

SYLLABUS
MICROBIAL ECOLOGY
MCB4603
Biological Sciences
FLORIDA INTERNATIONAL UNIVERSITY

Dr. Charles Shaffer

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Islamorada, FL 33036**

REGULAR ATTENDANCE IS REQUIRED

EXAMS WILL BE CONSTRUCTED FROM THE ONLINE READINGS AND POWERPOINT PERESENTATIONS IN CLASS (ALSO AVAILABLE ON BLACKBOARD). Fifty percent of each exam grade will be vocabulary based and fifty percent will consist of short answer essay questions.

THE COURSE HAS A BLACKBOARD COMPONENT, ACCESSIBLE THROUGH: <http://ce6.fiu.edu>. This page contains copies of my lecture power point presentations, readings for each unit, rubric for the power point presentation you are to prepare and submit for a grade, the course syllabus and other useful information.

OFFICE HOURS: One hour before and one hour after each lecture or by appointment. Phone or e-mail me for a mutually appointment time. Also please don't hesitate to phone me at any time.

FINAL GRADE CALCULATION:

30% = open book midterm exam on line

40% = closed book final exam taken in class at our last meeting

15% = grade on your power point presentation due the week before the final week.

15% = attendance, class assignments and class participation.

SCHEDULE OF STUDIES:

UNIT I-INTRODUCTION: SURVEY OF MICORBIAL ECOLOGY, FACTORS EFFECTING MICROBIAL GROWTH AND WAYS IN WHICH MICROBES INFLUENCE THEIR ENVIRONMENT.

Assignment: From the original literature, find, copy and submit one research article on a topic related to microbial ecology. Place it on the course web page.

Unit II- Molecular Methods in Microbial Ecology

Assignment: Readings on Microbial Chemistry, prepare a vocabulary and short answer essay list from readings and submit to course Blackboard page.

Unit III The Evolution of the Earth and Biogeochemistry

Unit IV- Microorganisms in Nature-Bacterial Diversity

Unit V- Measurements of Microbial Activity in Nature

MIDTERM EXAM- OPEN BOOK, ON LINE-SEND TO TEST FILE ON BLACKBOARD.

Unit VI- Enrichment and Isolation Methods

Unit VII- Identification and Quantification:

- **Nucleic acid Probes, Fluorescent Antibodies, and Viable Counts**

Unit VIII- Stable Isotopes and Their Use in Microbial Units

Unit IX- Aquatic Habitats

Unit X- Terrestrial Environments

**Unit XI- Deep Sea Microbiology
Student Seminars**

Unit XII- Hydrothermal Vents
Student Seminars

Unit XIII- Carbon Cycle
Student Seminars

FINAL EXAM-CLOSED BOOK IN CLASS