

Biology 309 (5 cr.)

Location: Halsey 202

Monday, Wednesday, and Friday: 1:50 –2:50 p.m.

Instructor: Dr. Eric Matson
Office: 253 Halsey Science Building
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Office Hours: **Tues/Thurs 3:30 – 5:00 pm**

Required Text: “Microbiology” 8th ed. by Prescott et al.
Lecture Room: 202 Halsey Science Center
Laboratory: 171 Halsey Science Center
Laboratory Instructor: Dr. Eric Matson

Purpose:

To introduce students to a variety of fundamental concepts and applications in bacteriology and to provide a foundation for the future study of microbiology.

Requirements:

There is no attendance policy. You must have an acceptable and prearranged excuse for missing class or you will **not** be able to make-up exams.

In general, class lectures will follow the textbook and the schedule of lectures. It should be noted that while the book will serve as a framework for lectures, there will be quite a bit of material presented in class that is not found in the text. You will be responsible for such material on exams. Thus, if you miss lecture you should obtain notes from a classmate.

Course Grading:

The lecture portion of the course is worth 60% of your grade. The laboratory accounts for the remaining 40%. The final grades will be based upon total points and will use the following criteria:

- a) **Exams** - There will be four lecture exams (100 points each). Exams will be of multiple choice and short-answer format. In addition, four take-home quizzes will be given (25 points each). These are intended to help you prepare for the exams and will be announced in class and posted on D2L. There will be one writing project (100 points). *Information about this project will be provided in a separate document.* Thus, there will be 600 points possible for the lecture portion of the course.
- b) **Laboratory** – a practical final exam (100 points), lab reports (200 points total) and lab questions or assignments (100 points) make up the total points in the laboratory portion of the course. Thus, there will be 400 points possible for the laboratory portion of the course.

Course Grades will be determined using the following scale (final grades may be “curved” depending on final class average using lab and lecture grades:

92.5 - 100% = A	72.5-77.4% = C
90.0-92.4% = A-	70.0-72.4%= C-
87.5-89.9% = B+	67.5-69.9%=D+
82.5-87.4% = B	62.5-67.4% = D
80.0-82.4% = C-	60.0-62.4% = D-
77.5-79.9% = C+	<60% = F

NOTE: If you miss an ‘unexcused’ lab session, you will NOT be able to hand in lab questions or assignments for that lab. If you must miss a lab, please discuss it with your lab instructor.

Lecture Changes

Any changes to the course, cancellations, etc. will be posted to the class D2L site or a class e-mail will be sent out using the D2L class roster.

You MUST check your e-mail regularly! Handouts, lab modifications, and additional materials will be placed on D2L.

Academic Dishonesty

If you are caught cheating or engage in other forms of academic dishonesty, you will receive an F on that assignment and be subject to the Student Academic Disciplinary Procedures as outlined in the Student Disciplinary Code (<http://www.uwosh.edu/dean>). Cheating includes, but is not limited to:

- Copying directly from sources and claiming the information as your own (plagiarism)
- Making up information or giving false information
- Giving answers to someone or allowing them to copy your work
- Possessing a copy of an examination that you should not possess
- Turning in work that was completed by someone else
- Using notes or other information during an examination
- Copying from another student with or without their consent
- False excuses to receive due date extensions

Tentative Lecture Schedule

The schedule of topics may change depending on the pace of the course and class interest. Exam dates are firm! Please note that there will not be time to cover all topics for which you will be responsible. My aim is to bring clarity to aspects of the text. You will struggle with exams if you do not read and understand the assigned chapters in the book.

January	Topics covered
Week of Jan 28	Introduction to the course and its organization Chapter 1: Evolution of Microorganisms and Microbiology Film: on the tree of life
February	Topics covered
Week of Feb. 4	Chapter 2: Study of Microbial Structure Chapter 3: Bacteria and Archaea Chapter 6: Microbial Nutrition

Week of Feb. 11 Chapter 7: Microbial Growth
Chapter 8: Control of Microorganisms
Brief review for Exam 1

Friday, Feb. 15th Exam 1

Week of Feb. 18 Chapter 9: Introduction to Metabolism
Chapter 10: Catabolism

Week of Feb. 25 Chapter 11: Anabolism
Review of metabolism

March Topics covered

Week of Mar. 4 Chapter 12: Structure, Replication, and Expression of genes
Chapter 13: Regulation of Gene Expression
Chapter 13: Regulation of Gene Expression

Week of Mar. 11 Chapter 14: Mechanisms of Genetic Variation
Brief review for Exam 2

Friday, Mar. 15th Exam 2

Week of Mar. 18 NO CLASS (spring break)

Week of Mar. 25 Chapter 16: Microbial Genomics
Chapter 17: Microbial Taxonomy and Diversity

April Topics covered

Week of Apr. 1 Chapter 18: The Archaea
Chapter 19, 20, 21, 22: The Bacteria (*selected topics*)

Week of Apr. 8 Chapter 19, 20, 21, 22: The Bacteria (*selected topics*)
Brief review for Exam 3

Friday, Apr. 12th Exam 3

Week of Apr. 15 Chapter 26: Biogeochemical Cycling
Chapter 28: Marine and Freshwater Ecosystems

Week of Apr. 29 Chapter 29: Terrestrial Ecosystems
Chapter 30: Microbial Interactions

May Topics covered

Week of May 6 Humans as a microbial ecosystem

Wednesday, May 8th Exam 4

May 10th Careers in microbiology