



Syllabus

Category Theory - 80779

Last update 15-10-2020

HU Credits: 2

Responsible Department: Mathematics

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: E. Safra

Course/Module Coordinator: Alexander Yom Din

Coordinator Email: alexander.yomdin@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Dr. Yom Din Alexander

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".