

# Physics

## Introduction

Physics deals with the properties and laws of matter, motion, heat, light and electricity to develop a quantitative understanding of the physical world. In addition to expanding our knowledge about the universe we live in, research in physics has led to the development of many devices for the benefit of mankind. In the years to come physics will play a major role in helping to solve the energy crisis. As the basic science, the results of research in physics have also had an impact on a wide variety of other fields, such as medicine, engineering, chemistry, ecology and archaeology.

The physics curriculum at Guilford is flexible and personalized, due to the many paths that physics graduates can pursue after graduation. The common thread connecting the different goals and focuses of our students and faculty is the physicist's approach to thinking about, modeling, and understanding the universe. This process relies on clear, analytical, and often abstract thinking but is ultimately grounded in concrete reality as exposed by experiment. Reaching a clear, realistic understanding of some aspect of the world is of value in not only science and engineering but also business, law, medicine, and many other fields. The physics program at Guilford emphasizes research and experimentation throughout its curriculum.

[Guilford Catalog Information](#)

## Related Career Titles for Physics Majors

Test Engineer	Lawyer
Process Engineer	Mathematics/Physics Teacher
Meteorologist	Medical Physicist
Industrial Hygienist	Medical Products Designer
Technical Writer	Molecular Physicist
Computer Systems Engineer	National Laboratory Research Administrator
Mathematician	Nuclear Magnetic Resonance Laboratory Technician
Aerodynamist	Nuclear Physicist
Physicist	Nuclear Power Plant Project Manager
Physics Researcher	Optical Medical Devices Designer
Astronomer	Particle Accelerator Operations Analyst
Astrophysicist	Physiognomist
Aerospace Nondestructive Testing	Plasma Physicist
Astronomer	Process Engineer
Atomic Physicist	Radiological Laboratory Director
Biophysicist	Research and Development Specialist
Cardiac Imaging Researcher	Research Assistant
Chemical Physicist	Satellite Data Analyst
Computer Specialist	Satellite Missions Analyst
Computer System Engineer	Science Writer
Engineer	Seismologist
Fluids Physicist	Solid Earth Physicist
Geodesist	Solid State Physicist
Geophysicist	Stratigrapher
High-Tech Designer, Oil Industry	Technical Consultant
Hydrologist	Technical Salesperson
Laboratory Technician	Technical Writer

## Related Major Skills

- ‡ Ability to organize, analyze, and interpret data
- ‡ Making observations and sound decisions
- ‡ Aptitude for accurate details
- ‡ Questioning and problem solving
- ‡ Strong background in mathematics
- ‡ Capacity for critical and analytical thought
- ‡ Strong background in physical sciences
- ‡ Generating research ideas and projects

- ‡ Utilizing data derived from computers
- ‡ Define research problems and develop research models
- ‡ Understand relationships between factors
- ‡ Ability to inform, explain, and instruct
- ‡ Develop and write research proposals
- ‡ Draw meaningful conclusions

## Related Web Sites

### Job Listings/Job Search

Tiptop Jobs Online (Job listings for physicists) <http://tiptop.iop.org/>  
 International Academic and Research Positions in Physics <http://www.physics.umd.edu/robot/jobs/jobmenu.html>  
 REU Sites Listings <http://www.nsf.gov/home/crssprgm/reu/reulist.htm>  
 Careers for Physicists <http://www.aip.org/careercornerstone/search>  
 Physics Web (UK job listings) <http://physicsweb.org/jobs/>  
 AIP Career Services <http://www.aip.org/careersvc/>  
 Jobs in Physics, Astronomy, and Other Fields <http://www.phys-astro.sonoma.edu/people/faculty/tenn/Jobs.html>  
 Job Listings from the journal *Science* <http://recruit.sciencemag.org/jobsearch.dtl>  
 High Energy Physics Employment Links <http://www.hep.net/employment/list-jobs.html>  
 Science Jobs <http://www.scijobs.org/>

### Career Planning and Information

What Can I Do With A Physics Degree? <http://stuser.wmdc.edu/Career/majors/Physics.html>  
 Physics Job Titles <http://www.haverford.edu/physics-astro/Careers.html>  
 Physics Education and Employment Trends <http://www.aip.org/statistics/trends/trends.htm>  
 Career and Job Opportunities in Physics and Related Areas <http://www.phy.ilstu.edu/physjobs.html>  
 Careers with Physics <http://careers.iop.org/>  
 What Can You Do With A Physics Major After Graduation? <http://dept.physics.upenn.edu/undergraduate/whatdo.html>  
 Choosing and Being Admitted to a Graduate Program in Physics <http://dept.physics.upenn.edu/undergraduate/gradschool.html>  
 Physics Success Stories <http://www.aip.org/success>  
 Careers in Astronomy <http://www.aas.org/~education/career.html>  
 Careers in Health Physics <http://www.hps.org/publicinformation/hpcareers.html>  
 Careers in Physical Sciences <http://www.mtholyoke.edu/offices/careers/webx/webexchange.htm>  
 A Physics Career <http://www.phy.duke.edu/undergraduate/career.html>  
 Career Resources for Physics Students [http://www.physics.uiuc.edu/Career\\_Forum/index.html](http://www.physics.uiuc.edu/Career_Forum/index.html)

### Organizations and Associations

American Institute of Physics <http://www.aip.org/>  
 American Physical Society <http://www.aps.org/>  
 Institute of Physics <http://www.iop.org/>  
 American Astronomical Society <http://www.aas.org/>  
 American Geophysical Union <http://www.agu.org/>

### Miscellaneous Resources

Guilford College Physics Department <http://www.guilford.edu/original/Academic/Physics/>  
 Cool Links to Hot Topics in Physics <http://www.physics.adelaide.edu.au/cssm/PhysicsLinks.html>  
 How to Succeed in Grad School: A Guide for Students and Advisors <http://info.acm.org/crossroads/xrds1-2/advice1.html>  
 American Institute of Physics Weekly News <http://newton.ex.ac.uk/aip/>  
 Science Next Wave Global <http://nextwave.sciencemag.org/>  
 Physics and Astronomy Online Education and Reference <http://www.physlink.com/>