Mathematics, PhD

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about Graduate College Academic Regulation 7.0 (http://catalog.okstate.edu/graduate-college/#70).

Total Hours: 60 (Beyond the Master’s Degree)

### Core Courses

Select 15 hours from one of the following tracks: 15

**Applied**
- MATH 5023: Advanced Linear Algebra
- MATH 5143: Real Analysis I
- MATH 5283: Complex Analysis I
- MATH 5543: Numerical Analysis for Differential Equations
- MATH 5233: Partial Differential Equations

**Pure**
- MATH 5023: Advanced Linear Algebra
- MATH 5143: Real Analysis I
- MATH 5283: Complex Analysis I
- MATH 5613: Algebra I
- MATH 5313: Geometric Topology

**Mathematics Education**
- MATH 5023: Advanced Linear Algebra
- MATH 5143: Real Analysis I
- MATH 5283: Complex Analysis I
- MATH 5613: Algebra I
- MATH 5313: Geometric Topology
- MATH 5543: Numerical Analysis for Differential Equations
- MATH 5233: Partial Differential Equations

Select 9 hours from the following:
- MATH 5143: Real Analysis I
- MATH 5283: Complex Analysis I
- MATH 5613: Algebra I
- MATH 5313: Geometric Topology
- MATH 5543: Numerical Analysis for Differential Equations
- MATH 5233: Partial Differential Equations

Select one of the following:
- STAT 5023: Statistics for Experimenters II
- STAT 5063: Statistical Machine Learning with R

### Hours Subtotal

12

### Preliminary Research Project

- MATH 6010: Advanced Seminar in Mathematics (Reading course with advisor) 3
- MATH 6090: Doctoral Research Project 3

### Hours Subtotal

6

### Additional Graduate Courses

Combination of electives and dissertation hours to total 27 hours.

**Electives**

Select 3-12 hours.

**Dissertation**

Select 15-24 hours.

### Hours Subtotal

27

### Total Hours

60

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### Additional Math Courses

Select 12 hours from track used for core courses. 12

**Applied**

In addition to the core course requirements, every plan of study must contain at least 12 hours of graduate courses in the mathematical sciences (mathematics, statistics, or computer science).

**Pure**

In addition to the core course requirements, every plan of study must contain at least 12 hours of graduate courses in the mathematical sciences (mathematics, statistics, or computer science).

**Mathematics Education**

- MATH 5913: Introduction to Research in Mathematics Education
- MATH 6923: Research in Undergraduate Mathematics Education

### Hours Subtotal

15

### Additional Graduate Courses

Combination of electives and dissertation hours to total 27 hours.

**Electives**

Select 3-12 hours.

**Dissertation**

Select 15-24 hours.

### Hours Subtotal

27

### Total Hours

60

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### Graduate College Doctor of Philosophy (PhD) Requirements

Learn more about Graduate College 2023-2024 Doctor of Philosophy (PhD) Degree Program Requirements (http://catalog.okstate.edu/graduate-college/). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.