Undergraduate Programs

Majors:
- Physics with emphases available in:
  - Applied Physics
  - Astronomy
  - Computational Physics
  - Optics
  - Physics with Biomedical Concentration
  - Physics with Business Concentration
  - Physics Education
  - Physics/Engineering Dual Degree
  - Physics/Physical Therapy Dual Degree

Minors:
- Physics
- Physics with Astronomy Emphasis
- Physics Education

Dual-Degree Programs

PHYSICS AND ENGINEERING
This dual degree program allows a student to receive both a bachelor of science (physics major) from UWL and a bachelor of science (engineering major) from UW-Madison, UW-Milwaukee, UW-Platteville, UW-Stout, Winona State University, or the University of Minnesota Duluth. The total length of time to attain both degrees is expected to be five years, with approximately three years at UWL and approximately two years at one of the engineering schools.

PHYSICS AND PHYSICAL THERAPY
This dual degree program provides qualified students with the opportunity to receive both a bachelor of science (physics major with biomedical concentration) and a doctor of physical therapy degree from UWL. The total length of time to attain both degrees is expected to be about six years, with approximately three years in the physics program and approximately three years in the physical therapy program.

Department Overview

The Physics Department at the University of Wisconsin-La Crosse is one of the largest undergraduate physics programs in Wisconsin and is well-known for offering quality education, placing its graduates in successful career paths and attracting national recognition for its successful efforts.

The diverse nature of the UWL physics program makes our graduates highly sought after in modern industries where physics and engineering are applied. In addition, many UWL physics graduates are accepted into top graduate degree programs where they can pursue a master’s or doctoral degree in physics, engineering, chemistry, astrophysics, optical science, mathematics, medicine, or computer science.

In addition to our unique programs, the department also stands out in its emphasis on involving its physics majors in undergraduate research. This engages students to work closely with individual members of the faculty, providing hands-on learning opportunities which are very different from the traditional classroom experience. The involvement of students in research contributes to the sense of community that pervades the UWL Physics Department. Research projects are available in the following areas: astrophysics, biomechanics, biophysics, computational physics, quantum optics, material science, nuclear physics, solid-state physics, and physics education.

View degree requirements: [www.uwlax.edu/catalog](http://www.uwlax.edu/catalog)
Undergraduate Degrees

The physics major is the standard program for students interested in a broad study of physics and for those wishing to obtain the best possible preparation for physics graduate school. Additionally, emphases are available in the following areas:

ASTRONOMY EMPHASIS
This emphasis is designed for students who have a strong interest in astronomy/astrophysics and is the ideal preparation for astronomy/astrophysics graduate school. There are excellent student research opportunities in the study of interstellar gas and theoretical astrophysics. The department has a fully operational planetarium.

COMPUTATIONAL PHYSICS EMPHASIS
This program is designed for students who are interested in computer modeling and high-performance computation in scientific and engineering problems. It is excellent for students who wish to work in modern industry or government (e.g. NASA).

OPTICS EMPHASIS
This is an excellent preparation for students wishing to pursue a career in modern high-tech fields. Students develop a solid understanding of electronics, classical or modern optics, and lasers. This emphasis is also an excellent alternative to obtaining a standard engineering degree, allowing students to pursue optics-specific graduate programs and engineering fields.

APPLIED PHYSICS
Build a solid foundation in physics and gain exposure to experimental and computational methods used in modern industry through this degree program. This option would be a great choice for students interested in working in industrial laboratories involved in material fabrication and testing, engineering projects, and related activities.

BIOMEDICAL CONCENTRATION
This program is designed to provide a strong background in physics, and prepare students for graduate studies in biomedical engineering, physical therapy, and medical school, and for entry-level positions in industry and government in the field of biotechnology.

BUSINESS CONCENTRATION
Modern industry has a serious shortage of business managers with a solid grounding in the hard sciences. This concentration is designed for students who wish to enter business with the advantage of an excellent understanding of such areas as electronics, lasers, computers, etc.

PHYSICS EDUCATION
This integrated program provides an excellent background in physics and certification to teach physics at the high school and middle school level.
Students seeking employment with a degree in physics from UWL have a wide variety of opportunities because of the diverse nature of the physics program. There are many opportunities to work in modern industries in applied physics or engineering/physics. Physicists find employment in research and design, quality control and testing, and mathematical and computer modeling.

In the medical field, a physicist may supervise the operation of a multitude of clinical instruments found in a hospital or assist in diagnosis and therapy using nuclear radiation, x-ray, and ultrasound techniques. Medical physics is a growing area with many employment opportunities. In addition, physicists often find themselves doing exactly the types of things that an engineer would do, such as designing electronic circuits and computers, working in manufacturing industries, and performing basic and applied research. It is common for physicists and engineers to work side by side. Because of the relative shortage of qualified physicists, employment prospects are excellent. A dramatic shortage of female physicists makes the prospects for women interested in physics and related fields outstanding!