About the Major

The Department of Physics at Middlebury College is designed to integrate physics into the liberal arts curriculum as well as to provide challenging courses and research opportunities for students majoring in physics. Physics is the fundamental science: it leads to our most basic understanding of the natural world and of human technological achievements. Courses and student research activities in astronomy are also part of the physics program.

Course offerings in the Department of Physics reflect the needs of three categories of students: those majoring in physics, those majoring in another science who need a basic introduction to physics and the analytical skills it provides, and those majoring in areas outside the sciences who seek to explore the concepts of physics with a minimum of mathematics. Laboratory work is emphasized at all levels of our program, from first-year courses through senior thesis work. The Department of Physics also conducts regular “tea times” during the semester so students, faculty, and staff can meet in an informal setting.

You Might Choose This Major if . . .

You have an interest in learning about the physical world and are fascinated by the concept of motion through space and time. You are good at solving problems and enjoy designing projects, especially those that use complex equipment. You like reducing problems to their simplest form and separating cause from effect. You have an aptitude for mathematics. You want to further develop your knowledge of one of the oldest physical sciences. You are interested in a solid foundation in physics and the liberal arts that will allow you to explore any number of career fields.
Making the Most of It While on Campus

You have a wide range of options to connect your learning to your interests during your time at Middlebury. You can find on- and off-campus opportunities, support, and experiences through:

**Architecture Table:** A design interest club that encourages creative thought and fosters critical dialogue concerning the built environment and its interaction with the natural world.

**Baseball Analysis Club:** A forum to discuss baseball through a variety of lenses that include but are not limited to analytics, fantasy, trade analysis, favorite teams, and economics.

**Campus Sustainability Coordinators:** Student group that works to promote sustainable living on campus.

**Center for Social Entrepreneurship Summer Grants:** Each Spring, the CSE accepts grant applications from students who have identified social problems and wish to create projects to address them. The CSE selects up to five grantees and awards each up to $3,000.

**ECHO Aquarium and Science Center:** Seeks to educate people about the ecology, culture, and history of the Lake Champlain Basin.

**Green Engineers:** Works to develop innovative, environmentally-friendly technologies.

**GlobeMed:** Connects the assets of a student-led network to grassroots health organizations in communities around the world.

**Habitat for Humanity:** Working with the local Addison County Habitat chapter, seeks to address the need of simple, decent, affordable housing both here in Vermont and beyond.

**Middlebury College Chess Club:** Provides players of any skill level a place to meet and play in a welcoming and casual environment.

**Middlebury College Unite for Sight:** Works with global parent NGO to improve eye health and preventable blindness through events and fundraising.

**New Millennium Interns:** Funds that support partial internship costs for students who wish to work for Vermont-based start-ups, small companies, venture firms, and innovative non-profits or non-governmental organizations.

**Office of Sustainability Integration:** Works to educate, inspire, and act for a more sustainable community.

**Old Stone Mill and Annex:** A space for student creators, entrepreneurs, and artists of all kinds.

**Sunday Night Group:** A forum for students to express their ideas and find support for initiatives concerning environmental activism and climate justice.

**Tree House Fund:** A competition for funding a creative student project that benefits students, the environment, or the local community.

For more information on student organizations, check out Student Activities at [go.middlebury.edu/activities](http://go.middlebury.edu/activities).

Translating Your Learning: Professional Competencies

Throughout your time at Middlebury, you will develop and enhance the following core professional competencies—skills and dispositions highly valued by employers that will prepare you for leadership and success in any given field.

