

MATHEMATICS 491/492
SENIOR THESIS

I. Introduction

A. Catalog Description

Credit, variable up to one unit. A Senior Thesis allows students to explore areas of mathematics or computer science that are new to them, to develop the skill of working independently on a project, and to synthesize and present a substantial work to the academic community. Thesis proposals should normally be developed in consultation with the student's research committee. This committee should consist of the student's faculty supervisor and two other faculty members. It will be involved in the final evaluation of the project. The results should be presented in a public seminar, or written in a publishable form. *Prerequisites: Completion of at least 4 upper-division courses by the end of the junior year, or completion of the major by the end of the fall term of the senior year. The student should have a grade point average of at least 3.5 in all major courses numbered 300 or above.*

B. Learning Objectives

The Senior Thesis is designed to allow students to explore areas of mathematics that are new to them, to develop the skill of working independently on a project, and to synthesize and present a substantial work to the academic community. Detailed learning objectives will be developed by student and instructor for each course.

C. Prerequisites

The student should have completed at least 4 upper-division courses by the end of the junior year, or should have completed the major by the end of the fall term of the senior year. The student should have a grade point average of at least 3.5 in all major courses numbered 300 or above.

II. Required Topics

The project itself can take many forms, but the emphasis should be on some type of research activity, as opposed to simply an independent study. At one extreme would be a project where a student studies an area, and then begins to investigate an open question from that area. At the other extreme is a project where a student studies a topic that is spread across the literature in many papers and compiles a survey paper on his or her research. It is possible in this sort of project that a student may notice certain new connections among the readings. A project where a student simply studies a single monograph would normally not be acceptable.