האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Category Theory - 80779

Last update 02-09-2021

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Mathematics

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: E. Safra

Course/Module Coordinator: Yoel Groman

Coordinator Email: ygroman@gmail.com

Coordinator Office Hours: By appointment

Teaching Staff:

Dr. Yoel Groman

Course/Module description:
Introductory course in category theory for 3rd year undergraduate students and 1st year graduate students.

Course/Module aims:
Familiarity with the basic concepts and theorems of category theory and proficiency in the categorical language with emphasis on examples.

Learning outcomes - On successful completion of this module, students should be able to:
See course aims.

Attendance requirements(%):
0

Teaching arrangement and method of instruction: Lecture

Course/Module Content:
In the course we will discuss the basics of the language of categories:

1. Categories, functors, natural transformations, equivalence of categories

2. Universal properties, representable functors, Yoneda lemma.

3. Limits and colimits

4. Adjoint functors

We might also discuss some other topics and illustrations, for example abelian categories, sheaves, fundamental group, introduction to infinity categories, Morita equivalence.

Required Reading:
none

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

Pay attention: The examination will be given as a home exam, for something like 1-3 days (starting from the exam date appearing in the Catalogue). In particular, there will be no "moed" b and special "moed".