האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

Syllabus

Random Walks and Circle Packings - 80667

Last update 24-10-2019

HU Credits: *2*

Responsible Department: *Mathematics*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *English and Hebrew*

Campus: *E. Safra*

Course/Module Coordinator: *Dr. Ori Gurel-Gurevich*

Coordinator Email: *Ori.Gurel-Gurevich@mail.huji.ac.il*

Coordinator Office Hours:

Teaching Staff:
Prof Ori Gurel-Gurevich

Course/Module description:
Random walks and electric networks. Recurrence/Transience. Circle packing

theorem. He-Schramm theorem about parabolic and hyperbolic packings. Benjamini-Schramm limits. Benjamini-Schramm theorem about recurrence of limits of finite planar graphs.

Course/Module aims:
Same as in learning outcomes.

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

Teaching arrangement and method of instruction: Lecture

Course/Module Content:
Random walks and electric networks. Recurrence/Transience. Circle packing theorem. He-Schramm theorem about parabolic and hyperbolic packings. Benjamini-Schramm limits. Benjamini-Schramm theorem about recurrence of limits of finite planar graphs.

Required Reading:
none

Additional Reading Material:
none

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:
none