Course Outline for MATH 5599, Thesis

MATH 5599 Thesis (2-3 units)
Prerequisite: Graduate standing in Mathematics and consent of instructor.

Serious research endeavor devoted to the development, pedagogy or learning of mathematics. Repeatable up to 6 units. Formerly MATH 599.

Course Learning Objectives	
1	Conduct appropriate literature reviews of peer-reviewed publications related to mathematical topics of interest.
2	Synthesize published literature on mathematical topics to place research questions in context, identify unanswered questions, and/or develop useful investigative approaches.
3	State, in a clear and concise manner, researchable questions and/or reductions of general problems to a specific point of analysis.
4	Explore open-ended problems in mathematics and its applications using existing competencies developed in other courses.
5	Explore open-ended problems in mathematics and its applications using standard modes of mathematical investigation such as rigorous logical arguments with proofs and/or numerical computations and simulations.
6	Design and implement key organizational components of independent research such as project proposals and timelines.
7	Communicate mathematical results and conclusions in written form via professional-style reports, including appropriate definitions, theorems, equations, figures, and tables.

Expanded Course Content

Textbooks, materials, and/or other resources
Readings from the primary literature, textbooks, or other sources assigned as needed for project background by the faculty mentor and identified by the researcher.

Method of Assessment

This is a supervised research course where students work on mentored, independent projects. Final assessments will vary by student but will include a formal written thesis with a public thesis defense.