# 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:* 0

*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 fundumental 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 fundumental 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*