

# APPLIED MATHEMATICS AND COMPUTATIONAL SCIENCE, MA

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Advanced mathematics is continually finding new applications in natural science, biology, engineering, medicine, and social sciences, and these fields are providing new directions for the development of mathematics itself. The graduate group in Applied Mathematics and Computational Science takes a very broad view of mathematics and its applications in our mission to train mathematical scientists for careers in academia, research and industry. In addition to providing a rigorous conceptual foundation for the application of mathematics, our diverse faculty gives AMCS students the opportunity to work in a “wet lab” environment where mathematics is actually being applied to real world problems. The AMCS graduate groups offer a full program of study in mathematics and its applications, offering both doctoral (Ph.D.) and masters (A.M.) degrees.

The Masters of Arts program in AMCS is intended for students who wish to go into professional careers in Applied Mathematics, Data Science, Mathematical Finance, or wish to obtain sufficient background in Applied Mathematics to be a strong candidate for a doctoral program in Applied Mathematics, Mathematics, Statistics, Financial Mathematics, etc.

**For more information:** <http://www.amcs.upenn.edu/>

View the University's Academic Rules for Research Master's Programs (<http://catalog.upenn.edu/pennbook/academic-rules-research-masters/>).

## Curriculum

The total course units required for graduation is 8.

Code	Title	Course Units
<b>Core Requirements</b>		
	Select eight courses, with at least one in each of the following fields <sup>1</sup>	8
	Applied algebra	
	Applied analysis	
	Probability and statistics	
	Numerical methods	
<b>Written Preliminary Exam</b>		
	Masters thesis <sup>2</sup>	
<b>Total Course Units</b>		<b>8</b>

<sup>1</sup> The list of courses must be approved by the Graduate Group Chair of the AMCS graduate group.

<sup>2</sup> Students may take two additional courses in lieu of the Masters thesis, with the approval of the Graduate Group Chair.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2023 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.