

Microbial Survey, BIO 233, Fall, 2013
Lecture Syllabus

Professor: Dr. Teri Shors
Office: HS 155: e-mail: shors@uwosh.edu
Office Hours: Fri. 8-9 am. Wed. and Fri. 12:40-1:40 pm
Other times by appointment.

Lecture: MWF 11:30 to 12:30 p.m. **HS 109**

Required text for lecture: The Microbial Challenge 3e by Robert Krasner and Teri Shors
Required Laboratory Manual: Benson's Microbiological Applications
Laboratory Manual in General Microbiology, 12 edition
Prepared for UW Oshkosh

Other Laboratory Documents: A set of **Chalktalk Notes** and other Forms will be available at D2L.
Please print them and bring them with you to lab.

BIO 233 LABS DO NOT BEGIN UNTIL WEEK 2 OF THE SEMESTER!

BIO 233: This is a 4-credit class. It contains a 3-hour lecture component and a 2-hour laboratory component. You cannot pass this course if you do not attend and participate in the laboratory component of the class.

Use of D2L

Important documents and web links for the laboratory or lecture portion of the course will be posted to D2L (lecture component on D2L) for your convenience.

LECTURE SYLLABUS/Information:

EXAM POLICY: There are NO MAKE UP Exams!

If a student misses an exam because of **extreme circumstances** (e.g. death of a close relative or a **documented medical excuse**), **if the student contacts the instructor in advance of the exam missed, the student will be allowed to take an essay exam during the last week of the semester.** The grade earned on this exam will be substituted for the one missed exam.

Podcasting

BIO 233 lecture podcasts will be available on D2L. Podcasts will consist of both a screen capture of PowerPoint presentations along with the voiceover from lecture. Lecture podcasts are public and can be downloaded to your computer. Some supplemental videos will be posted on D2L. These will be secured and cannot be downloaded to your computer. You must view them through D2L. On occasion, the instructor may podcast additional mini-lectures. Do **NOT use Google Chrome to access D2L or podcasts. D2L is NOT compatible with the podcasts and D2L.**

Course Description

This course is a survey of microorganisms, including bacteria, viruses, and some algae, fungi, and invertebrates. Emphasis will be placed upon the health care applications of microbiology and transmission of infectious disease agents. Laboratory will focus on standard microbiologic techniques used in the allied health fields. This course is designed for those students interested in allied health fields, including biology, nursing and medical technology majors. Prerequisite: **one semester of general biology (BIO 105).**

Course Objectives

- To introduce the student to the relationship between microbes and our lives.
- To familiarize the student with the diversity, structure, and metabolic processes of microorganisms.
- To understand microbial populations and how unwanted microbial growth can be controlled (e.g. microbes that cause food spoilage or disease).
- To understand the role of microbial genetics in grasping such concepts as antibiotic resistance and the development of vaccines.
- To learn how microbes are classified and identified in the laboratory.
- To gain an understanding of how the human body and various microorganisms interact in terms of health and disease (e.g. defense mechanisms, microbial pathogenicity).

Microbial Survey and Promoting the Liberal Arts: A liberal arts education refers to studies in a college or university intended to provide general knowledge and develop intellectual capacities. A liberal arts education prepares students to work in a variety of jobs. This is different from other types of education where students develop professional or vocational skills for a specific job. The Pre-Nursing and Science Education Majors are offered courses at UW-Oshkosh within the College of Letters and Sciences (COLS). The COLS emphasizes a liberal arts education. It promotes a liberal arts education model proposed by Carol Geary Schneider, president of the Association of American Colleges and Universities since 1998. Schneider stresses the idea that ALL students receive an education of lasting value, relevant for the 21st century. In her model learning should be: 1) "analytical, contextual and holistic thinking;" 2) "effective communication using multiple literacies and forms of expression;" 3) "critical reflection/informed action as citizens, producers, human beings;" 4) "ethical action for local and global communities;" and 5) "integrative learning."

