האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

MICROBIOLOGY - 64608

Last update 22-07-2020

HU Credits: *4*

Degree/Cycle: *1st degree (Bachelor)*

Responsible Department: *School of Pharmacy*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *Hebrew*

Campus: *Ein Karem*

Course/Module Coordinator: *Prof David Yogev*

Coordinator Email: *yogev@mail.huji.ac.il*

Coordinator Office Hours: *By appointment*

Teaching Staff:

Dr. Jacob Golenser,
Prof Itzhack Polacheck,
Dr. Amalia Tabib,
Dr. Veronika Butin Israeli,
Ms. Osher Fiyaksel,
Ms. ,
Ms. Zeina Drawshy,
Ms. Shany Assaraf,
Mr. izchak goloventzit,
Ms. Miriam Krumbein,
Mr. Anees Khatib,
Mr.

Course/Module description:
The course is designed to introduce the basic biology of bacteria, viruses, fungi and protozoa with emphasis on the concepts of the different antimicrobial agents.

Course/Module aims:
Understanding the basic biology of the different groups of microorganisms and the differences between the groups which are the basis for the antimicrobial treatment of each group.

Learning outcomes - On successful completion of this module, students should be able to:
Students who complete this course will understand the main differences between the different microorganism: bacteria, viruses, fungi and protozoa and will be familiar with the therapeutic treatments for each group and the problem of drug resistance. The student will also demonstrate basic skills in microbiological lab techniques (aseptic technique, microscopy, staining, identification, and control/assessment of microbial growth).

Attendance requirements(%):
100% attendance in lab
80% attendance in lectures

Teaching arrangement and method of instruction: Lecture and Laboratory

Course/Module Content:
1.Introduction to microbiology.
2.Structure and function of bacteria.

3.Bacterial growth.
4.Antibiotics –mode of action.
5.Mechanisms of antibiotic resistance.
6.Introduction to parasitology.
7.Leishmaniasis.
8.Malaria.
9.Filariasis.
10.Trypanosoma - chagas disease.
11.Cestodes.
12.Introduction to Mycology.
13.Fungal pathogens and diseases.
14.Antifungal agents.
15.Introduction to virology.
16.Picornavirus.
17.Influenza.
18.Rabies.
19.Hepatitis and arboviruses.

Laboratory:
1.Distribution of bacteria in different niches, isolation of bacteria from a mixed culture, Gram stain, bacterial motility.
2.Bacterial growth curve, antibiotic sensitivity testing.
3.Quorom sensing, plasmid transformation and competent cells.
4.Lactose operon.

Required Reading:
None

Additional Reading Material:
None

Course/Module evaluation:
End of year written/oral examination 80 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 20 %
Lab

Additional information:

A grade of 60 or higher in the laboratory is a prerequisite for taking the exam. The passing grade in the course - 60 and over in both the laboratory and the exam.