

# PHYSICS

Physics majors study the motion of objects and the interactions between them; from fast-moving projectiles to the nature of time and space. Physics majors also explore how organisms move through and interact with their environment. With a degree in physics, graduates can work in a wide range of fields including physical or life sciences, education, engineering, and data analysis.

## STUDENT EXPERIENCE

### Learn and Do More at RWU

With a focus on experiential learning at RWU, physics majors can:

- Train as scientists from day one through research projects, hands-on lectures, and labs. You will have the opportunity to experiment and test hypotheses, learn advanced computer programming, and design and build sensors to dispatch into high altitude to study the atmosphere. You may also have class on board RWU's research vessel collecting and testing water samples or modeling ocean flow.
- Collaborate with faculty members on cutting-edge research such as exploring the origins of life at sea floor vents or predicting the effect of gender on career choices within STEM fields through computer mathematical modeling. Or you might design an early warning system that detects toxic algal blooms in oyster farms meant for human consumption in developing countries.
- Present your research at local, regional, and national conferences like the American Physical Society, American Astronomical Society, and New England Complex Fluids Workgroup.



- + Do you find yourself wondering how the machines and technology you interact with everyday really work?
- + Are you interested in big ideas like how life came into existence or how time began?

## CAREER OUTLOOK

RWU **physics** alumni are working in the following fields:

- Astrophysics
- Medical Treatment
- Data Science
- Quantitative Analysis
- Engineering
- High School Education
- Computer Coding and Model Development

## ALUMNI SPOTLIGHT

“The physics and mathematics programs at RWU prepared me for a career in analysis, where I can apply theory to come up with practical solutions to address urban environmental issues. The ability to work closely with faculty on research projects allowed me to gain a skillset that I would not have acquired from the classroom alone.”

Joshua Castigliego '17  
Research fellow at Boston University  
Institute for Sustainable Energy

## CURRICULUM

Our physics courses are structured as back-to-back lectures and labs. With this model, you will conduct hands-on experiments which you recreate the concepts from the lectures and lessons in the classroom. There are multiple opportunities to conduct research and students are able and encouraged to begin participating as early as their first year.

During your first two years, you will learn about the major physics theories and fields and gain a strong foundation in the related mathematics concepts. You'll explore the history and concepts of astronomy while investigating the stars and sun close-up through telescopes. You will also take an electronics class where you learn to build sensors, puzzle boxes, and escape rooms.

Your third and fourth years will dive deeper into a variety of the specialized fields of physics, including electricity and magnetism, quantum mechanics, and thermodynamics. All students complete a capstone experience that includes collaborating with faculty on a research project, completing a hands-on internship, or investigating original research through a thesis.

### Special Courses

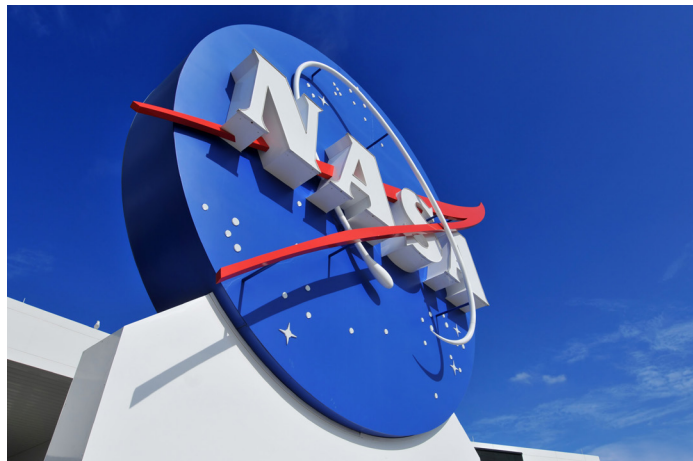
You'll also choose from many electives, including:

- Advanced Physical Chemistry
- Artificial Intelligence
- Materials Science
- Marine Geology

### Internship Opportunities

RWU physics majors have interned at:

- NASA
- Raytheon
- Naval Underwater Warfare Center
- General Dynamics
- Electric Boat
- EpiVax



**OVER 80% OF  
RWU STUDENTS  
GRADUATE WITH  
MORE THAN JUST  
A SINGLE MAJOR**

RWU students have  
paired **physics** with:

- Mathematics
- Engineering
- Biology
- Computer Science
- Public Health
- Philosophy