האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

Syllabus

TOPOLOGICAL DYNAMICS - 80625

Last update 14-04-2020

HU Credits: *2*

Degree/Cycle: *2nd degree (Master)*

Responsible Department: *Mathematics*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *English and Hebrew*

Campus: *E. Safra*

Course/Module Coordinator: *Prof Benjamin Weiss*

Coordinator Email: *weiss@math.huji.ac.il*

Coordinator Office Hours: *by appointment*

Teaching Staff:
Prof Michael Hochman

Course/Module description:

The course covers basic definitions and theorems in topological dynamics.
Among the topics will be:
1.Special classes like -
Kronecker systems, distal flows and symbolic shifts.
2. topological entropy.
3. some applications to number theory.

Course/Module aims:

To encounter basic definitions and examples from topological dynamics, special classes of dynamical systems שמג and the relations between them, and applications outside of dynamics.

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

The ability to understand more advanced material in topological dynamics.

Attendance requirements(%):

60

Teaching arrangement and method of instruction: lectures

Course/Module Content:

Basic definitions and theorems.

Recurrence and its applications: can der Waerden's theorem

Discrete spectrum and classification of isometries

Rotation numbers and Poincare's theorem

Furstenberg's theorem on 2- and 3-invariant sets

Expansion in non-integer bases and beta shifts

Required Reading:

There is no required reading.

Additional Reading Material:

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: