

Ph.D. IN MATHEMATICAL SCIENCES

APPLIED MATHEMATICS

WHY STUDY FOR A DOCTORATE IN APPLIED MATHEMATICS?

Mathematical scientists are increasingly in demand as advances in research rely on and benefit from quantitative mathematical models. The successful analysis of complex models sheds light on the role and interaction of key components in the system being studied. It provides crucial tools for evaluating and improving system performance. The sequence of model development, analysis, simulation and data interpretation necessitates applying advanced mathematical methods at a level that often requires the knowledge and skills acquired during doctoral study.

**TOP 100
NATIONAL
MATHEMATICS**

- QS Rankings

**TOP 2%
IN RETURN ON
INVESTMENT**

- Payscale.com

**TOP 100
NATIONAL
UNIVERSITY**

- U.S. News & World
Report

**R1 RESEARCH
CARNEGIE
CLASSIFICATION®**

- The Princeton
Review

**JORDAN HU COLLEGE OF SCIENCE AND LIBERAL ARTS
NEW JERSEY INSTITUTE OF TECHNOLOGY**

OUR RESEARCH

MAJOR THEMES

- Mathematical Modeling
- Mathematical Analysis
- Asymptotic Methods
- Scientific Computing

RESEARCH AREAS

- Fluid Mechanics
- Mathematical Biology & Neuroscience
- Dynamical Systems
- Applied Partial Differential Equations
- Numerical Analysis
- Wave Propagation



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math.njit.edu/phd-program

MATHEMATICAL SCIENCES APPLIED MATHEMATICS Ph.D. DEGREE AT NJIT

WHY STUDY APPLIED MATHEMATICS AT NJIT?

NJIT's doctoral program has about 40 active and internationally recognized faculty members whose research spans applied mathematics and statistics. Students have access to state-of-the-art computational research infrastructure. Activities, including a regular colloquium series and seminars, expose students to the latest innovations in the mathematical sciences, making the environment uniquely suited for students setting out on a research career.

FUNDING

Teaching Assistantships are available that provide full tuition and twelve-month salary with benefits. Some students may be supported as Research Assistants on their advisors' external grant funding. Graduate workers are represented by UCAN. To view the current contract go to: ucanaft.org/contract/.

DEGREE REQUIREMENTS

Students entering with a bachelor's degree must complete 36 credits of coursework. Those students entering with a master's degree in mathematical sciences or equivalent must complete 12 credits of advanced 700-level coursework. Specific courses of study are planned in consultation with a faculty advisor and are subject to approval. Completion usually takes 4-5 years.

1ST SEMESTER		CREDITS
MATH 613	Advanced Applied Mathematics I: Modeling	3
MATH 631	Linear Algebra	3
MATH 645	Analysis I	3
MATH 651	Methods of Applied Mathematics I	3
2ND SEMESTER		
MATH 614	Numerical Methods I	3
MATH 656	Complex Variables I	3
MATH 689	Advanced Applied Mathematics II: Ordinary Differential Equations	3
MATH 745	Analysis II	3

Electives include: Dynamical Systems, PDE, Fluid Mechanics, Computational Neuroscience, Perturbation Methods, Optimization, Optimal Transport, Stochastic Differential equations, Mathematical Biology, Numerical PDE, Numerical Linear Algebra

Learn More:

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