



BACHELOR OF SCIENCE

MATHEMATICS AND PHYSICS

Physics is the study of the natural world and all its phenomena at the most fundamental level. Mathematics, the science of numbers, quantities, shapes, spaces and patterns and their interrelationships, offers powerful tools for scientific analysis.



College of Science and Technology

MATHEMATICS AND PHYSICS

Bachelor of Science

Program Overview

This interdisciplinary major provides a foundation in physical sciences with a strong emphasis on the mathematical techniques needed for analysis and modeling. While the standard physics BS requires four mathematics courses and 15 physics courses, the interdisciplinary program requires 11 mathematics courses and 11 physics courses.

Courses include:

- Advanced Calculus I and II
- Analytical Mechanics
- Classical Mechanics
- Classical Electromagnetism
- Complex Analysis
- Differential Equations with Linear Algebra
- Electricity & Magnetism
- Elementary Classical Physics I and II
- Experimental Physics
- Introduction to Modern Physics
- Introduction to Quantum Mechanics
- Probability Theory I
- Modern Algebra
- Mathematical Physics
- Theoretical Linear Algebra
- Thermal Physics
- Thermodynamics & Kinetic Theory

Research Opportunities

Real-world, hands-on research means students learn the latest scientific techniques, from the necessary basics to high-tech analysis. Students can work directly with experienced researchers in mathematics and physics and from across the College of Science and Technology. Research activities and interests in the Department of Mathematics encompass many areas within the broad fields of algebra, analysis, applied mathematics and scientific computing, geometry and topology, and probability. The Department of Physics' principal areas of research are theoretical and experimental elementary particle physics; condensed matter physics; atomic, molecular and optical physics; and statistical mechanics.

Career Options

The program is excellent preparation for graduate school in mathematics, applied mathematics, physics, mathematical physics and other similar programs and for many analytical positions in industry, particularly financial analysis of technology industries, research laboratories and teaching.

Faculty Contacts

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