Potential Careers

NMU's Physics Program prepares students for employment in the following careers:

Occupations

- Astrophysicist
- Biophysicist
- Congressional Researcher
- Department of Defense
- Department of Energy
- Educator
- Engineering (Electrical, Mechanical, Chemical)
- Geophysicist
- Mathematician
- Medical Physicist
- NASA
- Oceanographer
- Peace Corps/VISTA Volunteer
- Physicist
- Research Technician
- Sales (Technical Products)
- Technical Librarian
- Technical Writer

Additional Resources and Info

For Career Planning and Opportunities:

Academic & Career Advisement Center
3302.1 C.B. Hedgcock
906-227-2971
www.nmu.edu/acac

Physics Department
2515 West Science
906-227-2450
www.nmu.edu/physics

For Job Search, Resume and Career Information:

Career Services
3302.3 C.B. Hedgcock
906-227-2800
www.nmu.edu/careers

For Information about NMU Student Organizations Associated with this Major Contact:

Center for Student Enrichment
1206 University Center
906-227-2439
www.nmu.edu/cse

Physics Club
ddonovan@nmu.edu

Pre-Medicine Club
dlucas@nmu.edu

Internet Resource Links:

www.careers.org
www.careerresource.net
www.bls.gov/oco Occupational Outlook Handbook

For Career Information with National Organizations:

www.aps.org American Physical Society
www.aip.org American Institute of Physics
www.pha.jhu.edu Society of Physics Students

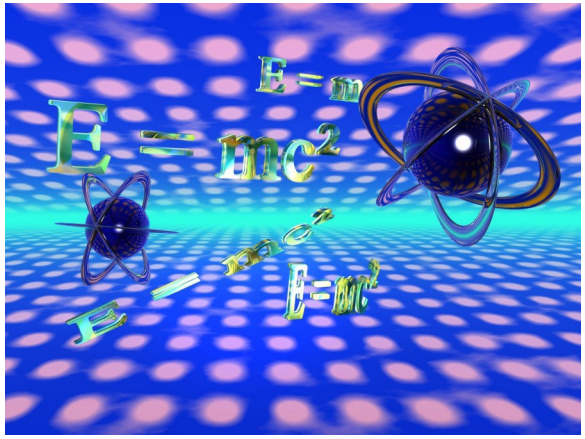
Current as of Fall 2015

Provided by:

The Academic & Career Advisement Center

What To Do With A Major In....

Physics



Northern Michigan University

Physics

A physics major could be for you if you are interested in the study of physical phenomena in our universe. While closely related to biology and chemistry, physics seeks to explain and describe physical interactions using the concepts of force and energy. Introductory astronomy courses are also available.

The career objectives in physics are broad, including scientific research, teaching, engineering, business, health, and related fields. The study of physics at the undergraduate level can prepare you for a career in a diverse range of fields, but it will be necessary to attain an advanced degree to prepare for some job opportunities.

Skills and Competencies

With a physics major, your analyzation, observation, and research skills will be strengthened. An extensive mathematics background is a requirement in this field, so you should be sure that your math skills are strong, at least up through calculus and differential equations. As a physics major your writing skills—absolutely necessary in any career field today—are developed and fine-tuned by means of lab reports and research assignments. Your reading skills will improve through your analysis, evaluation, and observation of data and/or experiments. Speaking skills will be enhanced through presentations and experimental results from class and undergraduate research. Because of the heavy research/experimental component of many physics courses, you can expect to be working directly with groups of people and perhaps directing projects. Remember, the more advanced the course is, the heavier the concentration will be upon you designing some of your own projects, developing/analyzing ideas, and solving problems. Strong computer skills are needed in most science-related jobs today, so be sure that you are familiar and comfortable with working on a computer.

Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with liberal studies and graduation requirements.

Core

PH 220 Introductory Physics I (5 cr.)
PH 221 Introductory Physics II (5 cr.)
PH 322 Modern Physics (4 cr.)
PH 380 Intermediate Electricity and Magnetism (3 cr.) *or*
PH 375 Analytical Mechanics (3 cr.)
PH 480 Senior Physics Seminar (1-2 cr.)
Physics Electives (17 cr.)
PH 370, PH 375, PH 380, PH 393, and PH 410 strongly suggested.

Other Required Courses

CH 111 General Chemistry I (5 cr.)
CH 112 General Chemistry II (5 cr.)

Minor

Mathematics minor recommended as follows:
MA 161 Calculus I (5 cr.)
MA 163 Calculus II (4 cr.)
MA 211 Intro to Matrix Theory & Linear Algebra (3 cr.)
MA 265 Calculus III (3 cr.)
MA 361 Differential Equations (3 cr.)
MA Electives (3 cr.)

Detailed course descriptions can be found at www.nmu.edu/bulletin.

Career Development

You should begin the resume-building process as soon as you can. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better the chances are that you will find a job. Becoming involved in research within the department (theoretical physics, nuclear physics, neutron structure, astronomy) as well as a professional related internship is a way to develop your professional skills and gain experience. Your academic course work is important as well, so be sure to maintain a high grade point average.

Additional Considerations

Many of the positions listed may require education beyond the bachelor's degree. Practical work experience can increase your desirability for potential employers. Students should gain undergraduate research experience through departmental faculty and summer research programs.

Minors in different fields may be helpful when looking for work, and sometimes relevant work experience is more beneficial.

Remember to take any necessary exams early; it can take six weeks for results to be sent to the schools to which you applied.

Job Outlook

Physics will expand at a 7% rate in the coming years. Fields will grow at an average rate. Salaries for positions heavily related to physics were $50,000 to $90,000.