

MB 302 – General Microbiology

Instructor: Dr. Kimberly Halsey

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Office Hours: Mon and Thurs 10:00-11:00 or by appointment. Also available immediately after lecture
MWF (for less involved questions)

Lecture: MWF 9:00-9:50 am (115 Wiegand Hall)

Course pre-requisites: CH 331/332 and BI 21X series

Text: Prescott's *Microbiology* by Willey, Sherwood, Woolverton, 10th edition. Copies are on reserve in the library and may be checked out for 3-hour increments.

Lectures: Slides will be available via Canvas – expect to take notes in this class.

PART 1: Friday, Sept 22 through Friday, Oct. 13

Lecture subject	Associated reading (chapter: pages)
Class Information, Introduction to Microbiology	Chapter 1: All
Microscopy	Chapter 2: All
<i>Bacteria & Archaea</i> : Introduction; Cell Envelopes	3: 42-49, Section 3.5 , 4: 80-83
<i>Bacteria & Archaea</i> : Cell Walls	3: Section 3.4, 4: 84
<i>Bacteria & Archaea</i> : Cell Components	3: Section 3.6, 4: Section 4.3
<i>Bacteria & Archaea</i> : External Structures	3: Section 3.7 and 3.8, 4: Sections 4.4 and 4.5

Midterm 1: Monday, Oct. 16

PART 2: Wednesday, Oct. 18 through Monday, Nov. 13

Lecture subject	Associated reading (chapter: pages)
Viruses	6: Sections 6.1, 6.2, 6.3, 6.4
Microbial Growth	7: 132-136, Sections 7.6, 7.7, 7.8, 7.9
Environmental factors	7: Section 7.4, 7.5
Nutrition	3: 49-53, 11: Section 11.1
Microbial Metabolism	10: All
Respiration & Fermentation	11: Sections 11.2-11.9

Midterm 2: Wednesday, Nov. 15

PART 3: Fri, Nov. 17 through Friday, Dec. 1 (no class Nov. 23)

Lecture subject	Associated reading (chapter: pages)
Chemolithotrophy & Nitrogen metabolism	11: Section 11.10; 28: 627-628 N-cycle
Phototrophy	11: Section 11.11
The <i>Archaea</i>	20: 464-466, Section 20.2, 20.3, 20.4
The <i>Bacteria</i>	21: All
	22: All
	23 and 24: All

Final Exam: Thursday, Dec. 7 2:00 pm – Wiegand 115

GRADING: Homework assignments (7 x 10 points per assignment)	70 pts
Midterm I (Monday, October 16th)	100 pts
Midterm II (Wednesday, November 15th)	100 pts
<u>Final Exam (Thursday, December 7)</u>	<u>150 pts</u>
TOTAL	420 pts

Homework and other assignments:

- Homework will be assigned most weeks on Monday that have no exam scheduled. Homework will be posted to Canvas under the “Files” tab. Homework will generally cover material discussed Monday, Wednesday, and the previous Friday. Turn in completed homework on Friday on your way in to class. **Do NOT email homework.** Homework can also be turned in to the Microbiology Departmental office in Nash Hall Room 226 – place in available ‘MB 302 box’. Scores for assignments turned in Monday or later will be reduced 50%.

Exams: Each midterm is worth 100 pts. The final is worth 150 pts and is **~1/3 cumulative**. Keep in mind that some terms/concepts carry through the entire course. Final grades are curved at instructor discretion. Scores are totaled at the end of the term and curved.

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

MB 302 Course Policies

- **No use of any electronic devices during exams**
- **The instructor reserves the right to assign seats, either for individual students or for the class as a whole, as deemed necessary during lecture or exams.**
- **Correspondence: Please do NOT email the professor with questions about course information that was previously discussed in class or in this syllabus**

The following information is summarized from the OSU Student Conduct Regulations:

Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- *cheating- use/attempted use of unauthorized materials, information or study aids
- *fabrication- falsification or invention of any information
- *assisting- helping another commit an act of academic dishonesty
- *tampering- altering or interfering with evaluation instruments and documents
- *plagiarism- representing the words or ideas of another person as one's own

When evidence of academic dishonesty comes to the instructor's attention, the instructor will document the incident, permit the accused student to provide an explanation, advise the student of possible penalties, and take action. The instructor may impose any academic penalty up to and including an "F" grade in the course after consulting with his/her department chair and informing the student of the action taken.

The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student's freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or

intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office.

HOW TO SUCCEED IN THIS COURSE:

1. Attend class, be on time, and stay the entire period.
2. Be organized. Keep track of when assignments are due.
3. Read assignments before class.
4. In the 5-10 minutes before class, skim the previous day's notes to put you in the proper mindset. This will also help with in-class questions.
5. Listen in class and take notes. Expect that information will be given in lecture that is not printed on powerpoint slides.
6. After class re-read the text to fill in any gaps in your understanding.
7. Expect a fair degree of memorization. Microbiology is a discipline with its own language.
8. Before the exams, review/rewrite notes. Practice redrawing cycles, tables, and equations. Do not wait until the night before to cram for these exams.
9. Complete assignments on time. Credit for late assignments is reduced 50% each day late.

STUDENT OUTCOMES FOR THE COURSE:

1. Retain specialized language relevant to microbiology.
2. Acquire an understanding of the fundamental concepts of microbiology including a detailed understanding of bacterial and archaean structures and physical characteristics and how they relate to cell capabilities.
3. Acquire a detailed understanding of metabolic diversity found in *Bacteria & Archaea*, and how these organisms derive energy, electrons, and carbon from their environment.
4. Acquire an understanding of the fundamental concepts associated with viruses including a detailed understanding of viral classification and replication.
5. Demonstrate an appreciation of the diversity of microorganisms, using specific examples.
6. Evaluate the benefits and detriments caused by microorganisms.
7. Demonstrate the ability to analyze and compare microbiological issues.