At UW-Oshkosh, you will have a broad exposure to the liberal arts, while focusing on a topic that you are particularly interested in such nursing or the sciences. BIO 233 (Microbial Survey), is a required course in the Nursing Program and an elective course in the Science Education Major. Microbial Survey is important in not only the study of infections and their treatment and prevention, **but also in the unraveling of the most fundamental aspects of biology.** This is because microbes have an intimate relationship with the basic machinery of their host cells. Thus, research on how microorganisms reproduce themselves and spread has given us many insights into the way in which the cells of our bodies function, **leading in turn to a better understanding of the whole organism and of how infective diseases may be prevented or cured.**

Attendance

While there is no formal requirement, attendance in the lecture is highly recommended. Lectures will include some information not included in the textbook. The instructor may pick and choose parts of chapters that are more relevant for the course. Being at class and asking questions is highly encouraged. Earning a high grade in the class will be difficult, if not impossible, without regular attendance. **Information from lectures, films, CONNECT, or articles distributed in class are all "fair game" for exam questions.** If you miss a class period, ***it is your responsibility to obtain notes from a fellow student.*** Punctuality is encouraged; if late arrival is unavoidable, the student should enter the class in a manner that creates as little disruption as possible.

Behavior in Lecture:

Class sizes for BIO 233 are quite large, and in order for everyone to hear the instructor and be able to ask questions (and hear the answers) there are some rules that must be followed.

- 1. All pagers, iPods, cell phones, and other bluetooth devices must be turned off or be silenced. Please remove ear buds.**
2. Please do not talk while the instructor is speaking. Voices in large lecture rooms tend to carry great distances and can drown out the voice of the instructor. Those who sit in the back of the lecture room often have a particularly difficult time hearing the instructor. As a courtesy to your fellow classmates, please do not talk during the lecture.
3. It is ok if you use an iPad or laptop to take notes, however, be mindful that this can be distracting to other students. **If the instructor observes distractions and discovers that you are gaming or playing on Facebook or other social networking sites, the instructor will ask you to leave.**
4. Please do not text during the lecture. If this becomes distracting, the instructor will ask you to leave.
- 5. Do not leave early. Do not get up and leave and come back at your leisure throughout the lecture period.** By signing up for BIO 233, you are entering into an agreement with the instructor and the other students in the class that you will stay for the full lecture period. **Leaving early is rude to both the instructor and other students, often creates noise that prevents others from hearing the instructor and you may miss important information.**

Faculty/Student Responsibilities:

1. As a college student, you are expected to schedule at least two hours of study time outside of class for **each** hour the class meets.
2. Each student is responsible for reading the text and **not** relying entirely on the instructor presenting every detail.
3. If help is needed in understanding course material, the student must show the attempted work when seeking help. Student is encouraged to contact the instructor during posted office hours or by special appointment.
4. Any dishonesty involved with laboratory work or lecture exams will result in a grade of zero.
5. The student is expected to show good listening skills by focusing on the speaker and taking notes by restating in his/her words what is being said.

6. The student is expected to prepare for and take tests on schedule, and to keep a record of all grades to monitor progress (D2L).
7. The student is expected to exhibit a positive attitude by being considerate and polite, cooperating with the instructor and classmates to further their learning goals.

GRADING

The lecture exams of this class are worth 53% of your grade (600 pts.), CONNECT points (10%) and the laboratory is worth 37%. There will be 420 pts. from the laboratory portion of the course. **There will be four 100 point lecture exams and a 200 point comprehensive final exam.** The format of the exams will be multiple choice (scantron).

Course Grading Rubric

4 Lecture Exams	400 points (100 points each)
1 Final COMPREHENSIVE Exam	200 points
Laboratory Points	420 points
TOTAL Points	1020 points

GRADING:

A	100%-94%	4.00
A-	93%-88%	3.67
B+	87%-86%	3.33
B	85%-81%	3.00
B-	80%-78%	2.67
C+	77%-76%	2.33
C	75%-71%	2.00
C-	70%-69%	1.67
D+	68%-66%	1.33
D	65-63%	1.00
D-	62-60%	0.67
F	<60%	0.00

*Instructor reserves the right to adjust grades of the entire class if necessary (e.g. curve).

Study effectively and intelligently. In other words, don't cram! Plan your study sessions in advance and allow for enough time to adequately review the material. Form a study group with other students if that is an effective study technique for you. Study to understand rather than simply memorize. The greatest hurdle for any student in a microbiology course is the new vocabulary/names of microbes that must be learned. Repetition remains one of the more effective means of memorizing and understanding information, but it is important that you remember two key points. First, start early in the semester and study regularly. If you review continually and on a regular basis, then you will retain more information and improve your understanding. Second, take frequent breaks while studying. The human brain is not a sponge. We can only take in so much information at one time. After approximately 25 – 30 minutes take a break for about 10 minutes. Get up, stretch your legs and perhaps get a drink and then return to studying. Remember the key steps of **repeated review** and **short study intervals**.

