Because today’s enterprise systems are increasingly critical to any organization’s operation and mission success, those systems must be designed and implemented to be resilient in the face of human error, component and subsystem failure, design failure, malicious attack, or a myriad other causes. Examples of complex enterprise systems that must be resilient are those that manage a region’s air traffic, a hospital’s medical information, or a city’s 911 emergency response. The Engineering Resilient Enterprise Systems certificate program focuses on the analysis, design, development, and management of resilient enterprise systems. Topics addressed include systems thinking, modeling enterprise systems to better predict and understand their properties, methods and principles to design agile and resilient enterprise systems, and principles and methods for gathering and assessing evidence to make more informed decisions when developing resilient enterprise systems.

The graduate certificate may only be pursued on a part-time basis.

Admissions & Policies

Admissions

This certificate is available to any student who holds a bachelor’s degree in an engineering or scientific discipline or has graduate status in such a program. Admission requirements are identical to those for the Systems Engineering, MS, except that the math requirements include only MATH 113 Analytic Geometry and Calculus I (Mason Core), MATH 114 Analytic Geometry and Calculus II, and a probability and statistics course.

Policies

For policies governing all graduate certificates, see AP.6.8 Requirements for Graduate Certificates.

Requirements

Certificate Requirements

Total credits: 12

To be eligible for a certificate in Engineering Resilient Enterprise Systems, students must complete two required courses (6 credits) plus two electives (6 credits) with an average grade of B or better.