Physics

Physics is the study of how matter and energy work together. Physicists study natural systems and phenomena such as photons, quarks, atoms, solids, nanostructures, liquid crystals, superconductors, plasmas, sound and other pressure waves, planetary climates, stars, quasars, galaxies and black holes. Physics contributes to the fundamental understanding of nature as well as technological developments such as nanotechnology, superconductors, lasers, magnetic resonance, and space exploration. Colorado Mesa University offers a B.S. in Physical Sciences with a concentration in Physics.

The Physics degree at Colorado Mesa University is designed to prepare students for careers in physics and associated technical fields or for graduate school in physics. The Physics program at CMU allows students to work closely with faculty members. The program offers low student-to-teacher ratios, which allows for active involvement from undergraduates in faculty research. The program also offers numerous opportunities for research in experimental and theoretical physics. Students have the opportunity to learn beyond the classroom through independent study and informal individual mentorship. Colorado Mesa University hosts an active chapter of the Society of Physics Students, which promotes research, outreach at K-12 organizations, and professional and career development at the undergraduate level. CMU also has many clubs and organizations that can help prepare students for advanced study in their field or build campus and community connections.

A person in this career field may:

- Define research problems.
- Design equipment to be used in the field or lab.
- Develop and write research proposals.
- Establish hypotheses.
- Evaluate ideas.
- Gather and analyze data.
- Observe data obtained through the use of research instruments.
- Perform calculations.
- Prepare technical reports.
- See relationships among factors.
- Utilize mathematical formulas to analyze data and conduct research to observe, measure, or manipulate physical phenomena.
- Develop, design, or use lasers, masers, infrared, and other light-emitting and light-sensitive devices for various commercial, medical, or scientific purposes.
- Research and engineer or consult on the use of physical phenomena such as radiation, light, wind, or water for the purpose of energy generation.

Major Skills & Characteristics

- Ability to write and speak well
- Problem solving skills
- Work well in a team
- Learn new information quickly
- Use instruments
- Good hand writing
- Motivated
- Organized
- Proficiency in math
- Scientific reasoning
- Computer knowledge
- Good study habits
- Good note-taking skills

Organizations That Commonly Employ Physics Majors

- Utility companies
- Federal Government
- Colleges/Universities
- Weather bureaus
- Hospitals
- Airports
- Professional journals
- Businesses
- Mining/petroleum industry
- Aerospace company
- Observatory
- National laboratory
- Satellite manufacturer
- Museum
- Science center

Related Careers

- Acoustics physicist
- Aerodynamics
- Aerospace nondestructive testing
- Agriculture scientist
- Astronomer
- Astrophysicist
- Atomic physicist
- Biophysicist
- Cardiac imaging researcher
- Chemical physicist
- Engineer
- Fluids physicist
- Geodesist
- Geophysicist
- High-tech designer
- Laboratory technician
- Lawyer, tech specialty
- Mathematician
- Medical physicist
- Meteorologist
- Molecular physicist
- National lab research administrator
- Nuclear magnetic resonance lab tech
- Nuclear physicist
- Nuclear power plant project manager
- Oceanographer
- Optometrist
- Particle accelerator operations analyst
- Physicist
- Plasma Physicist
- Research and development scientist
- Research assistant
- Satellite data analyst
- Satellite missions analyst
- Science teacher
- Science writer
- Scientific photographer
- Seismologist
- Solid earth physicist
- Systems analyst
- Technical analyst

Note: *Some of the occupations listed above may require additional education, experience, or training beyond a Bachelor's Degree. To research these occupations further, use the Career Research Resources links below.*

Career Research Resources:

Use these sites to research information about specific occupations such as nature of the work, training or qualifications, employment or job outlook, projections, earnings and wages.

Occupational Outlook Handbook: http://www.bls.gov/ooh/

The Bureau of Labor Statistics

- **View OOH information on Life and Physical Science Professions** at **http://www.bls.gov/ooh/life-physical-and-social-science/home.htm**
- Use the A-Z index to select the occupation you are researching.
- O*NET-Online: http://www.onetonline.org

The U.S. Department of Labor

- In the occupational search box type in key words, job titles, or occupational codes to research various careers.

My Future.com: http://www.myfuture.com

The Department of Defense

- This site compiles information from departments of Commerce, Education and Labor.

Organizations and Associations Links

- American Astronomical Society: http://aas.org
- American Geophysical Union: www.agu.org
- American Institute of Physics: www.aip.org
- American Meteorological Society: www.ametsoc.org
- American Physical Society: http://aps.org
- Institute of physics: www.iop.org
- National Society of Black Physicists: www.nsbp.org

Job Listings/Job Search Sites:

- American Meteorological Society: www.ametsoc.org
- American Physical Society: www.aps.org
- Career Jet: www.careerjet.com
- Indeed: www.indeed.com
- Physics Honor Society (Sigma Pi Sigma): http://jobs.spsnational.org
- Physics Jobs: www.physicsjobs.com
- Physics Today: http://careers.physicstoday.org