MATH 505  Survey of Modern Mathematics

1.  **Catalog Description**

   MATH 505 Graduate Teaching Seminar  
   CR/NC  
   1 unit

   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.