**Critical Thinking Skills**
- Identifying problems
- Defining the scope and attributes of a problem
- Gathering evidence through research
- Evaluating opinions and findings
- Deriving evidence-based conclusions
- Hypothesizing
- Constructing logical arguments
- Contextualizing
- Relating skills and knowledge to other disciplines

**Interpersonal Skills**
- Collaborating effectively with people of varying perspectives and abilities toward a common goal
- Awareness of one’s own beliefs, and how it informs your perspective
- Respecting the feelings of others
- An effective team player, comfortable in playing different roles as needed
- Taking initiative at times and following instructions at others
- Mediating conflicts effectively

**Research Skills**
- Ability to conceptualize the question
- Formulating a question to appropriate scope and scale
- Understanding and evaluating research methodology
- Designing appropriate method and approach
- Finding and identifying most relevant sources
- Conducting and analyzing research
- Testing for validity and reliability of data
Applying Your Learning through Internships

Students pursue internships and research in a variety of fields, enabling them to apply their liberal arts learning in real-world settings during Winter Term or over the summer. Internships, research, and self-directed projects enrich your academic experience and help prepare you for life after Middlebury. Students in physics and other sciences have interned or done research at:

- Acceleration Capital Group
- University of Texas Southwestern Medical School
- Global Emergency Care Collaborative
- Mallet Japan
- Consumer Edge Insight
- Baylor University CASPER
- Industrial Economics
- EuroConsult, Inc.
- Upward Bound
- École Polytechnique
- Bank of America Merrill Lynch
- LOGOS English Camp
- Middlebury STEM Pilot Project
- Williams College
- Massachusetts General Hospital
- Columbia University
- Museum of Byzantine Culture
- Novus Biologics
- CLIMB
- University of Vermont
- Kenya Medical Research Institute
- Fred Hutchinson Cancer Research Internships
- American Society for Microbiology
- University of Nebraska Summer Research Program
- Princeton University Research Experience for Undergraduates
- National Institutes of Health
- Wake Forest University Research Experience for Undergraduates
- Undergraduate Summer Research at Middlebury

Interested in doing an internship but don’t know where to start? Drop by the Center for Careers & Internships in Adirondack House for help!

As a result of the dual-degree program (Physics & Engineering) I gained quantitative analysis and engineering skills that prepared me for my internship."

—Rob Bracken ’15 (Physics & Engineering)
Makible Ltd. Intern
Where Do Our Majors Go?

What can you do with a major in Physics? In the context of the traditional liberal arts education you will receive at Middlebury, your major will serve you well in whatever path you choose to pursue. The skills and dispositions you will develop are desirable to employers from many diverse industries. While many majors go on to graduate work, others lead companies and NGOs, become performers or writers, work in government, law, and healthcare, or start their own businesses. As you begin to successfully translate the goals of your disciplinary training into professional competencies and enhance your learning through student organizations and internships, you will have a solid foundation on which to build a meaningful and dynamic career path in any field you can imagine. The list below gives just some of the many interesting ways our Physics graduates have applied their liberal arts learning to engage the world.

- **Director, Engineer**
  Meto Corp.

- **Senior Systems Engineer**
  MITRE Corp.

- **Pilot**
  United Airlines

- **Oral Surgeon**
  Oral and Facial Surgery Associates

- **Director of Ecological Management**
  Massachusetts Audubon Society

- **Director of Strategic Partnerships**
  Walgreens Inc.

- **Oncologist**
  University of California, Davis

- **Professor of Surgery**
  University of Washington Medical Center

- **VP, Worldwide Technology Development**
  Fairchild Semiconductor

- **Professor of Medical Physics**
  Yale School of Medicine

- **Analyst**
  Deloitte Consulting

- **Founder & CEO**
  Genomic Healthcare Strategies

- **Director, Diabetes Center**
  Johns Hopkins University

- **Chief Technology Officer**
  Berkshire Noyes & Co. LLC

- **Business Intelligence Analyst**
  ChoiceStream

- **Agriculture Team Coordinator**
  Cornell Cooperative Extension

- **LEED Certification Reviewer**
  USGBC

- **Aerospace Engineer**
  Air Force Flight Test Center

- **Physics Teacher/Track Coach**
  Berlin High School

- **Physicist**
  Los Alamos National Laboratory

- **Medical Scribe**
  ScribeAmerica

- **Mayoral Staff Assistant**
  City of Seattle

- **Director of Music, Organist**
  First Evangelical Lutheran Church

- **Senior Scientist**
  Earth and Space Research

- **President**
  Laser Consultants Inc.