



Central to Harnessing Complexity.

Through Central's Minor in Systems Engineering, students develop a foundational understanding of effectively designing and managing complex systems. While conventional engineering disciplines often focus on specific aspects (mechanical, electrical, civil, robotics, etc.), systems engineers approach systems holistically, encompassing definition, design, development, integration, and testing. The Systems Engineering minor integrates emerging technologies and forward-thinking applications into the curriculum, preparing students to navigate intricate engineering and societal systems. Students interested in pursuing this minor start taking Systems Engineering courses at the beginning of their junior year.

Program Features

- 18-credit program
- Attend on-campus and online
- Small class sizes enable close interaction with instructors
- Comprehensive curriculum
- Hands-on faculty who bring real-world experience into the classroom
- All new cutting-edge facilities and laboratories
- Coursework that complements traditional engineering approaches by focusing on the entirety of a system



What You'll Gain

- Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- Understanding of essential processes and tools for guiding the engineering of large-scale systems
- Skills to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- Capability to meet the demands of prominent Connecticut-based companies in the aerospace, defense, manufacturing, and technology sectors (such as: Pratt & Whitney, UTC Aerospace, Sikorsky, General Dynamics, Hanwha Aerospace, Trumpf, QuEST Global, and ASML)
- Knowledge and skills necessary to thrive in roles that require a deep understanding of systems engineering principles
- Tools to communicate effectively with a range of audiences.
- Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- Knowledge to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions

Curriculum

Required (19 credits)

- **SEST 301:** Introduction to Systems Engineering
- **ENGR 302:** Systems Engineering Design and Analysis
- **ENGR 303:** Systems Simulation and Optimization
- **ENGR 400/500:** Special Topics in Systems Engineering (cross-listed to serve either the undergraduate minor or graduate certificate)
- **ENGR 404/504:** Model-Based Systems Engineering (cross-listed to serve either the undergraduate minor or graduate certificate)
- **ENGR 405:** Decision and Risk Analysis in Systems Engineering

Program Contact

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ABOUT CENTRAL:

Central Connecticut State University is the largest university within the Connecticut State Colleges and Universities system. Founded in 1849, Central is also the state's oldest publicly funded university. Our campus is located in New Britain, Connecticut. Central is accredited by the New England Commission of Higher Education (NECHE).

