האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Models of Peano arithmetic - 80620

Last update 23-08-2022

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Mathematics

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Shimon Garti

Coordinator Email: shimon.garty@mail.huji.ac.il

Coordinator Office Hours: Sunday, 9:00-10:00

Teaching Staff:

Dr. Shimon Garty

Course/Module description:
The course will focus on the model-theoretic aspect of Peano Arithmetic.

Course/Module aims:
To acquire basic familiarity with models of Peano.

Learning outcomes - On successful completion of this module, students should be able to:
The students will be able to learn more advanced material in the area.

Attendance requirements(%):
None.

Teaching arrangement and method of instruction: Frontal lecture.

Course/Module Content:
a. The standard model, order types of Peano models, induction axioms, Robinson's theorem (overspill).
b. Collection axioms, Gaifman's splitting theorem, prime models, end-extensions, MacDowell-Specker theorem.
c. Saturation, recursive saturation, Tennenbaum's theorem Kaufmann models.

Required Reading:
None.

Additional Reading Material:
a. Richard Kaye, Models of Peano Arithmetic.

b. Roman Kossak and James Schmerl, The Structure of Models of Peano Arithmetic.

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 100 %

Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: