



The Hebrew University of Jerusalem

Syllabus

ERGODIC THEORY - 80615

Last update 21-09-2023

HU Credits: 4

Degree/Cycle: 2nd degree (Master)

Responsible Department: Mathematics

Academic year: 2024

Semester: 2nd Semester

Teaching Languages: English and Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Tamar Ziegler

Coordinator Email: tamar.ziegler@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Prof Tamar Ziegler-Lehavi

Course/Module description:

An introductory course in ergodic theory

Course/Module aims:

To learn the basics of ergodic theory

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

The students will be able to take advanced courses in ergodic theory

Attendance requirements(%):

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Teaching arrangement and method of instruction:

Course/Module Content:

motivation, Poincare recurrence, mean and pointwise ergodic theorems, mixing and weak mixing, invariant measures, ergodic decomposition, multiple ergodic theorems, entropy, Pinsker factor and K-systems

Required Reading:

None

Additional Reading Material:

Ergodic theory with a view toward number theory, Einsiedler- Ward

Ergodic theory, Petersen

Grading Scheme:

Essay / Project / Final Assignment / Home Exam / Referat 80 %

Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 20 %

Additional information: