

299. Undergraduate research in mathematics (Spring 2018)

**Instructor:** Ryan Hynd (rhynd@math.upenn.edu)

**Office:** DRL 4N42

**Office Hours:** TBA

**Class times:** Tuesday and Thursday 1:30 – 3:00pm

**Class location:** DRL 4C4

**Description:** Students will do three short research projects from a large collection of options on topics of current interest in mathematics. For each project, they will write a report subject to revision, and students will also give an oral presentation on one or two of their projects. The projects to be selected from are drawn from many areas of mathematics including dynamical systems, number theory, fluid mechanics, geometry, optimization and probability.

We will spend the first 3 – 4 weeks doing workshops on how to do research, how to give a presentation and how to write a report. In the following weeks, we will meet as a class once per week to hear an oral presentation. On the days that we do not meet as a class, I will meet with students to hear practice presentations and to give feedback on their projects. So this course will have the feel of a math seminar, with an emphasis on improving communication skills.

**Prerequisites:** Any two 200 level (or higher) math classes.

**Grading:** 60% reports, 20% presentations, and 20% class participation

**Important Dates:**

Feb 15 Report 1 due (Feb 6 draft due)

March 1 No class (I will be away)

March 5-9 Spring break

March 22 Report 2 due (Mar 13 draft due)

April 19 Report 3 due (April 10 draft due)

April 24 Last day of class