What Can I Do With a Major In…

Physics

General information on Careers for Physics Majors:

Are you curious about how the world works? Ever thought about exploring how electrons and photons enable cell phones, satellites, computers and the Internet or what black holes, dark matter and supernovae tell us about the universe? Physics is the study of the structure and interaction of matter and energy, and it plays a role in all aspects of our daily lives. Physics can be used to explain everything from how automobile airbags inflate to the ways electrons or black holes behave.

Physicists use math, problem solving experience, analytical skills and their imaginations to study the structure and interaction of matter and energy — the way things work. This information is important in:

- Semiconductor and photonics technology
- Medical diagnostics and therapy
- Energy research such as the development of superbatteries and solar cells
- Space and atmospheric sciences
- Science-enabled education, law practice, technology business and journalism

By majoring in physics at the University of North Texas, you can prepare for a career with aerospace and automobile manufacturers, computer software companies, electrical equipment manufacturers, engineering services firms, and independent research and development laboratories. The armed forces, the departments of Defense and Commerce, national laboratories and NASA employ physics graduates in research careers.

You may teach high school physics or work for a manufacturer of technical equipment. A major in physics also can prepare you for medical school or a graduate program in engineering. A
bachelor’s degree in physics will qualify you for some beginning research and development jobs, but you will need a master’s and possibly a doctoral degree for most advanced research or university teaching positions.

Visit government laboratories or research centers to learn more about opportunities in the field. Schedule informational interviews to learn about the profession and specific career paths. Gain experience using scientific instruments and equipment. Computer skills are critical. A bachelor’s degree will qualify for positions as research assistants, high-level technicians, or computer specialists, as well as nontechnical work in publishing or sales. A graduate degree and post-graduate experience will allow for more responsibility and advancement in the field of physics. An earned doctorate is required for college or university teaching, advanced research, and administrative positions.

**Majoring in Physics at UNT:**

As a physics major, you will study laws of mechanics and how objects move; thermal physics, or properties of heat and energy; principles of electricity and magnetism; mathematical methods of physics; physics of the atom and nucleus; quantum mechanics; and statistical physics. You may take an electronics course in which you will build modern digital and analog circuits. If you plan to become a researcher in physics, you may want to take additional courses in an area of specialization — electronics, nuclear physics, optics or quantum mechanics.

Many faculty members are internationally known in their fields. Their expertise includes:

- Computational simulation of materials and their electronic, thermoelectric and optical properties
- Creation of novel, nanostructured optical materials
- Experimental and theoretical atomic physics
- Ion beam modification and analysis of technologically relevant and biological materials
- Modeling of the human brain and other types of networks
- Observation and modeling of active galactic nuclei
- Spectroscopy of semiconductors and biological materials to learn their function and create novel ones

Because of this research activity, undergraduates are often involved in groundbreaking projects conducted in our state-of-the-art facilities.
*For more information about specific classes and requirements for students beginning in 2016-2017 follow the links provided below.


**Related Career Titles:**

**Entry-Level (Possible with a Bachelor’s Degree)**

Research Assistant/Technician
Product Engineer

**Jobs Requiring Additional Experience (Master’s, Doctorate, Certifications)**

[Astronomer]/Space Scientist
Astrophysicist
Radio Astronomer
Biophysicist
Health Physicist
Research Scientist
Professor
Geophysicist
Acoustical Scientist
Companies Hiring Students with Bachelors in Physics

- 3M
- Accenture
- Accruent
- Adecco USA
- Aerotek
- Amazon
- American Museum of Natural History
- Apple
- Autoliv
- BAE Systems
- Bain & Company
- Battelle
- Bloomberg LP
- Boeing
- Booz Allen Hamilton
- Broad Institute of MIT & Harvard
- Capital One
- Cerner Corporation
- Cisco Systems
- Deloitte
- Department of Defense
- Deutsche Bank
- Eaton Corporation
- EMC Corporation
- Emerson Process Management
- Epic Systems
- Exelon Corporation
- GE Aviation Systems
- Gemini Observatory
- General Electric
- General Motors
- GlobalFoundries
- Goldman Sachs
- Google
- Guided Discoveries, Inc.
- Halliburton
- Hewlett-Packard
- IBM
- Intel
- InterSystems Corporation
- Jet Propulsion Lab
- John Deere
- Johns Hopkins University Applied Physics Laboratory
- L-3 Communications
- Lawrence Berkeley National Lab
- Leidos
- Lockheed Martin
- Los Alamos National Laboratory
- Massachusetts General Hospital
- Mevion Medical Systems
- Micron Technology
- Microsoft
- MIT Lincoln Lab
- Museum of Science, Boston
- National Aeronautics and Space Administration (NASA)
- National Institute of Standards and Technology (NIST)
- National Institutes of Health (NIH)
- National Instruments
- NAVAIR
- Naval Surface Warfare Center
- Northrop Grumman
- NYU Langone Radiology at Center for Biomedical Imaging
• Oak Ridge Institute for Science and Education
• Oak Ridge National Lab
• Oliver Wyman
• Pace Analytical Services
• Pacific Northwest National Laboratory
• Raytheon
• Rockwell Collins
• Schneider Electric
• SLAC National Accelerator Lab
• Smithsonian Astrophysical Observatory
• Space Telescope Science Institute (STScI)

• Sylvan Learning Center
• Thor Labs
• Underwriters Laboratories (UL)
• United States Air Force
• United States Army
• United States Marine Corps
• United States Navy
• United States Patent and Trademark Office
• University of California, Berkeley
• University of Chicago
• University of Washington

**Learn More about Physics Careers**


**Additional Resources**


Eagle Careers: [http://careercenter.unt.edu/eagle_network.html](http://careercenter.unt.edu/eagle_network.html)

LinkedIn: [http://university.linkedin.com/linkedin-for-students.html](http://university.linkedin.com/linkedin-for-students.html)

USAjobs: [https://www.usajobs.gov/StudentsAndGrads](https://www.usajobs.gov/StudentsAndGrads)

CareerOneStop: [http://www.careeronestop.org/](http://www.careeronestop.org/)

Need help figuring all this out? Call the Career Center and make an appointment with your Career Advisor! You can also get help with resume and cover letter writing and interview skills preparation.

*Information for this handout compiled from the following Career Services Departments:

Central Washington University: http://www.cwu.edu/career/

Indiana University-Purdue University Fort Wayne: http://www.ipfw.edu/offices/career/

Texas State University: http://www.careerservices.txstate.edu/

University of North Carolina Wilmington: http://www.uncw.edu/career/index.html

University of North Texas: http://careercenter.unt.edu/

University of Tennessee-Knoxville: http://career.utk.edu/

University of Wisconsin-Eau Claire: http://www.uwec.edu/Career/index.htm