Physics B.S.

**Major**

Bachelor of Science

Physics & Astronomy

Swenson College of Science and Engineering

It is the basic science that underlies all the natural sciences. And it is a search for the basic rules of the behavior of matter and energy on every scale: from the interaction of subatomic particles, to the motion of everyday objects, to the evolution of galaxies and the universe itself. Physics consists of many fields, including particle and nuclear physics, atomic and molecular spectroscopy, optics, solid-state physics, biological and medical physics, computational physics, acoustics, astrophysics and cosmology.

**Why UMD**

- Active learning environment
- Access to state-of-the-art instrumentation
- Focus on undergraduate teaching and research

**Acquired Skills**

- Comprehension: Students will know and be able to explain the core physics concepts and their mathematical expressions.
- Application: Students will be able to apply the laws of physics to new situations, both qualitatively and quantitatively.
- Execution: Students will be able to design, set-up, and carry out an experiment, using models, analytical techniques, or laboratory equipment.
- Communication: Students will be able to communicate scientific ideas to technical and non-technical audiences.

**Career Possibilities**

Our diverse program can prepare you for a wide variety of positions and make sure you are highly sought after in modern industries. In fact, this article from CNN [5] shows the unemployment rate among Physics graduates is 0.3%, the lowest of all disciplines. Other opportunities include research and design positions, quality control and product testing, mathematical and computer modeling, and sales of technical equipment. Physicists also play a significant role in medical instrumentation and health care delivery. They are needed to operate a multitude of clinical equipment found in hospitals, or to assist in the diagnosis and treatments of patients using nuclear radiation, x-ray, magnetic resonance imaging and ultrasound techniques.

**Scholarships**

In addition to SCSE scholarships, our department has several scholarships including, the Donald Olson Memorial Scholarship, the Howard Hanson Scholarship, the Frank & Ruth Friebe Physics Award Fund, and the Scholarship in Honor of Dedicated Physics Faculty.

**Student Clubs**

We have 2 main clubs on campus. The Astronomy club is suitable for people who enjoy things like stargazing, movie nights, astrophotography and being outside at night. This group also works on Planetarium events and
outreach efforts to encourage a love of stargazing in our community.

The Physics club gets together to discuss physics, provide outreach to the community and encourage anyone interested in physics to be a part of their group.

**Graduate Report**

Recent UMD Graduates Job Placement Data & Employers

Here's a sampling of positions Physics B.S. grads have attained six months to one year after graduation.

- Environmental Compliance Specialist - ALLETE
  Minnesota Power, Duluth, MN
- Electrical Assembler - GreyStar Electronics, Duluth, MN
- Systems Engineer - Open Systems International, Medina, MN
- Process Controls Manager - USG, Redwing, MN

For more data see the [Physics B.S. Graduate Follow-Up Report](http://www.phys.utk.edu/news/2013/cnn-employment-stats-01042013.htm) [6].

For ideas about Physics B.S. and other majors visit [Career & Internship Services](https://champ.d.umn.edu/career-internship-services/choosing-major) [7].

**Links**