

221.4416–Introduction to Phylogenetic Reconstruction

Time: [Thursday] [14:00-16:00], Student house [134]

Instructor: [Prof] [Sagi] [Snir], **Email:** [\[ssagi@research.haifa.ac.il\]](mailto:ssagi@research.haifa.ac.il)

Office Hours: [Monday] [14:00-16:00], Room [m14], [58774]

Teaching Assistants & Office Hours:

[First Name] [Last Name] – [Day] [From-Until], Room [Room Number], **Email:** [\[Email Address\]](#)

Course Level: (BA+MA)

Course Type & Format: [Elective], [Lecture]

Number of Hours/Credits: 2

Prerequisites: Basic courses in statistics and mathematics for biologists

Course Overview (Short Abstract):

Phylogenesis - Reconstructing the evolutionary history of the variety of living species, is one of the most fundamental tasks in biology. Following the dramatic developments in molecular biology and the exponential growth in available genetic sequences, new directions and prospects have also been opened in this field. Phylogenetic analysis is nowadays an integral part not only in areas such as evolution, zoology or molecular biology, but also in immunology, medicine and other practical subjects.

Learning Outcomes (What are the skills, abilities, or major concepts a student is expected to acquire in this course?) – At the end of the course students will be able to:

1. Understand the basics phylogenetic reconstructions.
2. Character based phylogenetic reconstructions.
3. Distance based phylogenetic reconstructions.
4. Understand models of DNA/Protein evolution
5. Principals of likelihood on trees and Maximum Likelihood reconstructions
6. Principals of model selection.

Assessment (Assessment Method and Grade Composition):

Attendance – 0%

Exam – 80-100%

[Requirement] – [Number]%

[Requirement] – [Number]%