

CAREER OPPORTUNITIES

Graduates from the Interdisciplinary Engineering stream have a solid scientific background and a knowledge of engineering design and theory. The broad nature of the Engineering Physics degree allows graduates to pursue any career of interest in almost any industry.

The background Engineering Physics provides is suitable for employment or further education in any high technology discipline. There is a steady demand for trained high technology engineers. Graduates have achieved success in many areas including:

- Government regulatory agencies
- National laboratories
- Consulting firms
- Manufacturing
- Start-up companies
- Financial institutions

With the problem solving skills and resourcefulness obtained in Engineering Physics, graduates may succeed in any career path of their choice.



ABOUT THE DEPARTMENT

The Department of Engineering Physics offers 30 undergraduate courses for the 4 stream options. Programs offered include:

- Interdisciplinary Engineering
- Nuclear Engineering & Energy Systems
- Nano- and Micro-Device Engineering
- Photonics Engineering

Undergraduate class sizes range from 30-60 students, varying per year, with an average of 32 hours of classes per week, six to nine of which are in a hands-on or laboratory setting.

In addition to undergraduate studies, the department offers a variety of programs for graduate studies, and conducts cutting edge research, developing tomorrow's advanced technologies.



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Engineering Physics

Interdisciplinary Engineering



McMaster
University 

INTERDISCIPLINARY ENGINEERING

The modern workplace demands that engineers be resourceful and can tackle a broad range of problems. New technologies require engineers that have an understanding of many different aspects of science and engineering design. The Engineering Physics Interdisciplinary stream addresses these issues by exposing the student to a broad range of engineering sciences, from thermodynamics to circuit theory. In addition to the broad scientific curriculum, the student has the opportunity to explore a variety of engineering topics that relate to many industries, enabling the student to assess problems from a truly interdisciplinary perspective.

STREAM CURRICULUM

The Engineering Physics core curriculum offers a broad education in the physical and engineering sciences. Topics in the core curriculum include:

- Electricity & Magnetism, Thermodynamics Engineering & Classical Mechanics
- Quantum Mechanics and its Applications
- Electronic Devices and Circuit Design
- Computer Modeling and Signal Processing
- Mathematics and Mathematical Physics
- A Variety of Engineering Design Projects

Topics in the Interdisciplinary stream include:

- Fundamentals of Physical Optics
- Semiconductor Junction Devices
- Industrial Monitoring & Detection Techniques
- Principles of Nuclear Engineering
- Next Generation Devices

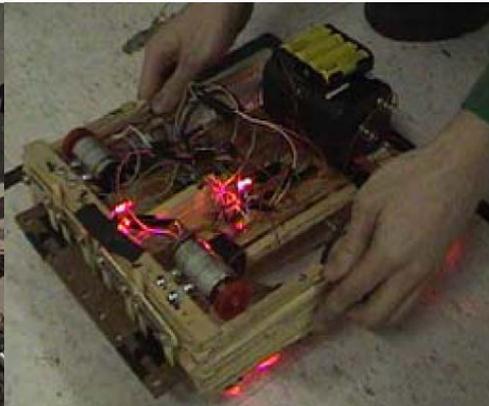
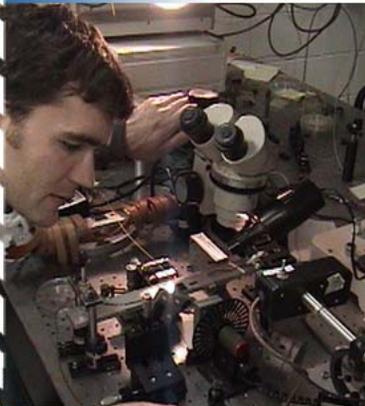
All streams offer the opportunity to take 5-7 technical electives, which may be chosen among Engineering Physics courses, or from other Engineering departments to allow for a broadened Engineering education and diverse set of technical skills.

INDUSTRIAL RELEVANCE

The Interdisciplinary stream offers a maximum flexibility for the student to tailor their studies to their long term interests. Courses provide industrial insight and technical experiences that would be advantageous in any workplace. Many of these courses use software and tools that are used by companies, giving the student direct experience.

A successful career in engineering requires continuous lifelong learning in diverse fields, including those in which the engineer may not have been formally trained. An engineer who is more adept at learning new subjects and developing new skills, will be presented with greater career opportunities.

The interdisciplinary stream puts the student in charge of their career by allowing the broadest possible background in engineering science while maintaining exposure to a wide range of engineering applications.



OTHER OPTIONS

All Engineering Physics streams include the following options:

Engineering & Management
(5 year program)

Engineering & Society
(5 year program)

Co-op or Internships
(4-6 year program)

