MATH 599: Mathematics Teaching Techniques
2026WT1 (September–December 2026)

Course Description: Principles of Mathematics teaching and learning; focus is on both the pedagogical challenges and technical aspects of teaching Mathematics to undergraduate students (mostly first and second year students). This course is mandatory only for graduate students who wish to teach in the Mathematics Department.

The purpose of this course is to give graduate students some experience in teaching mathematical concepts to first-year students. No prior teaching experience is required.

Learning Goals: By the end of this course, students should be able to

- articulate their teaching philosophy;
- choose and explain mathematical examples and concepts that are appropriate for first-year students; and
- demonstrate competence in preparing and guiding a standard 50-minute interactive mathematics lesson in a real setting.

Course Structure: The class meets twice a week, on Tuesdays and Thursdays from 12:30-2PM; classes are cancelled in week 8-11 (for guest lessons) and resume in week 12 to the end of term.

- In weeks 1 to 7 (Sept to mid-Oct), classes will be comprised of a mix of reading discussions and other group activities, mini-presentations, visitor Q+A sessions, and class observations. There will be a few exceptions to the usual class time in order to accommodate class observations.
- In weeks 8 to 11 (late-Oct to mid-Nov), students will prepare and guide a lesson, and attend a peer's lesson.
- In weeks 12 and 13 (late-Nov to Dec) we will resume the mix of classroom activities.

An up-to-date and more detailed version of this schedule will be maintained on Canvas.

Textbook: There is no single textbook for this course. Readings from various sources will be assigned each week, and distributed via our Canvas page.

Homework: Students can expect weekly assigned readings, weekly reflections, and 3 in-class mini-presentations, plus a guest lesson. Students will also submit a teaching philosophy by the end of term.

Assessment: The course is graded on a pass/fail basis. Passing the course is based on the following:

- attendance (miss no more than 2 classes)
- participation in all in-class discussions/activities, and weekly readings and reflections
- delivery of a guest lesson
- completion of teaching philosophy

Please note that each student is required to deliver a guest lesson in a Calculus course in late October or November. For students who wish to teach undergraduate courses in the Mathematics department, performance in the guest lesson will provide the grounds for evaluation of their suitability to teach.

There is no final exam in this course.

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