



The Hebrew University of Jerusalem

Syllabus

Microbiology-lab - 94623

Last update 06-01-2022

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Bio-Medical Sciences

Academic year: 2023

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Ein Karem

Course/Module Coordinator: Dr Anat Florentin

Coordinator Email: anat.florentintin@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Dr. Anat Florentin,
Mr. Omer Goldberger,
Mr. Lior Aroeti,
Ms. Klil Cohen,
Ms. Shany Assaraf,
Ms. Sima Alon Yustman,
Ms. Inbar Wechsler,
Ms. Zeina Drawshy,
Ms. Dena Anis,
Mr. Noam Yedidi,
Ms. Elizabeta Sirotkin,
Ms. Ahuva Friedman

Course/Module description:

Introduction to various topics in fundamental and medicinal microbiology, prokaryotic cell structure, physiology and genetics of bacteria and viruses, and the immune system response to pathogens. The lab presents basic methods in microbiology

Course/Module aims:

Preliminary introduction to various topics in fundamental and medicinal microbiology

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

*Analyze and evaluate processes that occur in nature and the relationship between microbial process and the quality of our environment.
This will serve as a solid foundation for the ability of the student to enter successfully the Biotech market.*

Attendance requirements(%):

100%

Teaching arrangement and method of instruction: Lab

Course/Module Content:

*Anatomy, morphology & physiology of the bacterial cell
Bacterial transport systems
Bacterial growth*

The bacterial genome
Control of gene expression
Bacteria-environment interactions and gene expression
Physiological variability
Bacteria in carbon, nitrogen and sulfur cycles
Classification of bacteria and Archaea
Molecular characterization of bacterial populations
Introduction to discrimination mechanisms between self and non-self
Antigens, immunogenes, antibodies - structure & function
Cells and tissues of the immunological system
Major histocompatibility system
The cellular basis of the immunological response
Viruses classification and isolation
Viral replication
Pathogenesis of the Influenza virus
Herpes viruses replication
Retroviruses replication
Antiviral drug development

Required Reading:

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Additional Reading Material:

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Course/Module evaluation:

End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 40 %
Project work 0 %
Assignments 20 %
Reports 40 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

Students have to complete course 72362 before attending this course