



The Hebrew University of Jerusalem

Syllabus

ENVIRONMENTAL MICROBIOLOGY - 71977

Last update 12-11-2024

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Agroecology & Plant Health

Academic year: 0

Semester: 2nd Semester

Teaching Languages: English

Campus: Rehovot

Course/Module Coordinator: Eddie Cytryn

Coordinator Email: eddie@volcani.agri.gov.il

Coordinator Office Hours: by appointment

Teaching Staff:

Dr. Eddie Cytryn

Course/Module description:

Principals of microbial ecology and environmental microbiology

Course/Module aims:

Facilitate holistic understanding of how microbes influence (and are influenced by) the world as we know it

Learning outcomes - On successful completion of this module, students should be able to:

Broad understanding of microbial ecology and environmental microbiology principals and classical and molecular methods used to study microbes in the environment

Attendance requirements(%):

80%

Teaching arrangement and method of instruction: Frontal Lectures and Journal Clubs

Course/Module Content:

- *What is Environmental Microbiology and why is it important?*
- *Methods in environmental microbiology*
- *The Carbon cycle*
- *The Nitrogen cycle*
- *Sulfur and metal cycles*
- *Plant-microbe interactions*
- *Animal-microbe interactions*
- *Microbes in Extreme environments*
- *Bioremediation*
- *Wastewater microbiology*
- *One health- Antibiotic discovery and antibiotic resistance*

Required Reading:

Brock Biology of Microorganisms (Textbook)
Scientific papers that will be distributed during the course.

Additional Reading Material:

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Grading Scheme:

Written Exam % 70

Presentation / Poster Presentation / Lecture/ Seminar / Pro-seminar / Research proposal 20 %

Active Participation / Team Assignment 10 %

Additional information:

Students that with less than 80% attendance will not be allowed to take the exam (except for Miluiim and outstanding exceptions approved by the teacher).