

**Department of Environmental Health Science
College of Public Health
University of Georgia**

**EHSC (MIBO) 4310 (4310L)
Environmental Microbiology
Spring 2009 Syllabus**

Course Information

Instructor: Erin Lipp
Office Location: Room 144, EHS Bldg
Phone: 706 583 8138
Email: elipp@uga.edu
Office Hours: by appointment (please e-mail)

TAs: Beth Mote (blkelley@uga.edu)
Office Hours: by appointment (e-mail)

Course Meeting Time and Location

Building: Environmental Health Science
Room: 101 (Lecture); 120 (Lab)
Day: T/Th
Time: 9:30 am – 10:45 am (lecture); 11:00 am – 12:15 pm (lab)

Textbooks and Other Required Course Material

Lecture: *Environmental Microbiology* by Maier, Pepper and Gerba (any edition)

Lab: Lab notebook with duplicate (i.e., carbon copy) pages
required

Lab manual will be posted on WebCT (use your MyUGA login to access).

Supplemental material will be assigned periodically

Other course information will be posted on WebCT. Check often for updates, etc.

Course Description

Types of microorganisms in the environment; effect of environmental conditions on microbial existence; public health aspects of environmental microbiology; applications of microorganisms to solve environmental problems.

Required Prerequisites:
MIBO 3000-3000L or MIBO 3500

Course Learning Objectives

Students will be exposed to the basic and applied study of microorganisms in their environment. At the successful completion of this course students will be able to:

- Describe the nature of environmental habitats for different groups of microbes
- Define the role of the microbial community in biogeochemical cycles and how this affects and is affected by human activities
- Recognize the role of the environment in infectious diseases
- Be familiar with the wide range of tools and methodologies used to study microbes in the environment and their activities

Course Requirements for Grading Purposes

Exams (400 pts): There will be 4 midterm exams and 1 cumulative final exam – each worth 100 pts (see course schedule for specific dates). Final grades will be based on the four highest exam scores (i.e., you will drop the lowest score; this also means that if you are happy with your score after the four mid-terms you do not need to take the final). Exams include multiple choice (40 pts), short answer (40 pts) and essay questions (20 pts).

Lab (100 pts): Your lab grade will be based on notebooks, quizzes and formal lab reports; total possible lab score is 100 pts (see supplemental lab syllabus for breakdown of lab grades and due dates).

Lab notebooks (20 pts)
Quizzes (40 pts)
Lab report (40 pts)

Discussion (50 pts): Active participation is required for discussion of current peer-reviewed literature papers (average of 5 papers over the course of the semester).

Topical Outline

Topics covered include:

Foundations of microbiology and microbial environments

Soil, Air, Water

Methods in Environmental Microbiology

Sampling, Microscopy, Culture, Physiology, Immunology and Molecular detection

Ecological and Applied Microbiology

Biogeochemical cycles and bacterial communities, microbial transport, water treatment

Public Health Microbiology

Environmental pathogens, bioterror issues, global change, risk assessment

Grading Policy

See "Course Requirements" for breakdown of points between exams, labs and discussion.

A	511 – 550 pts ($\geq 93\%$)
A -	495 – 510 pts (90 – 92%)
B +	478 – 494 pts (87 – 89%)
B	456 – 477 pts (83 – 86%)
B -	440 – 455 pts (80 – 82%)
C +	423 – 439 pts (77 – 79%)
C	401 – 422 pts (73 – 76%)
C -	385 – 400 pts (70 – 72%)
D	330 – 384 pts (60 – 79%)
F	<330 pts (<60%)

Make-Up Policy

There will be no make up exams. A missed exam can be your dropped score.

Attendance Policy

Lecture: Attendance will be taken periodically and will help to determine grades in borderline situations. Attendance and participation is required for student-led discussions of current literature (15 points will be deducted from you total course points for any unexcused absence or lateness >15 minutes).

Lab: Attendance is expected for lab sessions. Five pop quizzes will be given; you may drop one quiz score. For each unexcused absence, 15 points will be deducted from your final class score. Please note that excessive tardiness (>10 minutes) will count as an absence.

University Honor Code and Academic Honesty Policy

All academic work must meet the standards contained in "A Culture of Honesty." All students are responsible to inform themselves about those standards before performing any academic work.

A link to more detailed information about academic honesty can be found at:
<http://www.uga.edu/ovpi/honesty/acadhon.htm>

Additionally, while students will work in groups in the lab, ALL submitted work (lab notebooks, quizzes, lab reports, etc.) is expected to be your OWN. Exact duplication between group members is not permitted. Fully referenced lab reports are also expected; see instructor if you are unclear as to what constitutes plagiarism.

Students with Disabilities

Students with disabilities who require reasonable accommodations in order to participate in course activities or meet course requirements should contact the instructor or designate during regular office hours or by appointment.

General Disclaimers

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.