

# PHYSICS, B.S.

UNIVERSITY OF CALIFORNIA  
**MERCED**

SCHOOL OF  
NATURAL SCIENCES



## WHY APPLY TO PHYSICS, B.S.?

UC Merced offers an undergraduate major leading to a B.S. degree in Physics. A physics degree emphasizes analytical and quantitative reasoning and prepares students well for a wide variety of careers including scientific research, engineering, information technology, education, and finance. Employers in almost any field put a high value on a physics degree. Graduates with a bachelor's degree in physics earn among the highest starting salaries of any college degree. The physics undergraduate program at UC Merced provides a strong foundation in the fundamentals of physics, while also emphasizing the increasingly interdisciplinary role played by physicists in the scientific community. During the senior year all students work closely with a faculty advisor to design and carry out a research project, with many starting their research work in earlier years. Our alumni have gone on to become graduate students, teachers, data scientists, and researchers at private companies.

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# PHYSICS, B.S.



Physics is the study of nature at its most fundamental. Its scope covers everything from the tiniest particles of matter to the structure of the entire universe, encompassing innumerable galaxies and stars. The Physics program at UC Merced provides a strong foundation in the fundamentals of theoretical and applied physics, while also emphasizing the increasingly interdisciplinary role played by physicists in the scientific and technological community. This is reflected in the “core plus emphasis track” model of the major. Our emphasis tracks include: **Quantum Science and Technology; Mathematical and Computational Physics; Computation and Data Science, Biophysics and Soft Matter; Engineering and Applied Physics; and Astrophysics.**



## ALUMNI SPOTLIGHT

### Christina Valletta B.S. '21

Christina is an outstanding scholar who has shown tremendous potential as a researcher and has had a very positive effect on the UC Merced physics community and attained a truly impressive breadth of research experience as an undergraduate, spanning the three main modes of physics investigation — experiment, theory and computational modeling — in topics as varied as quantum optics, soft materials and biological physics. At the helm of the Women in Physics chapter, she has created an active and broadly inclusive hub of physics undergraduate life and career development events, which have been even more important during the pandemic. Finally, she won a very highly competitive and prestigious National Science Foundation Graduate Research Fellowship (NSF GRFP) that supports her as she works towards her Ph.D. in Physics at UC Davis.

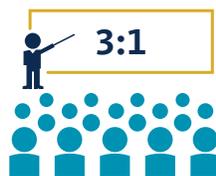
## Job/Career Prospects

- ▶ Accelerator operator
- ▶ Aerospace engineer
- ▶ Astrophysicist
- ▶ Biophysicist
- ▶ Cryptographer
- ▶ Data scientist
- ▶ Financial analyst
- ▶ Laser engineer
- ▶ Materials scientist
- ▶ Medical physicist
- ▶ Particle physicist
- ▶ Patent analyst
- ▶ Physics teacher
- ▶ Renewable energy manager
- ▶ Software engineer
- ▶ Solar energy physicist
- ▶ Systems engineer
- ▶ K-12 educator

## Research Opportunities

- ▶ Astrophysics and Astronomy
- ▶ Atomic, Molecular and Optical Physics
- ▶ Biological and Soft Matter Physics
- ▶ Nanoscience and Quantum
- ▶ Mechanics
- ▶ Solar Energy and Energy Sciences

## PHYSICS MAJOR-FACULTY RATIO



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