A Sample Poster Portrait Layout - Title

Name of Researcher(s)
Name of Department(s)

Introduction

The Mechanical Engineering Department at WPI was established in 1868 and the first undergraduate degrees were awarded in 1871. The Department currently has about 450 undergraduate students and 100 graduate students. Housed in the Higgins Laboratory and the Washburn shops the faculty consists of 29 tenured and tenure track professors, and several non-tenure track teaching staff. The Department offers undergraduate and graduate degrees in Mechanical Engineering and Manufacturing Engineering and graduate degrees in Material Science.

Undergraduate Program

The Mechanical Engineering program at WPI is designed to develop graduates who can deal with world situations that involve technological and humanistic/societal issues. Students develop literacy and competency in utilizing scientific and engineering methods for devising useful products in an economical way, while considering the impacts on society. The Mechanical Engineering program Educational Objectives & Outcomes are in harmony with the WPI Plan philosophy of education, in which each student develops competence, confidence, and the skill of self-learning.

Educational Objective

1. A graduate should be able to apply the fundamental principles of mathematics, science, and engineering to solve structured problems in mechanical engineering.

2. A graduate should be able to combine fundamental knowledge of engineering principles and modern techniques to solve realistic, unstructured problems that arise in mechanical engineering.

3. A graduate should demonstrate the ability to design and develop useful products, processes, or systems that benefit society.

4. A graduate should develop interpersonal skills, ethical behavior, a professional attitude and a respect for others to function effectively in a team environment.

5. A graduate should demonstrate communications skills, write, oral, electronic and graphical, so that they can perform engineering functions effectively.

Measurable Outcomes

Graduating students should demonstrate the following at a level equivalent to an entry-level engineer or first year graduate student:

a. An understanding of the fundamental principles of conservation laws, constitutive relations, mechanics and materials science.

b. The ability to apply mathematics, science and engineering to thermofluid and mechanical systems.

c. The ability to design a system, component or process to meet design criteria.

d. The ability to design and conduct experiments and to analyze and interpret the resulting data.

e. The ability to use modern engineering tools for engineering design and analysis.

f. The ability to communicate effectively both verbally and in writing.

g. The ability to function within multidisciplinary teams.

h. The ability to function professionally and ethically.

i. An understanding of contemporary issues and the impact of engineering solutions in a global/societal context.

j. An appreciation for the skills to accomplish life-long learning.

k. Knowledge of chemistry and calculus-based physics with depth in at least one.

l. The ability to apply advanced mathematics through multivariate calculus and differential equations.

m. Familiarity with statistics and linear algebra.

Approved by the faculty 4/13/99 and revised 12/19/2000

These outcomes are consistent with requirement of the Accreditation Board for Engineering and Technology (ABET) for Mechanical Engineering Programs

Opportunities for Undergraduate Study

The Department offers bachelor of science degrees in mechanical engineering and manufacturing engineering. The mechanical engineering program allows students to select from seven *concentrations*:

* Aerospace
* Biomechanical
* Engineering Mechanics
* Mechanical Design
* Manufacturing (More details...)
* Materials Science and Engineering
* Thermal and Fluids Engineering

All mechanical engineering majors must complete the same set of distribution requirements, but each concentration has a different set of courses and MQP topics associated with it.

The main entrance to the Higgins Laboratory. The Mechanical Engineering Department is housed in Higgins Laboratory, completely renovated in 1996, and the Washburn Shops.

Student Societies

Participation in activities sponsored by student societies is an integral part of the WPI experience. The Mechanical Engineering Department encourages its students to join student societies and develop their leadership skill by serving as officers. Several student organizations have their office in room 219 in the Higgins Laboratory. A complete list of all WPI student organizations is available on the Student Activities Office website.

Graduate Program

The Mechanical Engineering Department offers Doctor of Philosophy (Ph.D.) in Mechanical Engineering and Material Sciences. Master of Science (M.S.) is offered in Mechanical Engineering, Material Sciences, and Manufacturing Engineering. The specific requirements for each degree are described in detail below. Regularly offered courses cover fundamental engineering sciences and special topic courses expose students to state-of-the-art research topics. The Mechanical Engineering Department has offered graduate degrees since 1895 and currently has about 100 full and part time students.

Contact Information

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