

# MATHEMATICS, PH.D.

---

The Ph.D degree in mathematics at the University of South Carolina serves to prepare students for professional careers in academic research, college and university teaching, business, industry, and government.

## Learning Outcomes

1. Students will demonstrate mastery of the core mathematical areas of analysis and either abstract algebra or foundations of computational mathematics. Students will not only master content in these areas, but they will also develop and hone expository skills approaching the level necessary for them to write a dissertation.
2. Students will select a research problem or problems in consultation with their dissertation advisor (major professor). Students will then write a dissertation on the results of their research, consisting of publishable contributions that build on the existing literature.
3. We expect all students to write cogent and convincing mathematics, using contemporary presentation standards.
4. The Department expects graduates to be able to orally communicate sophisticated mathematics at the level of a professional mathematician.
5. Students will demonstrate proficient teaching in a variety of settings. These include, for example, serving as a teaching assistant for calculus I or II, or serving as instructor of record for college algebra, pre-calculus, calculus for business and social sciences, finite math, discrete math, calculus I, II, III, or elementary differential equations.