

Physics

Curriculum

The Physics department offers several distinct and flexible degree options which lead to a Bachelor of Science in Physics. Depending on your career interests, one of these core degree choices, combined with the appropriate electives, can prepare you for a career in science, engineering or another technical related position.

Bachelor of Science in Physics

Bachelor of Science in Applied Physics

Physics majors

develop the following skills:

- Investigation
- Define research problems
- Outline research models
- Establish hypotheses
- Gather/analyze data
- See relationships between factors
- Develop and write research proposals
- Review scientific literature
- Inform, explain, instruct
- Prepare technical reports
- Measure distances and relationships
- Perform calculations
- Mathematical modeling & Simulation
- Design equipment
- Identify and classify materials
- Establish experimental designs
- Develop methods of creative thinking
- Enhance problem solving skills
- Put ideas into action

Computer Skills: Develop skills including symbolic manipulation & computing theory, statistical analysis, sampling techniques, and data acquisition.

Modeling: Development and use of the mathematical model of physical phenomena and understanding the importance and limitations of the predictions based on these models.

Get Involved

Society of Physics Students

For a complete list of student clubs and organizations visit campus link
<https://campuslink.okstate.edu>

College of Arts & Sciences Career Services

213 Life Science East
 Tel: 405 744 5658

For appointments and resources:
<http://cascareers.okstate.edu>

Job and Internship Websites

- American Institute of Physics Teachers
<http://aapt.org/jobs>
- American Physical Society
<http://www.aps.org/careers/employment/jobcenter.cfm>
<http://www.aps.org/careers/employment/internships.cfm>
- Association of Science – Technology Center
<http://astc.org/profdev/jobs/jobs.htm>
- Bright Recruits
<http://brightrecruits.com/>
- Health Physics Employment Opportunities
<http://www.physics.isu.edu/radinf/jobs.htm>
- High Energy Physics Jobs
<https://academicjobsonline.org/ajo/HEP>
<http://inspirehep.net/collection/Jobs?ln=en>
- Jobs in Optics - the business of photonics
<http://optics.org/jobs>
- Physics and Astronomy Online
<http://www.physlink.com/Community/JobBoard.cfm>
- Physics Today
<http://jobs.physicstoday.org/jobs/>
- NASA – Physics Internship
http://www.nasa.gov/offices/education/programs/descriptions/Applied_Physics_Laboratory_Internship_Project.html#.UqD30-KB0S4
- New Science Careers
<http://jobs.sciencecareers.org/jobs/physics/>
- Scientist Jobs
<http://jobs.newscientist.com/jobs/physics/>
- Society of Physics Students
<http://www.spsnational.org/programs/internships/>
- US Department of Energy
<http://ed.fnal.gov/interns/>

Physics Career Paths...

Environmental: Physics is vital to understanding everything from the earth's core to the very top of the atmosphere.

Buildings and structures: Once you have completed a physics degree you can train to become an Architect or a Civil Engineer. Architects design all sorts of buildings, everything from schools to skyscrapers. Civil engineers build the other structures that are vital for modern society - such as bridges, dams and tunnels.

Transport: With the advent of commercial spaceflight and the need to develop more environmentally friendly ways of getting around, the future of transport relies on the science of physics.

Sports and games: A career in which you design the technology that helps us play and compete, physics will allow you to apply science to sports. Physics is behind much of the technology in sports and games.

Energy: People with a background in physics will play a vital role in everything from improving existing technology to make it more energy efficient to developing new technology in efforts to reduce global energy consumption and develop new ways of generating electricity.

Education: Teaching physics, at a college or university, will allow you to pass on your passions for the subject to others and also may allow you to continue researching in your area of interest.

Medicine: Understanding physics is important if you want to work in modern medicine. Physics has revolutionized the diagnosis and treatment of illness.

Space: While few become astronauts, studying physics can certainly help land you a job in space or studying space and technology used to explore planets and our solar system.

Law and finance: In finance, it is a physicist's ability to model complex systems that is particularly valued; billions of dollars rest on predicting the future behavior of global markets. A physics education is also important to law - forensics requires a detailed understanding of how objects move and the forces involved when analyzing the scene of a crime or accident.

Music and television: From the sound engineer who controls the mix at a music concert to the special effects technician working on the latest action movie, many of the people that work in the media industry need physics know-how.

Visit <http://www.aip.org/careersvc/pify/indigo.html> for a graphic on careers in physics.

Job Titles

Acoustical Physicist	Engineer
Laser Fusion Scientist	Material Scientist
Gravity Researcher	Tunnel Engineer
Satellite Engineer	Pyrotechnician
Ice Scientist	Particle Physicist
Sound Engineer	Clinical Scientist
TV Science Advisor	Cosmologist
Optical Physicist	Biophysicist
Healthy Physicist	Fluid Physicist
Research Physicist	Geophysicist
Molecular Physicist	Astrophysicist
Technical consultant	Medical Physicist
Plasma Physicist	Nuclear Physicist
Materials Scientists	Teacher/Professor
Computer Games Designer	Nanotechnologist
Fiber Optic Engineer	Accelerator Operator
Quality Assurance Specialist	
Systems Analyst	
Lab Technician	
Research Technician	

Types of Employers

- Aircraft and instrument manufacturers
- Information Technology companies
- Chemical Manufacturers
- Production Facilities
- Defense manufacturing companies
- Research and Development institutes
- Educational Institutions
- Scientific Journals
- Electrical Equipment companies
- Technical consulting firms
- Engineering firms
- Testing labs
- Health Care facilities
- Oil, gas, and electric companies
- Centers for Disease Control and Prevention
- National Aeronautics & Space Admin.
- Department of Agriculture
- National Bureau of Standards
- Department of Energy
- National Institutes of Health
- Department of Defense
- National Science Foundation
- Occupational Safety & Healthy Admin.
- NASA
- Environmental Protection Agency