Molecular Biosciences (MBioS) 305 – General Microbiology

Lecture Syllabus, Autumn 2008

Instructor: **Dr. Phil Mixter**, Fulmer 632, Phone 335-4937, E-mail: pmixter@wsu.edu
Office hour/optional review session to be announced
Classroom: Todd 430; Tuesday and Thursday; 12:00 PM – 1:15 PM

1. Text: *Microbiology, a Human Perspective* by Nester *et al.*, Fifth Edition (required). Read chapters 1 and 2 on your own. You are responsible for this background material.
2. The lecture and laboratory general microbiology courses are now completely separate. Each will garner a separate, unique grade. MBioS 306 labs meet this week.
3. Attendance in lecture is not required but greatly encouraged, as lecture exam questions are derived from the lecture material. Please be courteous to your classmates during lecture.
4. Grading System:
   100% of your final grade will be made up of your scores from your exams
   a. Lecture exams: There will be a total of four multiple format exams for the lecture portion of the course. This includes the final exam. **All four exams are mandatory.**

Exam	Day and Date	Possible Points
1	Thursday September 18	100
2	Thursday October 16	100
3	Thursday November 13	100
Final	*Thursday Dec. 18, 2008 7-10 PM	200

* The MBioS 302 Final Exam will be administered **Thursday December 18, 2008 (7:00 to 10:00 PM).** The final exam is cumulative and will include 25 points on material covered in each of the three previous exams and 125 points on material covered after the first three exams. Plan your travel accordingly as the final exam will not be given early (NO exceptions).

With justification, exams may be re-scheduled. Contact Dr. Mixter *prior* to exams to discuss your situation.

Additional points may be made available during the course. Your final performance percentage will be calculated using the 500 point total denominator as indicated here.

b. Course Grades:

Final course letter grades are assigned using a standard performance criteria from the 500 available points. Your percentage will always be calculated by dividing your total by 500.

Above 94%.....A
90.0% to 93.9%....A-
87.0% to 89.9%....B+
84.0% to 86.9%....B
80.0% to 83.9%....B-
77.0% to 79.9%....C+
74.0% to 76.9%....C

70.0% to 73.9% C-
64.0% to 69.9% D+
60.0% to 63.9% D

Below 60% garners a failing (F) grade

However, if the class distribution is significantly non-uniform, the class grades may be curved, *but only if it improves an individual's letter grade.* Shifts in the grading criteria are rare.

Molecular Biosciences 305

Autumn 2008

Students with Disabilities

Dr. Mixter is committed to providing assistance to help you be successful in this course. Reasonable accommodations are available for students with a documented disability. Please go to 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, located in the Administration Annex Bldg, Rm 205. To make an appointment with the DRC, please call 509-335-3417.

Academic Dishonesty Policy (WSU Code of Conduct and School of Molecular Biosciences policy)

Academic dishonesty will result in a grade of "F" for this course without the option to withdraw. Formal documentation will be filed with the Office of Student Conduct at WSU. Academic dishonesty is defined as cheating, falsification, fabrication, multiple submission, plagiarism, abuse of academic materials, complicity or misconduct in research (WAC 504-25-310 in Standards of Conduct for Students). For more information and definitions, visit www.conduct.wsu.edu.

Course Objectives

I construct this course to offer diverse students fundamental training in the field of Microbiology and foster a lifelong thirst for more information on this topic. While some students will pursue careers in health-related fields, others will use Microbiology to further inform their endeavors in broader areas. This course either serves as a stand-alone introduction or a prerequisite for other detailed courses for others. I hope that you will find this course useful in other areas of your life, enhancing your science literacy as you read the daily news, make medical care decisions or ponder whether something in your refrigerator is safe to eat. We hope you'll learn more about the following areas:

- Relation of microbes to other species, especially humans
- How microbes respond to changing environments in order to survive
- How to make sauerkraut and beer (you'll have to learn the accordion on your own!)
- What separates "good" or commensal microbes from "bad" or pathogenic microbes
- How your immune system constantly protects you from infection
- Examples of microbes throughout the planet

Additionally, Dr. Mixter is interested in not only what you learn, but how you learn. Throughout the course he will try to work with you as you move into areas of greater detail to refine your learning strategy. As you gain proficiency in areas closer to your career goal, your learning strategy may change as you wish to carefully retain information for use in years to come. If you are planning a profession in healthcare-related fields, this will be most useful. Dr. Mixter will discuss this as the semester progresses.

Web Resources

This course employs WSU's eLearning platform to deliver online resources. Within the course site on eLearning, you should find helpful links for more information, current grade book information for your performance in exams, downloadable lecture notes, discussion threads, some frequently asked questions about the course, and old exams to use as study guides. Dr. Mixter has used eLearning to deliver materials and found it most helpful, but problems may arise. I welcome your timely constructive feedback to make this a useful resource.