Academic Dishonesty: Cheating on an exam, plagiarizing, or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code. The instructor reserves the right to assign a grade of "F" for the course should circumstances warrant.

Tentative Lecture Schedule, Fall, 2013 (The Instructor reserves the right to make changes during the semester).

Please note: most films do not last the entire class period. Lecturing continues on film days. **Films cannot be made up. If you miss a film, please get the notes from a fellow student. It is expected that you take notes during films because you will be tested on them.**

Week	Lecture	Date/Weekday	Topic	Text Pages
1	1	Sept. 4 W	Discuss Syllabus/Pre-Test	
1	2	Sept. 6 F	Film: ABC News Nightline: Ready or NOT? Is America Prepared for Catastrophic Events?	
1	3	Sept. 9 M	BIO 233 LABS START THIS WEEK! Part I: The Challenge Identifying the Challenge	Chapter 1
2	4	Sept. 11 W	Identifying the Challenge The Microbial World	Chapter 1 Chapter 2
2	5	Sept. 13 F	Film: Body Bugs, Up Close and Personal	
2	6	Sept. 16 M	The Microbial World	Chapter 2
3	7	Sept. 18 W	Beneficial Aspects of Microbes: The Other Side	Chapter 3
3	8	Sept. 20 F	NOVA: Killer on Campus (Bacterial Meningitis)	
3	9	Sept. 23 M	Bacteria	Chapter 4
4	10	Sept. 25 W	Part II Microbial Disease Concepts of Microbial Disease	Chapter 7
4	11	Sept. 27 F	Concepts of Microbial Disease	Chapter 7
4	12	Sept. 30 M	EXAM 1	
5	13	Oct. 2 W	Epidemiology and Cycle of Microbial Disease Review Disease Triangle	Chapter 8
5	14	Oct. 4 F	Bacterial Diseases	Chapter 9
5	15	Oct. 7 M	Bacterial Diseases	Chapter 9
6	16	Oct. 9 W	Film: Tuberculosis in Russian Prisons	
6	17	Oct. 11 F	Bacterial Diseases	Chapter 9
6	18	Oct. 14 M	Film: NOVA: Typhoid Mary: The Most Dangerous Woman in America	
7	19	Oct. 16 W	Exam 2	
7	20	Oct. 18 F	Film: PBS: Influenza, 1918 An American Experience	Chapter 10
7	21	Oct. 21 M	Viral and Prion Diseases	Chapter 10
8	22	Oct. 23 W	Viral and Prion Diseases	Chapter 10
8	23	Oct. 25 F	Viral and Prion Diseases	Chapter 11
8	24	Oct. 28 M	Protozoan, Helminthic, and Fungal Diseases	Chapter 11
9	25	Oct. 30 W	Protozoan, Helminthic, and Fungal Diseases	
9	27	Nov. 1 F	Exam 3	
9	28	Nov. 4 M	Part III: Meeting the Challenge The Immune System	Chapter 12
10	29	Nov. 6 W	Control of Microbial Diseases	Chapter 13
10	30	Nov. 8 F	Control of Microbial Diseases	Chapter 13
10	31	Nov. 11 M	Control of Microbial Diseases	Chapter 13
11	32	Nov. 13 W	Partnerships in the Control of Infectious Diseases	Chapter 14
11	33	Nov. 15 F	Part 4: Current Challenges Current Plagues	Chapter 16
11	34	Nov. 18 M	Current Plagues	Chapter 16
12	35	Nov. 20 W	Current Plagues	Chapter 16
12	36	Nov. 22 F	Exam 4	
12	37	Nov. 25 M	Biological Weapons	Chapter 15
		November 27-29	Thanksgiving BREAK	
13	38	Dec. 2 M	Film: ABC News Nightline: Anthrax 20 minutes	Chapter 17
13	39	Dec. 4 W	Unfinished Business	Chapter 17
13		Dec. 6 F	Unfinished Business	
14	40	Dec. 9 M	Film: Surviving AIDS NOVA MAKE UP EXAMS THIS WEEK	
14	41	Dec. 11 W	Film: Cancer Warrior NOVA MAKE UP EXAMS THIS WEEK	
14	42	Dec. 13 F	Final COMPREHESIVE Exam 5	