Physics

Physics is the fundamental science: the study of matter and energy and of their interactions. Physics is the basis for all science and for all applied science and engineering. Physicists study everything from elementary particles to galaxies, from semiconductors to chaos.

Because physics is the basic underpinning for all science and technology, physics majors have many career alternatives. Many continue their education at graduate and professional schools—in physics or in chemistry, biology, geology, engineering, medicine, law or business. Those who enter the job market directly find their knowledge and technical skills, particularly in problem solving, modeling, computers and electronics, to be strong selling points.

The physics department at Wichita State University affords close personal interaction among undergraduate students, graduate students and professors. Many students take advantage of the opportunities for individual studies and research.

Admission

When you choose to study physics, you will be admitted to the Fairmount College of Liberal Arts and Sciences. The physics department undergraduate advisor will help you develop your program of study, and all of our faculty will be available to advise you and help you at any point in your studies.

If you are still deciding on a major when you begin taking classes at WSU, the Liberal Arts and Sciences Advising Center can help you explore career and major options.

Related Opportunities

As a physics major, you may participate in the Student Physics Society, an informal social organization. If eligible, you may be selected for the physics honor society, Sigma Pi Sigma, and for university academic honor societies such as Phi Kappa Phi, and Mortar Board.

Each semester, every physics major maintaining a B average earns an Academic Achievement Award.

In addition, three scholarships— the Schenk, the Knight, and the Unruh— are awarded yearly to the three most outstanding upper-division physics majors.

Related Programs

The physics department offers the bachelor of arts and the bachelor of science degrees in physics. If you’re interested in teaching physics, you may earn a bachelor of arts in education.

In addition to these programs, we also offer students the opportunity to select a special option within the physics major. With the chemical physics option, a student interested in molecular physics or biophysics can substitute upper-division courses in chemistry for physics electives. With the engineering physics option, a student interested in applications of physics can substitute upper division engineering courses. Other options, in mathematics, geology, computer science, biology, or business, are also possible on an individual basis.

General Education Program

Well-Rounded Learning

Wichita State strives to offer the most complete college experience possible to produce well-rounded, successful Shocker graduates. Through general education courses, students explore subjects outside of their major, expanding their knowledge, perspective and skills and making a positive impact on their career and life.

Benefits of general education courses:

• Improved critical thinking skills
• Better communication, written and spoken
• Increased analytical reasoning and problem solving
• An acquired knowledge of natural and social science, the arts and humanities

Improve skills by taking courses that include diversity content, study abroad experiences, service learning and experience-based learning.

For more information

If you have further questions or would like to schedule a campus visit, please contact the Office of Admissions.

Marcus Welcome Center  wichita.edu/admissions
Office of Admissions  wichita.edu/visit
1845 Fairmount
Wichita, KS 67260-0124
Major Requirements

Requirements for the BA or BS Degree

- Phys 213-214
  OR
  Phys 313-316 - 10 credit hours
- Topics in Modern Physics - 3 credit hours
- Quantum Mechanics - 3 credit hours
- Analytical Mechanics - 3 credit hours
- Electricity and Magnetism - 3 credit hours
- Thermophysics - 3 credit hours
- Chemistry - 5 credit hours
- Differential Equations I AND Integration Techniques & Applications
  OR
  Advanced Calculus I
  OR
  Partial Differential Equations for Engineers - 3 credit hours
- Linear Algebra - 3 credit hours

Additional Requirements for the BA Degree

- Advanced Physics Laboratory
  OR
  Electronics Laboratory
  OR
  Computational Physics Laboratory - 2 credit hours
- Upper-division physics electives - 6 credit hours

Additional Requirements for the BS Degree

- Advanced Physics Laboratory
  AND/OR
  Electronics Laboratory
  AND/OR
  Computational Physics Laboratory - 6 credit hours
- Upper-division physics electives - 8 credit hours
- Chemistry - 5 credit hours

Additional Requirements for the Chemical Physics Option (with the BA or BS degree in physics)

- Upper-division chemistry courses (as physics electives) - 9 credit hours

Additional Requirements for the Engineering Physics Option (with the BA or BS degree in physics)

- Upper-division engineering courses (as physics electives) - 9 credit hours

There are additional requirements to earn certification to teach physics. Consult the College of Education or request the “Secondary Education: Sciences” information sheet.

*Some of the courses listed in Major Requirements will count toward the General Education Requirements.

KSDegreeStats.org

For more information on Physics at WSU visit wichita.edu/physics or call (316) 978-3190.