I routinely make lectures available in a number of formats, including audio files that you can move to your digital music player as well as videostreamed lectures. Normally, it takes 72 hours to get lectures to the web and this is an issue close to our exams. I recommend that you attend each lecture and use these captured lectures to help you review your notes, making sure your notes are complete. Dr. Mixter has a brisk lecture pace and these formats allow you to rewind something you may miss the first time. I caution students that these technologies are in addition to "live" lectures and are no substitute or reason

for missing lecture. On occasion this technology fails to capture lecture and these resources may not be available for each and every event. Our videographer has warned me that scheduling issues could interrupt this resource during the semester.

Help Me Help You

This course continues to evolve to best suit the needs of our students. Dr. Mixter will make every effort to provide you with tools to aid in your successful comprehension of the vital material presented in the course. This is a challenging course with lots of material to take in, digest and organize for retrieval during exams. If you have any suggestions for improving this course, I welcome them during the term, rather than in the evaluations at the end of the course. You can communicate with Dr. Mixter many ways. Dr. Mixter uses MSN Messenger to communicate when online. If you use MSN, add Dr. Mixter to your contacts (email address: *pmixter@wsu.edu*; screen name: Phil @ WSU) and also email Dr. Mixter with your contact information as an MBioS 305 student. You can make comments or ask questions publicly on eLearning. You can email Dr. Mixter directly or make an appointment to visit his Fulmer 632 office if you prefer.

Office Hours

While you can always make an appointment to meet with Dr. Mixter, we'll schedule a weekly review time or office hours after some discussion. This is a great time to ask questions as you review your notes, clarifying concepts while they are fresh in your mind. We'll likely meet in Dr. Mixter's Fulmer 632 office and move to nearby conference room (often Fulmer 539, depending on availability). Prior to exams, Dr. Mixter will schedule a review period in a larger lecture hall for questions from students.

Tips for Success

Here are some suggestions to ensure reaching the performance goal you wish to attain in MBioS 305:

- Use media provided to review each lecture at least once while checking your notes for accuracy and completeness. If you got distracted and missed something, you'll be able to fill in this gap. Dr. Mixter finds that successful students have heard every lecture at least once outside of class.
- Use exams on file (eLearning) to test yourself and understand the expectation and you'll avoid surprises on test days. Practice! Practice! Practice!
- Successful students not only consider the content of a given lecture, but also make connections from lecture-to-lecture, even section-to-section. Try to understand the relationship of lecture #1 to lecture #5 and look for connections or contrasts. Repeat as needed.
- Take responsibility for your future now. This information will likely come up again in your career or personal lives (Parents of young children are really microbiologists!). Learn these concepts in a way you can use on the exam, but also in the years to come. If you cram this information, you may have to re-learn it for the MCAT/DCAT exam in a few years.
- Form a study group with a few classmates and meet regularly during the semester. No matter what role you play in a study group, you'll learn more by participating in a group. Feel free to form online study groups using eLearning (Dr. Mixter can set up private discussion groups if you wish). Other members of the group will teach you new things and you will explain things to them in ways that are useful. Everyone wins.

Molecular Biosciences 305

Tentative Lecture Schedule, Autumn 2008

Text: *Microbiology, a Human Perspective* by Nester *et al.*, Fifth Edition.

PERIOD	DATE	DAY	SUBJECT	CHAPTER READINGS
1	8/26	Tu	Introduction	--
2	8/28	Th	The Microbial World, The Molecules of Life	1, 2 &3
3	9/2	Tu	Bacterial Cell Structure	3
4	9/4	Th	Bacterial Cell Structure	3
5	9/9	Tu	Dynamics of Bacterial Growth	3, 4
6	9/11	Th	Control of Microbial Growth	4
7	9/16	Tu	Biosafety	5
8	9/18	Th	**Exam 1**	
9	9/23	Tu	Microbial Metabolism: Overview	6
10	9/25	Th	Central Metabolic Pathways	6
11	9/30	Tu	Respiration and Energy	6
12	10/2	Th	Fermentation	6
13	10/7	Tu	Photosynthetic, Environmental Microbes	6,30, 31
14	10/9	Th	Microbial Ecology	30
15	10/14	Tu	Solid Waste	31
16	10/16	Th	**Exam 2**	
17	10/21	Tu	Epidemiology	20
18	10/23	Th	Bacterial Genetics and Biotechnology	9
19	10/28	Tu	Antibiotics and Antibiotic Resistance	21
20	10/30	Th	Microbial pathogenesis and diseases	19, 24
21	11/4	Tu	Medical microbiology, including STI, leprosy	26, 28
22	11/6	Th	Influenza	14, 24, 25
--	*11/11*	*Tu*	*Veterans' Day-Holiday*	--
23	11/13	Th	**Exam 3**	
24	11/18	Tu	The Immune System	15
25	11/20	Th	The Immune System	15, 16
--	11/25	Tu	**Thanksgiving Break**	--
--	11/27	Th	**Thanksgiving Break**	--
26	12/2	Tu	Vaccinations	16
27	12/4	Th	Immunological Testing	17
28	12/9	Tu	Host-Microbe Interactions; HIV	17, 29
29	12/11	Th	HIV and AIDS, wrap-up	29
	12/18	**Thursday**	**Final Exam; 7 – 10 pm**	

revised 10/27/2008