

Honors Thesis Requirements  
Gordon College  
Mathematics Program  
9/20/2012

An honors thesis is required to receive departmental honors in mathematics. Under the direction of a faculty advisor, candidates will complete a 2- to 4-credit independent study in an area not covered by existing courses, culminating in a thesis. The thesis should be of high quality and demonstrate the ability to communicate mathematics and solve significant mathematical problems. Theses may be original research or expository papers that include challenging examples or problems solved by the student.

### **Submission process**

The thesis should be reviewed by the faculty advisor. After it is approved by the advisor, the student submits copies (electronic or print) to the mathematics faculty and the advisor schedules an oral defense with mathematics faculty. The defense must occur by the last day of final exams in the semester of graduation. It is recommended that the defense occur well before this time, both to make scheduling easier and in case the student is asked to revise the thesis.

### **Format and content**

1. Acceptable mathematical style must be used. Equations must be typeset and easily readable.
2. The length should be approximately 8-10 double spaced pages.
3. A cover page or header must name the faculty advisor and include "Honors Thesis in Mathematics, Gordon College" and the date.
4. An abstract is required.
5. A list of references is required, including at least some mathematics research. Listing only textbooks is not sufficient.
6. Theoretical papers should include at least two results with proofs, appropriately organized (e.g., Lemma followed by Theorem). Numerical papers should include a complete description of all numerical methods used, so that the results could be reproduced, and a mathematical description of the problem or model. Results or algorithms from other sources may simply be cited. Expository papers should include at least two challenging examples or problems solved by the student.
7. Sufficient background should be included so that a Ph.D. mathematician who is not a specialist in the topic can be expected to follow the paper.