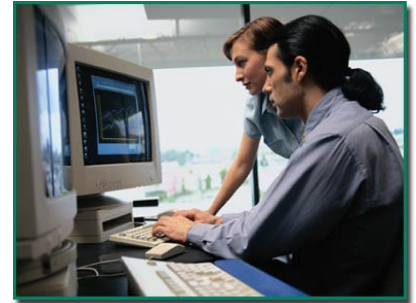


Systems Engineering

Modern engineering projects increasingly demand a combination of skills from various traditional engineering disciplines. WPI has been a leader in interdisciplinary education for decades, and Corporate and Professional Education has been continuing that tradition by partnering with industry leaders to develop graduate programs in Systems Engineering. The Systems Engineering program at WPI is highly customizable to focus on different problems from a range of industries.



Systems Thinking with Strong Technical Skills

WPI has combined its strong reputation for technical content with core components of systems design and development, resulting in a cohesive graduate program that helps to develop world-class systems engineering professionals. The program is constructed with a solid foundation of systems thinking and essential mathematics skills. Our broad range of topics in science, engineering, and management allows us to customize the technical content to address topics relevant to specific businesses. Focus areas include:

- communications
- power electronics
- software design
- manufacturing stems
- project management
- mechanical systems
- dynamics and controls

A final capstone project ties the technical content together and focuses on planning and integration on the system level. Students are able to choose projects of interest to them, that are relevant to the specific needs of their jobs, or that relate to pressing company issues.

Sample Certificate and Degree Program *(technical content is customized for each organization)*

Earn this certificate

Systems Engineering Graduate Certificate

18 credits (all transfer to degree)

- Special Topics: Concepts of Systems Engineering
- Project Management
- Engineering Mathematics
- Design of Software Systems
- Analysis of Probabilistic Signals and Systems
- Introduction to Local & Wide Area Networks

Apply credits toward this degree

Masters in Systems Engineering

12 additional credits (total of 30 credits)

- Operations Risk Management
- Analysis of Deterministic Signals and Systems
- High-Performance Networks
- Special Topics: Systems Engineering Capstone Project

For more information, please contact Corporate and Professional Education at (508) 831-6789 or cpe@wpi.edu

Program Elements

Technical Courses Provide a Solid Foundation

The first step is to create a solid foundation by identifying one or more technical disciplines to include in the course of study. From there, individual courses can be selected in areas of relevance to the company.

Core Courses Provide Common Ground

The next step is to consider the courses which will provide the systems perspective that is the essence of the program. There is always a common core course in Systems Engineering, but there may be additional courses, such as mathematics or project management, that have general applicability across many disciplines. The courses in this tier are included to give students the tools necessary to approach large problems from a systems perspective and manage their solutions effectively.



Learning Experience Culminates in Capstone Project

One of the central priorities in WPI's educational philosophy is the application of academic skills and knowledge to real-world problems. The capstone project represents a substantive evaluation and implementation of coursework covered in the program. Students are encouraged to select projects with practical significance for the advancement of their company's competitive position as well as their own personal development.

"The need for systems engineering is clear. Systems are increasingly complex, and corporations have realized that engineers educated in a single discipline are only part of the puzzle. Systems engineers have a broader understanding of the hardware and software that make the components work as a system, and they have the planning and integration skills to manage large-scale projects."

*Fred Looft
WPI's Electrical and Computer
Engineering Department Head*

Building Relationships with Industry Builds Academic Excellence

The Systems Engineering program at WPI is highly customizable to different problems from a range of industries. A major strength of our program is our ability to work with leading companies to develop a program that achieves the optimum levels of systems thinking and specific technical content required for their business.

For more information, please contact Corporate and Professional Education at (508) 831-6789 or cpe@wpi.edu

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Corporate and Professional Education

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