Syllabus

MODEL THEORY (2) - 80824

Last update 24-08-2023

<u>HU Credits:</u> 2

<u>Responsible Department:</u> Mathematics

<u>Academic year:</u> 0

<u>Semester:</u> 2nd Semester

<u>Teaching Languages:</u> English and Hebrew

<u>Campus:</u> E. Safra

<u>Course/Module Coordinator:</u> Prof. Itay Kaplan

<u>Coordinator Email:</u> kaplan@math.huji.ac.il

<u>Coordinator Office Hours:</u> Set appointment by mail

<u>Teaching Staff:</u>
 Prof Itay Kaplan

<u>Course/Module description:</u>
 An introduction to deeper methods of model theory, especially stability. These

methods are important both in intrinsic model-theoretic questions, such as the possible numbers of models, and in applications to diverse areas of algebra, combinatorics and geometry.

Course/Module aims:
  An understanding of the above method. Preparation for individual research.

Learning outcomes - On successful completion of this module, students should be able to:
  Ability to prove and apply the theorems presented in the course.

Ability to apply correctly the mathematical methodology in the context of the course.

Acquiring the fundamentals as well as basic familiarity with the field which will assist in the understanding of advanced subjects.

Ability to understanding and explain the subjects taught in the course.

Attendance requirements(%):
  0

Teaching arrangement and method of instruction: Lectures.

Course/Module Content:
  Advanced topics in model theory.

Tarski's theorem on quantifier elimination in the reals. Imaginaries. Local and global stability. Forking. Stable groups. Macintyre's theorem on w-stable groups.

Other or additional topics may be studied

Required Reading:
 none

Additional Reading Material:
  Pillay, Anand Geometric stability theory.

Stable Groups, Bruno Poizat

Essential Stability Theory, Steven Buechler

A course in model theory, Katrin Tent, Martin Ziegler

Grading Scheme:
Essay / Project / Final Assignment / Home Exam / Referat 60 %
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 40 %

<u>*Additional information:*</u>
none