught in these activities will be expelled from the lecture assigned a grade of F for the course and the student will be prevented from withdrawing from the course by departmental memo to the registrar. In addition, a letter documenting the incident will be given to the student's advisor, the Director of the student's major department, the Dean of the College and the Office of Student Conduct.

Students with Disabilities:

We are committed to providing assistance to help you be successful in this course. Reasonable accommodations are available for students with a documented disability. Please visit the Disability Resource Center (DRC) during the first two weeks of every semester to seek information or to qualify for accommodations. All accommodations MUST be approved through the DRC (Admin Annex Bldg, Room 205). Call (509) 335-3417 to make an appointment with a disability counselor.

Performing well in MBIOS 404:

Be sure to read ahead; not all material will be covered in lecture but you will be responsible for each chapter listed in the accompanying schedule. During lecture a number of students will be randomly called on to explain the main concepts and/or a figure of the topic at hand. You will be required to participate in class. Instructors will step in to help student with main concepts if needed.

Exams:

There will be five take home exams, each graded on a 100 point scale. Each exam will constitute 20% of your final grade. Material covered and dates of each exam are listed in the class schedule below. All answers must be typed; either manually or with a word processor, and confined to the indicated boundaries. You are free to consult any written or electronic resource. Conversely, seeking human help is expressly disallowed. All exams must be signed; your signature verifies that you have followed the conditions set forth immediately above. Exams must be completed within 24 hours of their issue and delivered to Dr. Helmick. Finally, given the participation of multiple lecturers, Dr. Nilson will write each exam based on the actual material provided in each lecture to provide consistency with respect to their depth and scope.

Make-up exam:

Only students who have medical excuses, extra WSU curriculum activities, such as sports, dance, theater, music, agricultural, architecture or other activities will be allowed to make-up missed assignments when proper excuse forms are presented to Dr. Helmick. Only one comprehensive make-up exam will be given for the whole semester. If you are unable to take Exam 1, 2, 3, or 4 for any reason, a make-up exam will be given on April 28th at 2:30PM location will be announced later. The make-up exam will be comprised of all four exams and you will be responsible for all material.

NOTE: There is NO extra credit offered in lecture.

Mentors:

Students learn better from each other. If you are interested in forming a study group or becoming a mentor for other students, please let Dr. Helmick know and I will see if I can help you with this endeavor.

Grade Scale:

Letter grades will be calculated on a straight scale; no curve grading. If at any time you want to know your grade in the class, please contact Dr. Helmick.

100 – 94%	A
93.9 – 90%	A-
89.9 - 87%	B+
86.9 - 84%	B
83.9 - 80%	B-
79.9 - 77%	C+
76.9 - 74%	C
73.9 - 70%	C-
69.9 - 64%	D+
63.9 - 60%	D
Below 59.9%	F

MBIOS 404/Spring 2008
Student Information

Name: _____

Major: _____

Year: _____

What are your Career Goals?

What do you expect out of MBIOS 404 (besides a grade)?

How can you help this class?

Example:

- Mentor
- Study Groups
- Review Favorite Articles?

Date	Lecture Topic	Chapter	Faculty
7-Jan	Intro/ Chromosome Sequence & Diversity	7	Hassold
9-Jan	Chromosome Duplication & Segregation	7	Hassold
11-Jan	Nucleosome and Higher-Order Chromatin Structure	7	Wyrick
14-Jan	Regulation of Chromatin Structure and Nuclesome Assembly	7	Wyrick
16-Jan	DNA Replication Prokaryotes	8	Kahn
18-Jan	DNA Replication Eukaryotes	8	Smerdon
23-Jan	DNA Replication Errors and Repair	9	Smerdon
25-Jan	DNA Damage and Repair	9	Smerdon
28-Jan	Exam I		
30-Jan	Homologous Recombination/Protein Machines	10	Hassold
1-Feb	Homologous Recombination in Eukaryotes	10	Hassold
4-Feb	Homologous Recombination in Eukaryotes	10	Hassold
6-Feb	Conservative Site-Specific Recombination	11	Dahl
8-Feb	Biological Roles of Site-Specific Recombination	11	Dahl
11-Feb	Transposition	11	Dahl
13-Feb	Transposable Elements & V(D)J Recombination	11	Dahl
15-Feb	Exam II		
20-Feb	RNA Polymerase and the Transcription Cycle	12	Nilson
22-Feb	The Transcription Cycle in Bacteria	12	Kahn
25-Feb	The Transcription Cycle in Eukaryotes	12	Nilson
27-Feb	RNA Splicing	13	Nilson
28-Feb	Alternative Splicing, Exon Shuffling, RNA Editing, RNA Transport	13	Nilson
3-Mar	RNA Translation-- Overview	14	Nilson
5-Mar	RNA Translation Dependent Regulation of mRNA and Protein Stability	14	Nilson
	Genetic Code (assigned reading, not covered in class)	15	
7-Mar	Exam III		
17-Mar	Gene Regulation in Prokaryotes	16	Kahn
19-Mar	Gene Regulation in Prokaryotes	16	Kahn
21-Mar	Gene Regulation in Prokaryotes	16	Kahn
24-Mar	Gene Regulation in Eukaryotes	17	Nilson
26-Mar	Gene Regulation in Eukaryotes	17	Nilson
28-Mar	Gene Regulation in Eukaryotes	17	Nilson
31-Mar	Epigenetic Gene Regulation	17	Nilson
2-Apr	Regulatory RNAs	18	Nilson
4-Apr	Regulatory RNAs	18	Nilson
7-Apr	Exam IV		

9-Apr	Gene Regulation in Development and Evolution	19	Nilson
11-Apr	Gene Regulation in Development and Evolution	19	Nilson
14-Apr	Genome Analysis-- Genonics Overiew	20	Wyrick
16-Apr	Genome Analysis-- Systems Biology	20	Wyrick
18-Apr	Model Organisms-- Bactiophage, Bacteria, and Yeast	22	Nilson
21-Apr	Model Organisms-- Arabidoposis, Nematode, and Fruit Fly	22	Nilson
23-Apr	Model Organisms-- Mice and epigenetics	22	Nilson
25-Apr	Exam V		Nilson