Engineering Physics B.S.E.P.

Major
Bachelor of Science
Physics & Astronomy
Swenson College of Science and Engineering

Why UMD

Engineering physics is the study of the combined disciplines of physics, engineering and mathematics in order to develop an understanding of the interrelationships of these three disciplines.

Fundamental physics is combined with problem solving and engineering skills, which then has broad applications.

One advantage of this interdisciplinary knowledge - it is designed for continuous innovation which coincides well with the rapid advance of technology.

Acquired Skills

Unlike traditional engineering disciplines, engineering physics is not confined to a particular branch of physics or engineering. Instead, engineering physics is meant to provide a more thorough grounding in applied physics for a selected specialty such as electrical engineering, mechanical engineering, or a combination of engineering disciplines.

It is the discipline devoted to:

- Creating and optimizing engineering solutions through enhanced understanding and integrated application of mathematical, scientific, statistical, and engineering principles
- Cross-functionality
- Bridging the gap between physics and practical engineering with emphasis in research and development, design, and analysis

The distinguishing feature of an Engineering Physics program is a focus on the fundamentals of physics and mathematics, both experimental and theoretical, that are at the heart of modern engineering and research and have broad applicability.

In this program students combine this physics base with a firm background in engineering or applied science.

Career Possibilities

Career paths for Engineering physics are broadly - "engineering, applied science or applied physics through research, teaching or entrepreneurial engineering".

Scholarships

In addition to SCSE scholarships [1], the Physics department has several scholarships [2] 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

The Physics Department has two main clubs on campus.

The Astronomy club [3] 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.

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Links
[1] https://scse.d.umn.edu/students/scholarships-awards