האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

Syllabus

Fundamental lemmas and Fourier transform - 80995

Last update 30-07-2020

HU Credits: *2*

Responsible Department: *Mathematics*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *English*

Campus: *E. Safra*

Course/Module Coordinator: *Dr. Ari Shnidman*

Coordinator Email: *ariel.shnidman@mail.huji.ac.il*

Coordinator Office Hours:

Teaching Staff:
Dr. Schneidman Ari

Course/Module description:
*A *fundamental lemma* relates p-adic integrals on two different groups. An*

arithmetic fundamental lemma relates derivatives of p-adic integrals to arithmetic intersection numbers in a moduli space of p-divisible groups. We survey some recent pretty examples of each type, especially the works of Beuzart-Plessis, Li-Zhang, and Zhang. We'll also sketch how these results lead to special value formulas for automorphic L-functions (e.g. the Gan-Gross-Prasad conjecture) and Eisenstein series (the Siegel-Weil formula). The common thread in these new results is the Weil representation/Fourier transform.

References:
https://arxiv.org/pdf/1901.02653.pdf
https://arxiv.org/pdf/1908.01701.pdf
https://arxiv.org/pdf/1909.02697.pdf

Course/Module aims:

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

Attendance requirements(%):

Teaching arrangement and method of instruction:

Course/Module Content:

Required Reading:

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 0 %

Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 100 %

Additional information: