

Course Outline for MATH 5597, Comprehensive Examination

MATH 5597 Comprehensive Examination (0 units)

Prerequisite: Graduate standing in Mathematics and consent of department chair.

Culminating oral exam for a non-thesis master's student in mathematics showing integration of knowledge, critical and independent thinking, and mastery of the subject matter. Scheduled with the faculty advisor, typically in the final semester of the graduate program. Credit/No Credit grading only.

Course Learning Objectives	
1	State, in a clear and concise manner, foundational results and/or reductions of general problems to a specific point of analysis.
2	Explore problems in mathematics and its applications using existing competencies.
3	Use standard modes of mathematical investigation such as rigorous logical arguments with proofs.
4	Communicate mathematical results and conclusions in oral and written forms including appropriate definitions, theorems, and equations.

The oral exam covers topics from three of the required graduate course topics from the required curriculum. Students may select any three of:

- Real Analysis (MATH 5266)
- Linear Algebra and Module Theory (MATH 5203)
- Discrete mathematics (MATH 5053)
- Applied Complex Analysis (MATH 5302)
- Methods of Applied Mathematics (MATH 5371)
- Topology (MATH 5542)

One of the three topics must be either Real Analysis or Linear Algebra and Module Theory. The professors who taught these courses will comprise the oral exam committee. For each topic, students begin with a 10-15 minute presentation on a key topic from that course followed by approximately 45 minutes of questions from your committee.

Mode and Method of Assessment

The oral exam is the final (and only) assessment for this course. The instructional mode for this class is face-to-face.