



LAKE FOREST
COLLEGE

PHYSICS

Physics at Lake Forest College explores phenomena ranging from atomic structure to planetary motion. Our goal is to present a comprehensive set of topics, both theoretically and experimentally, which will prepare students for industrial employment or graduate study. The thermodynamics of engines, the transmission of energy through waveguides, the optics of telescopes, the scattering of gamma rays, and the electronics of amplifiers are examples. Responsible citizens should strive to understand the fundamental concepts of physics in order to make wise decisions about science and society.

RESEARCH AREAS:

- Acoustic Levitation
- Electromagnetically Induced Transparency/Slow Light
- Electron-Molecule Collisions
- Granular Materials
- Short-Pulsed Nuclear Magnetic Resonance

TEACHING STRATEGIES:

- Develop instructional experiments that allow students to explore the laws of physics firsthand.
- Manufacture unique instruments for research, instructional labs, and for demonstrations.
- Present numerous demonstrations that show students the wide-ranging applications of the laws of physics.

LEARNING OBJECTIVES:

- Problem-solving and mathematical aptitude that is transferable to many fields.
- Working knowledge of sophisticated equipment to take accurate experimental measurements.
- Collecting, analyzing, and presenting data with industry-standard software.

OPPORTUNITIES:

- Work with research-quality equipment and software, similar to that used in graduate school and industry.
- Possibility of paid summer research on campus.
- Training similar to that of mechanical and electrical engineering majors.
- Dual Degree Program with the Washington University School of Engineering & Applied Science.



NICOLE MURPHY '10

Majors: Physics and Mathematics

Graduate study: MS Medical Physics, Duke University

Current Job: Medical Physicist at Northwestern Memorial Hospital



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CAREERS: Companies: Honeywell • Oracle • Lincoln Laser Company • Fermilab • Landauer, Inc. • Fairmount Santrol • Northrop Grumman • American Energy Technologies Company • **Physics Teachers:** Breck School • Lake Forest Academy • Round Lake High School • Glenbrook North High School

Our physics majors pursue many career paths*:

PHYSICS

MEDICAL AND HEALTH PHYSICS

MATERIAL SCIENCE

EARTH, ATMOSPHERIC AND PLANETARY SCIENCE

MECHANICAL ENGINEERING

ELECTRICAL ENGINEERING

MEDICAL SCHOOL

EDUCATION

ARCHITECTURE

LAW SCHOOL

*Nearly half of physics graduates choose to pursue graduate and professional school upon graduation. Some of the graduate schools our graduates are attending:

DUKE UNIVERSITY

MICHIGAN STATE UNIVERSITY

MIT

RENSSELAER POLYTECHNIC INSTITUTE

TENNESSEE SPACE INSTITUTE

TEXAS A&M

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

UNIVERSITY OF MASSACHUSETTS

UNIVERSITY OF ILLINOIS AT CHICAGO

NORTHERN ILLINOIS UNIVERSITY

Combine physics with another area of study for a variety of careers:

Second Major or Minor:

MATH

COMPUTER SCIENCE

ECONOMICS

CHEMISTRY

Career:

SCIENTIFIC PROGRAMMER

COMPUTER ENGINEER

PRODUCT MANAGER

NUCLEAR CHEMIST



Learn about our accomplished faculty, requirements for the major, and more at

lakeforest.edu/academics/physics