

What can I do with a major in...

Physics

Career Advisor: George King, Jepson 427, 540-654-1432, email: gking@umw.edu

GENERAL DESCRIPTION

Physics is the attempt to investigate methodically the basic components and processes of nature. It involves a belief, strongly supported by past experiences, that the physical complexities of nature can be explained in terms of simpler entities.

Physicists study all aspects of the physical world ranging from the structure of matter to the various forms of energy such as heat, light, sound, electricity, and magnetism. From their research they develop theories and discover laws about the forces at work within the universe. Most physicists are engaged in research and development, and specialize in one or more branches of the science such as mechanics, optics, acoustics, electronics, nuclear, or solid-state physics. Approximately one half of undergraduates in physics pursue graduate studies receive MS and Ph.D. degrees in physics and related fields. Others embark on careers in secondary education, in industry, with the government, or careers in fields other than science, such as law and business.

Physicists with a bachelor's degree can qualify for jobs in applied research and development in private industry or government service, or secondary school teaching. Graduate degrees are required for those who wish to conduct research projects or enter college teaching. The job titles and hiring institutions which follow are meant to give you an idea of the careers available to physics majors, however many other possibilities also exist. You are encouraged to explore all career paths that interest you.

POTENTIAL JOB TITLES

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| Acoustician | Microelectronics engineer |
| Analyst | Musician, digital |
| Astronomer (astrophysicist) | Nuclear magnetic resonance |
| Biophysicist | Oceanographer |
| Cardiac imaging researcher | Patent attorney |
| Chemist | Photogrammetrist (surveyor) |
| Computer programmer | Physical geographer |
| Editor, science & technical publications | Physical or laboratory tester |
| Engineer (aerospace, development & planning, electronic, industrial, sales) | Physician |
| Engineer of systems development | Physicist (atomic, fluids, electronic, health, heat, light, mechanic, nuclear, plasma, solid state/earth) |
| Engineering/science technician | Phsiognomist |
| Entertainment (sound, light, mixing) | Pilot, airplane |
| Environmental health specialist | Quality control specialist |
| Equipment designer | Radiologic (X-ray technologist) |
| Failure analyst | Research and development |
| Geologist | Sales worker, scientific apparatus |
| Geophysicist (seismologist) | Teacher |
| Industrial health engineer | Technical illustrator |
| Industrial hygienist | Theater stager |
| Management | Writer: technical publications |
| Medical technologist | |
| Metallurgist | |
| Meteorologist | |

REPRESENTATIVE HIRING INSTITUTIONS

Airports
Armed Forces, Research & Development
Atomic and nuclear laboratories
Atomic Energy Commission
Banks and Financial Institutions
Colleges, schools, & educational institutions
Contractors, defense and others
Consulting firms
Engineering firms
Government agencies:
 Department of Commerce
 Department of Defense
Hard- and soft-ware computer companies
Weather bureaus

Hospitals
Manufacturing & processing firms
Medical business
Mining/petroleum companies
Professional & technical journals
Publishers
Radio/TV industry
Research and development firms
Sales and marketing companies
School institutions
Technology companies
Telecommunications and media companies
Utilities companies

WHERE DO UMW PHYSICS MAJORS GO?

EMPLOYERS/INTERNSHIP SITES

- MDA Information Systems, Inc., Geospatial Division
- Joint Warfare Analysis Dept. (J-Dept)
- Naval Research Laboratory

GRADUATE SCHOOLS

- American University, Master of Public Administration
- College of William and Mary, Ph.D. in Physics
- George Mason University, MBA in Finance
- George Washington University- School of Business, MBA in Finance and International Finance
- George Washington University, Master of Science in Computer Science with a focus in Computer Graphics
- Green Mountain College, Master of Science in Environmental Studies
- Rensselaer Polytechnic Institute, Ph.D. Physics
- University of California, Berkeley, Ph.D. in Physical, Inorganic and Electro- Chemistry

FOR MORE INFORMATION CONTACT

1. American Astronomical Society: www.aas.org
2. American Institute of Physics: www.aip.org
3. American Society for Engineering Education: www.asee.org
4. Society of Women Engineers: www.swe.org

**The Office of Career Services also maintains a resource library with a variety of books and other printed material where students can access additional information about their major or field of interest. Visit us in Lee Hall, Room 308 to learn more.*