TECHNION Israel Institute of Technology | The Ruth and Bruce Rappaport Faculty of Medicine

Course Syllabus No. 274251_____ Spring 2025
Name of the Course __Evolution_____ ,Credit Points__2___

Course teaching staff
Course coordinator____Ruth Hershberg_____
Contact Information__ruthersh@technion.ac.il_____
Reception times___to be coordinated via email_____
Additional lecturers in the course: Ido Solt (i_solt@rambam.health.gov.il), Ella Preger (pregere@technion.ac.il), Yoni Savir (yoni.savir@technion.ac.il).

Course structure and times
Lecture Days and Hours____ **Sundays 13:00-15:00**__ Lecture room __**Green Hall**___

Exams
Exam Date Moed A ___ **30.07.2025** _____
Exam Date Moed B ___ **25.08.2025** _____

Course attendance
Lecture attendance :**Attendance in lectures is highly recommended**

pre-course requirements

Prerequisites for the Course: General Genetics 274165, 274243 Molecular Bio.and Regulatory Mechanisms

Recommended resources for the course:

Overarching goal: Understanding the major evolutionary forces of mutation, selection, and stochastic forces such as genetic drift and learning about their influence on important medical phenomena.

Details of the course objectives: The students will know to distinguish between the major evolutionary forces and will understand how they can act separately and in concert to affect patterns of variation and biological phenomena and in particular how they affect medically relevant biological phenomena such as the emergence of pathogens, development and spread of antibiotic resistance and cancer. The students will be exposed to central areas of research in evolutionary biology including the study of genome evolution, experimental evolution and evo-devo (evolution and development).

The Lecture topics in the course according to the weeks of the semester

Date	Subject of the lecture	Name of lecturer	Chapters and pages in the course textbook
30/3/2025	Introduction to population genetics	Ruth Hershberg	
06/4/2025	The major evolutionary forces	Ruth Hershberg	
20/4/2025	The major evolutionary forces (cont.)	Ruth Hershberg	
27/4/2025	Genome evolution	Ruth Hershberg	
04/5/2025	Experimental evolution	Ruth Hershberg	
11/5/2025	Evolution and Obstetrics	Ido Solt	
18/5/2025	Evolution of social traits	Yoni Savir	
25/5/2025	Phylogenetics and speciation	Ruth Hershberg	
08/6/2025	Pathogen evolution	Ruth Hershberg	
15/6/2025	Evolution of antibiotic resistance	Ruth Hershberg	
22/6/2025	Cancer evolution	Ruth Hershberg	
29/6/2025	Evolutionary developmental biology (Evo-devo) 1	Ella Pregger	
06/7/2025	Evo-devo 2	Ella Pregger	

Teaching methods (please leave the relevant)
Frontal lecture

Assessment tools: (leave the relevant one)
Final exam

Composition of Course Grade (leave the relevant ones)
Final exam % grade _100____

Students must pass the final exam with a grade of 55 in order to receive a passing grade in the course