MATH 505  Survey of Modern Mathematics

1. Catalog Description

   MATH 505 Graduate Teaching Seminar  1 unit
   CR/NC

   Prerequisite: Graduate standing.

   Principles and practice in effective teaching of college-level mathematics. Issues related to
   present and future teaching experiences, including time management, professionalism, student
   assessment, grading, classroom management, and qualities of good mathematics teachers.
   Reflection on individual teaching, and consideration of improvements in instruction.
   Credit/No Credit grading only. Total credit limited to 2 units. 1 seminar.

2. Required Background or Experience

   Graduate standing or consent of instructor.

3. Learning Objectives

   Upon successful completion of this course, students should be able to:

   a. Develop appropriate assessments and determine a fair grading structure for their students.
   b. Describe qualities of effective mathematics instruction in terms of how they influence
      student learning.
   c. Critically reflect on their teaching of mathematics.
   d. Feel confident in their classroom management and time management abilities.

4. Text and References

   Instructor handouts and readings from the following references:

   • Friedberg, S., et al, Teaching Mathematics in Colleges and Universities: Case Studies for
     Today’s Classroom
   • National Research Council, How Students Learn: Mathematics in the Classroom
   • Krantz, S., How to Teach Mathematics: A Personal Perspective

5. Minimum Student Materials

   Paper, pencils and notebook.

6. Minimum University Facilities

   Classroom with ample chalkboard space for class use.
7. **Content and Method**

Topics of Discussion

a. Class organization and planning / coverage of material  
b. Discipline  
c. Exam writing and grading / possible tools for monitoring student progress during lecture  
d. How to handle cheating  
e. Promoting student learning and engagement in class, including how to encourage students to ask questions and communicate both verbally and in writing  
f. Managing office hours / professionalism  
g. Convincing students that mathematics is important

**Method**

Credit will be awarded on the basis of attendance and participation in classroom discussions, written assignments and projects. Students will be required to videotape one class meeting of a course they are teaching and submit a written reflection on the video.

8. **Methods of Assessment**

Attendance, participation, written assignments and projects.