WHAT CAN I DO WITH A PHYSICS DEGREE?

Physicists are trained to formulate their understanding of a problem in precise terms and to communicate these ideas to others. These skills give physics majors a versatility of employment opportunities. "We love physics because..." states the physicists who are listed below. "Physics is a gateway to many different career opportunities." If you have a physics degree you may find yourself working as a television reporter, a research scientist, a university professor, or a hospital administrator.

WHAT ABOUT AFTER I GRADUATE?

Across the nation over the past decade, roughly 95 percent of graduates with bachelor’s degrees in physics found employment or enrolled in graduate school immediately following graduation. A bachelor’s degree in physics is often not the last stop in a student’s education. Graduates from Kansas State University work in many fields, including:

- Electronics engineers (Arbo Scientific)
- High school teachers (many examples)
- Patent law scientists (U.S. Patent Office)
- Accounting (Anderson Consulting)
- Systems software engineers (IBM)
- Environmental researchers (U.S. Geological Survey)
- Nuclear physicists (Lawrence Livermore National Laboratory)
- Marketing managers (General Motors)
- Software developers (Oracle)
- Medical physicists (Medical Research Laboratories)
- Atmospheric scientists (National Oceanic and Atmospheric Administration)
- Geoscientists (Energy Resources and Technology Center)
- Financial analysts (JP Morgan)
- Telecommunications engineers (AT&T)
- Utility corporation employees (Kansas Gas & Electric Company)
- Aerospace engineers (Boeing)

TIMELINESS OF PHYSICS DEGREES

When do physics degrees lose their value? "It is not a true statement..." states the physicists who are listed below. "A physics degree is a flexible degree..." If you are considering a physics degree you may find yourself working as an employee with a degree in physics.

STUDENT PROFILES

Karan Mehra | Sophomore | B.S. Physics & B.S. Electrical Engineering
Why did you decide to go into physics?
"I've known since six or seven years old that I was interested in physics. I've always been curious about how things work..." states the physicists who are listed below. "I chose physics because it's a fundamental science..." If you are considering a physics degree you may find yourself working as an employee with a degree in physics.

Tia Camarillo | Junior | B.S. Physics
Why did you decide to go into physics?
"I remember coming home from middle school and I was bored..." states the physicists who are listed below. "I chose physics because I wanted to understand how the world works..." If you are considering a physics degree you may find yourself working as an employee with a degree in physics.

Brendan Heffernan | Senior | B.S. Physics
What do you really like about physics?
"It's really interesting..." states the physicists who are listed below. "I chose physics because it's a fundamental science..." If you are considering a physics degree you may find yourself working as an employee with a degree in physics.

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Describe your experience doing undergraduate research.
"My research involves designing and collimating an apparatus to measure light scattered off of surfaces with irregularly shaped particles. This data is important for modeling how aerosols in the atmosphere affect global climate. Through my research, I've learned how to critically think about experimental setups and how to properly handle data..." states the physicists who are listed below. "I chose physics because it's a fundamental science..." If you are considering a physics degree you may find yourself working as an employee with a degree in physics.

DO YOU WONDER HOW THE WORLD WORKS?
FIND THE ANSWERS AT KANSAS STATE UNIVERSITY

FOR MORE INFORMATION, CONTACT:
DEPARTMENT OF PHYSICS
KANSAS STATE UNIVERSITY
116 CARDWELL HALL
MANHATTAN, KS 66506-7023
OFFICE: 785-532-6309
EMAIL: office@phys.ksu.edu
WEBSITE: www.phys.ksu.edu
Physics research is active and exciting. Kansas State University has a thriving physics department that has many vibrant and relevant areas of research.

**Atomic, molecular and optical physics**

Our researchers in the James Macdonald Laboratory study the fundamental behavior and interactions of atoms, molecules and light using intense ultrashort laser pulses. Our facilities include some of the most advanced laser systems, putting us at the forefront of ultrashort pulse laser science. The lasers are used to study the physics of intense laser interactions with atoms and molecules, in order to understand the basic properties of nature, as well as develop applications in telecommunications.

**Cosmology and particle astrophysics**

Our cosmology group seeks to provide answers to many fundamental questions of physics such as the existence of extra dimensions of space, dark energy and the nature of the dark matter of the universe, and the origin of mass. The group members collaborate with many groups throughout the world, including Fermilab near Chicago, and with CERN in Switzerland, where recently they were involved in discovering the Higgs boson.

**Electron microscopy**

K-State’s electron microscopy is second to none. For example, innovations using electron microscopes to store more data while becoming increasingly smaller. Through use of MRI, lasers and other cutting-edge technology, we can advance our understanding of health and disease. Laser microscopy allows our computers to use that knowledge to detect and treat disease.

**Self and condensed matter physics**

Our condensed-matter physics group is dedicated to the development of new materials and technologies. We are working on creating new materials and technologies that can be used in a variety of applications, such as improving the performance of solar cells, developing new materials for energy storage, and creating new electronic devices.

**Physics education research**

The physics education research group conducts research related to the teaching and learning of physics, and develops learning materials based on that research and the research of others. The group continues to develop cutting-edge technology, as well as improve classroom and peer-to-peer teacher education.

**High-energy physics**

This group studies physics at the smallest known scales of the universe, the indivisible particles that make up atoms and matter. The group seeks to provide answers to many fundamental questions of physics such as the existence of extra dimensions of space, dark energy and the nature of the dark matter of the universe, and the origin of mass. The group members collaborate with many groups throughout the world, including Fermilab near Chicago, and with CERN in Switzerland, where recently they were involved in discovering the Higgs boson.

**WHAT IS PHYSICS?**

Physics is the study of natural forces in the universe. By studying these forces, we can understand why and how natural processes work the way they do. When we understand energy and the interactions between them, we can then use that knowledge to discover and create new ideas and technologies. The fundamental ideas of physics underlie all science — astronomy, biology, chemistry and engineering — and physics is essential to applied science and engineering.

**WHY STUDY PHYSICS AT K-STATE?**

The Kansas State University Department of Physics is one of the top-funded physics departments among its peers in the United States, receiving approximately $17 million in annual external funding. K-State possesses one of the most complete and modern facilities for physics education and research in the central United States.

**WHAT ARE MY DEGREE OPTIONS?**

Regardless of which degree path you choose, your physics course work will allow for hands-on experiences before graduation in physics research areas.

- **Bachelor of Science in physics**
  - This degree program provides professional preparation for students who plan to pursue advanced degrees in physics.
- **Bachelor of Science in general physics**
  - This degree program provides a broad foundation in fundamental principles for students who wish to pursue careers in technical areas or continue professional or graduate studies in areas outside of physics. This option is often chosen when pursuing a second major or degree.
- **Bachelor of Arts in physics**
  - This degree program combines a foundation in physics with a broad general education for students who wish to pursue careers in non-technical areas or continue professional or graduate studies in areas outside of physics.

**WHAT ARE SOME RESEARCH AREAS?**

**Physics education research**

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