Certificate Overview
The complexity of modern systems and projects has demonstrated that it is no longer possible to rely on design evolution and associated tools to improve and develop a system. To address this complexity, system engineering has evolved along with new methods and modeling techniques to better comprehend engineering systems as they grow more complex. System engineering is a holistic, robust approach to the design, creation, and operation of systems. It consists of identification and quantification of system goals, creation of alternative system design concepts, performance of trade studies, selection and identification of the best design, verification that the design is properly built and integrated, and post implementation assessment of how well the system meets the customer goals and needs.

The system engineering method deals with systems as an integrated whole comprised of diverse subsystems and functions and works to optimize overall system functions and achieve maximum compatibility of its elements. This certificate focuses on how complex engineering projects should be managed over the life cycle of the project. It deals with the work processes and tools to handle large scale complex engineering projects in a sustainable environment and overlaps with the technical and human disciplines characteristic of these projects.

Career Benefits and Advancement
This certificate provides supervisors and managers with the knowledge and skills needed to be more effective in the workplace, or prepares those who wish to pursue those roles and advance their careers. When completed, you will be able to:

- Define an entire system and be able to explain the system engineering design process.
- Explain the factors involved in managing for operational feasibility.
- Understand the system engineering function in a team environment, and manage the synthesis of engineering disciplines in the design environment and program implementation stage.
- Describe the system engineering functional elements in the various organizational structures of project management.
- Describe and prepare a System Engineering Management Plan (SEMP).

Courses (no prerequisites required)
- EM 530 Applications of Constraints Management
- EM 590 Design for Product and Service Realization
- EM 564 Project Management
- EM 565 Introduction to Systems Engineering
- EM 566 Systems Engineering Analysis and Practice
Certificate Requirements

Academic Requirements
To be eligible to enroll in the ETM program and receive a graduate certificate, students must have a bachelor’s degree with at least a 3.0 undergraduate GPA. Students must be admitted to the WSU Graduate School and have the background necessary to take graduate-level coursework in the technical area of specialization.

Course Requirements
An ETM graduate certificate requires four courses (12 credit hours) in specialized areas. A certificate is awarded upon completion of these courses. Course credits earned for a certificate may also apply to a master’s degree in the ETM Program or other graduate degree programs. A student may earn more than one certificate and may work on the certificate and master’s program concurrently. Note: Applying for admission to the ETM certificate program does not automatically result in admission to the ETM master’s degree program.

Convenient and Flexible Program
All courses are offered online and use an innovative blend of traditional classroom instruction and the latest in video streaming and web conferencing technologies that allow courses to be delivered live to students anywhere in the world. Innovative program software allows faculty and students to interact with each other online. The convenience and flexibility of the program is ideal for the working professional. Mobile capabilities are also available. Classes are archived and available to review at any time.

About the ETM Program—since 1982
Washington State University’s online Engineering and Technology Management (ETM) program offers a master’s degree in engineering and technology management, a specialization in construction management, and graduate certificates in eight specialized areas. Courses are designed to provide working engineers with the skills to manage projects, people, and technology. The program is tailored for professionals who want to advance their careers while still working fulltime. For more information, visit etm.wsu.edu or call 509-335-0125.

Advance your career with just four courses—all online!

How to Apply

What you’ll need
• Bachelor’s degree
• Transcripts
• Resumé
• Personal statement

WSU Admissions
Students must be admitted to WSU’s Graduate School to receive a graduate certificate.

Need Help?
509-335-0125
etm@wsu.edu
etm.wsu.edu