

Spring 2017
Math 595: Modular Forms
Section MFF, CRN 64833
2:00 - 2:50 pm, MWF

Professor: Scott Ahlgren

Automorphic forms of various types play central roles in number theory.

The goal of this eight-week course is to introduce various types of modular forms and to discuss some of the roles they play. The focus will be on breadth rather than depth into any single topic.

Depending on time and student interest, topics and applications may include

- Integral weight modular forms (applications: elliptic curves).
- Half-integral weight modular forms (applications: class numbers, partitions)
- Real-analytic modular forms and mock modular forms (applications: combinatorial number theory)
- Maass cusp forms (applications: character sum estimates).

A working knowledge of basic complex analysis and number theory will be useful.

Grades will be based on participation and a short reading project on a topic of individual interest.