Career Guide

Physics & Astronomy

The Department of Physics and Astronomy at Humboldt State University offers both a Bachelor of Arts in Physics, and a Bachelor of Science in Physics with options in Applied Physics or Astronomy. The B.S. in physics is designed for those students who expect to enter one of the various fields of research or development in government or in private industry. The curriculum, in addition, serves those students interested in continuing onto graduate study and those preparing to teach at all levels. The B.A. in physics is less specialized and more adaptable to studies in various fields, including preparation for teaching a the secondary school level.

The physics student should develop: a basic interest in natural phenomena; a good memory, imagination, inquisitive nature; higher mathematical skills; the ability to concentrate for sustained periods and the patience to repeat an experiment; the ability to observe facts and draw logical conclusions; and a mild distrust of conventional assumptions. At Humboldt State University you’ll find close working relationships with your professors, small classes and labs, hands-on use of modern equipment, opportunities for original research and rigorous preparation for graduate school. The need for science and math graduates, as well as teachers in those subjects, has never been greater.

Related Job Titles

The following list is not meant to be all inclusive; many other job alternatives and titles may exist. Many of the job titles listed require further education.

- Physicists
- Geophysicists
- Geochemist
- Geologist
- Geodesist
- Mineralogist
- Petrologist
- Seismologists
- Physical Chemist
- Physics/Physical Science Teacher
- Nuclear Physicists
- Oceanographer
- Fusion Engineer
- Astronomer
- Biophysicists
- Biomedical Engineer
- Meteorologist
- Weather Observer
- Weather Forecaster
- Hydrologist
- Photogrammetrist
- Air Pollution Operations Specialist
- Cartographer
- Aerospace Scientist
- Electronics Engineer
- Quality Assurance
- Industrial Hygienist
- Consumer Safety Inspector
- Systems Analyst
- Statistician
- Patent Examiner
- Patent Lawyer
- Senior Research Engineer
- Staff Scientist
- Technical Programmer
- Technical Publications Writer
- Museum Technician
- Laboratory Assistant
- Consultant

Possible Employers

Private
Engineering Firms
Aerospace Industries
Utility Companies
Electronics Firms
Consulting Firms
Medical Labs
Manufacturing Firms
Petroleum Companies
Hospitals
Universities & Colleges
Scientific Laboratories
Publishing Companies
Research & Development Companies
Planetariums/Observatories

Federal Agencies:
Department of Energy
U.S. Bureau of Standards
Consumer Safety Office
National Weather Service
NOAA
NASA
Air Force
Army
Naval Research Lab
Department of Defense
EPA
Department of Commerce
Department of Transportation
Department of Agriculture
Department of Health & Human Services

State, County & Local Agencies:
Utilities
Rapid Transit System
Educational Institutions
Airports
Health Services
Museums
Weather Bureaus
Energy Agencies
Camps
A 4-year College Degree is designed to give you the Top Skills employers are looking for, According to the National Association of Colleges and Employers, those skills and abilities are:

- Effective Communication
- Working in a team structure
- Making decisions/solving problems
- Planning/organizing and prioritizing work
- Obtaining and processing information
- Analyzing quantitative data
- Proficiency with computers and software
- Creating and editing written reports
- Selling and influencing others

## Marketable Skills In Your Major

### Communication
- Summarizing research findings
- Writing research proposals
- Teaching basic physics ideas
- Contributing to team projects

### Technical Skills
- Experience using scientific tools and instruments
- Ability to design software systems to process research data
- Designing and using specialized equipment
- Establishing and controlling experimental designs

### Problem-Solving
- Ability of understand complex scientific problems
- Breaking complex problems into component parts
- Knowledge of physics’ ability to improve industrial processes
- Ability to think critically about applications in physics

### Organizational
- Planning and managing projects
- Organizing ideas and materials
- Integrating theoretical approaches

## Resources

### PROFESSIONAL ASSOCIATIONS
- American Association of Physicists in Medicine
  www.aapm.org/
- American Association of Physics Teachers
  www.aapt.org/
- American Astronomical Society
  aas.org/
- American Institute of Physics
  www.aip.org/
- American Physical Society
  www.aps.org/

### GRADUATE SCHOOL
- Getting In: An Applicant's Guide to Graduate School Admissions
  www.gettingintogradschool.com/
- GradSchools.com
  www.gradschools.com
- US News & World Report
  grad-schools.usnews.rankingsandreviews.com/best-graduate-schools
- Video: Getting into Highly Competitive Graduate School (Donald Asher)

### JOB SEARCH BOARDS
- Physics Job Online
  physicsworld.com/cws/jobs
- Health Physics Employment Opportunities
  www.physics.isu.edu/radinf/jobs.htm
- Science Jobs
  www.thesciencejobs.com/
- New Scientists Jobs
  www.newscientistjobs.com/jobs/default.aspx
- American Meteorological Society
  www.ametsoc.org/careercenter/index.html
- Physics Today
  www.physicstoday.org/jobs/

### INTERNSHIPS
- HSU Career Center’s Springboard
  www.humboldt.edu/career
- National Science Foundation (REU’s)
  www.nsf.gov/crssprgm/reu/index.jsp
- Internship Series Online
  (user name=Humboldt; password=GoJacks)
  www.internships-usa.com/
- NASA Ames Internships
  www.nasa.gov/centers/ames/education/internships
- American Physical Society
  www.aps.org/careers/employment/internships.cfm

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