

ASTRONOMY, MATHEMATICS, AND PHYSICS

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Dr. Frederick Gray, Professor

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Mr. Christopher Knowles, Senior Term Professor

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Departmental Information

The Astronomy, Mathematics, and Physics Department offers four Bachelor of Science degrees: one in Mathematics, a traditional Physics degree, an Engineering Physics degree, and a Computational Physics degree that blends Physics with Computer Science. An optional specialization in Secondary Education is available within the Mathematics major for students interested in teaching middle or high school mathematics.

Astronomy

Astronomy is the scientific study of celestial objects such as stars, planets, and galaxies. Students explore cosmic phenomena, developing an understanding of the universe at scales ranging from local planetary systems to distant galaxies and beyond. While a major is not available in this field, students interested in advanced study of astronomy can pursue it through the Physics major program.

Mathematics

Mathematics is the rigorous study of patterns, rhythms, precision, and interconnectedness, empowering students to cut through noise in search of the signal. By integrating this training with the University's mission to develop the whole person, mathematics students are uniquely positioned to leave a positive impact on the world. Students often combine a mathematics major with a major or minor in another field, enhancing their interdisciplinary skills. Graduates enter the job market equipped with highly developed analytic and quantitative abilities and a strong understanding of fields where these skills may be applied.

Physics

Engineering Physics

Engineering is the application of scientific and mathematical ideas to develop and optimize solutions to real-world problems. Engineers design products and create innovative technologies that have the potential to improve all of our lives. The Engineering Physics degree provides a broad overview of engineering fundamentals, rather than a concentration in one specific area of technology, so it will enable graduates to work across the boundaries of traditional engineering disciplines. Furthermore, it is a full physics degree in addition to being an engineering degree, so it strongly emphasizes the scientific foundations of engineering.

Physics

Physics is the scientific study of matter and energy across scales ranging from the subatomic to the galactic. Students explore classical and modern physics through coursework that prepares them to understand diverse phenomena along this continuum, as well as intriguing topics at the intersections of physics with other scientific disciplines. The program emphasizes both theoretical knowledge and practical experience, offering hands-on experimental and computational training. Students may pursue either a general physics track or specialize in the Physics and Computational Physics program, which focuses on computational techniques increasingly vital in scientific and technological fields.

- Computational Physics Major (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/computational-physics-major/>)
- Engineering Physics Major (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/engineering-physics-major/>)
- Mathematics Major (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/mathematics-major/>)
- Mathematics Minor (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/mathematics-minor/>)
- Physics Major (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/physics-major/>)
- Physics Minor (<https://catalog.regis.edu/regis-college/program-study/astronomy-mathematics-physics/physics-minor/>)