

MTH 829 - SELECT TOPICS IN NUMBER THEORY-EISENSTEIN SERIES, SPRING SEMESTER 2017

1. GENERAL INFORMATION

Instructor: Dr. Joseph Hundley

Office: Mathematics 203

Office Phone: 716-645-8771

Office Hours: Tuesday and Wednesday, 3:30-5PM

E-mail: jahundle@buffalo.edu

Textbook: Selected readings and instructor lecture notes.

2. COURSE DESCRIPTION

Eisenstein series are the simplest examples of a type of function called automorphic forms. They can be viewed from three perspectives, as being defined on Riemannian symmetric spaces, Lie groups, or adèle groups. We discuss all three perspectives, emphasizing the adèlic one. Applications are to spectral decomposition and the theory of L -functions, as well as representation theory of Lie groups and p -adic groups.

2.1. **Prerequisites.** Basic measure theory, complex analysis, abstract algebra, and number theory.

3. GRADING

While I will be very delighted to give everyone in the course an A, I also intend to make sure that grades are reflective of actual progress and learning. So, there will be some meaningful assessments in this course.

3.1. **Problem sets.** We will have weekly problem sets, assigned Thursday and 12 days later on Tuesday. Each student's two lowest problem set scores will be dropped before computing the average.

3.2. **Final Projects.** At about the midpoint of the course I will ask each of you to select a topic for your final project. In the last weeks of the semester each of you will present on his or her selected topic.

3.3. **Attendance.** Good attendance is required for good performance in courses like this one. If you miss a class, it's **your responsibility** to find out whether any announcements were made, what was covered, etc., and to learn the material that was covered that day on your own. (You can of course come to Office Hours for help.)

3.4. **Grade Assignment.** The final project will be worth roughly 30% of your grade. The rest will be based on the problem sets. An A will indicate that the student did the required work and their work demonstrated that on the whole they followed the material, while B will indicate that put forth the effort and learned something but, on the whole, may have been in over their head in the course. C will reflect a student who substantially failed to do the required work.

4. OTHER

4.1. **Inclusion.** My goal is to foster a classroom environment that is rigorous, inclusive, equitable, and inspiring, which effectively serves students from all diverse backgrounds and perspectives. If you have feedback (preferably constructive) on how I am doing, or ideas that might help me accomplish that goal more effectively, please feel free to share them with me.

4.2. **Disabilities.** If you require classroom or testing accommodations due to a disability, please contact Accessibility Resources, located at 25 Capen Hall. AR can be reached by phone at (716) 645-2608 or by email at stu-accessibility@buffalo.edu. Please inform me as soon as possible about your needs so that we can coordinate your accommodations.

4.3. **Tardiness.** You should try to be on time. If you're late, you should try to enter and take your seat without disrupting the class. If people arriving late are regularly a disruption, I will adopt a more formal tardiness policy.

4.4. **Academic Honesty.** The student conduct rules at

<http://www.ub-judiciary.buffalo.edu/rulereg.shtml/>

will be enforced. Quiz and examination papers may be scanned, photographed or photocopied. Any cheating on exams will be given the maximum punishment possible. If you are having difficulties please talk to me about it rather than attempting to cheat!

4.5. **Dropping and Resigning.** The final day to drop a course (no record on your transcript) is February 6. The final day to resign from a course (R on your transcript) is April 21. If you are making up an incomplete from a previous instructor please see me to be sure you are following the proper procedures. For information see the Repeat Policy in the UB Undergraduate catalog at:

<http://undergrad-catalog.buffalo.edu/policies/grading/repeat.shtml>