האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Topics in homogeneous dynamics - 80894

Last update 26-02-2014

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Mathematics

Academic year: 1

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Elon Lindenstrauss

Coordinator Email: elon@math.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Prof Elon Lindenstrauss

Course/Module description:

The course will cover selected topics from the theory of homogenous dynamics. Homogenous dynamics is at the meeting ground for several mathematical disciplines including Ergodic Theory, Arithmetic, Diophantine Inequalities, Lee Groups, Algebraic Groups...
Topics to be covered include Siegel domains, Mahler's compactness criteria, non-divergence of unipotent flows, Ratner's measure classification theorem, Linearization, and applications to counting and equidistribution in arithmetic.

Course/Module aims:

Introduction to homogeneous dynamics.

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

Introduction to topics in the theory of homogeneous flow as well as with research articles in that subject.

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(%):

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Teaching arrangement and method of instruction: Lecture

Course/Module Content:

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Required Reading:
none

Additional Reading Material:
none

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 90 %
Participation in Tutorials 10 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
none