Graduate Learning Outcomes
Department of Mathematics

While the Department of Mathematics awards both Master's degrees and Ph.D. degrees, all incoming students are admitted to the Ph.D. program. For this reason, this document will focus on learning outcomes for Ph.D. students. A note on Master's degrees will be included at the end.

Learning Outcome #1: Demonstrate mastery of subject knowledge in three core areas.

Explanation: The three core subject areas taught in our department are algebra, topology/geometry, and analysis/probability. Graduate students are expected to attain a mastery of this material at an advanced level for two of the three core areas, and at an intermediate level for the third area.

Learning Outcome #2: Demonstrate ability to learn from non-expository sources.

Explanation: Learning material from research papers is different from learning from courses and textbooks. Graduate students are expected to demonstrate the ability to learn material from non-expository sources, including at least one source that is written in French, German, or Russian.

Learning Outcome #3: Conduct original and substantive research.

Explanation: The most important requirement completing a Ph.D. in mathematics is producing a dissertation containing original and substantive mathematical work.

Master's degrees. The learning outcomes for students who earn a Master's degree consist of a modified version of Learning Outcome #1 for Ph.D. students. To earn a Master's degree, a student must complete full-year course sequences in each of the three core areas, one at the advanced level and two at the intermediate level.