



Central to Technical Synergy.

Students in Central's Official Certificate Program in Systems Engineering develop knowledge of the intricacies and artistry of systems engineering. Participants acquire proficiency in systems engineering tools and skills, enabling them to seamlessly integrate user needs, manage requirements, conduct technological evaluations, and construct intricate system architectures. A key learning outcome involves mastering the application of systems thinking to comprehend the interconnectedness and interdependencies among various components within a system. The program emphasizes the development of knowledge, skills, mindset, and leadership qualities essential for success as a systems engineering leader.

This certificate is a natural continuation for students who completed an Engineering or Engineering Technology baccalaureate degree at Central or any other accredited institution of higher education. It is also stackable into a master's program in Systems Engineering, which exist at institutions outside the Connecticut State Colleges and University System.

Program Features

- Starts every January and August
- 12-credit program
- Attend full- or part-time
- Tailored for working professionals, including managers and engineers seeking career advancement
- Can be geared towards the preparation for the International Council on Systems Engineering Certified Systems Engineering Professional (CSEP) program
- Courses taught by experienced professionals well-versed in practical systems engineering applications
- All new cutting-edge facilities and laboratories
- Free on-campus childcare for Central students



What You'll Gain

- Knowledge to guide the engineering of large-scale systems
- Ability 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)
- Capacity to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- 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
- Ability to communicate effectively with a range of audiences in professional and technical settings
- Understanding of the ethical and professional responsibilities in engineering situations in order to make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- Empowerment to effectively oversee systems development across the entire lifecycle – from conceptual development and engineering design to operation and sustainment
- Competence to demonstrate good interpersonal skills on a team
- Ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
- Tools to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum (12 credits)

- ENGR 501: Systems Engineering Principles and Practices
- ENGR 502: Systems Design and Integration
- ENGR 503: Systems Modeling and Simulation
- or
- 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)

Applying for Admission

For consideration, applicants must hold a bachelor's degree in an Engineering or Engineering Technology discipline from a regionally accredited institution of higher learning and submit the following:

1. A completed online application with supplemental materials (ccsu.edu/apply):
 - Resume
 - A four-year Bachelor of Science degree in Engineering, Engineering Technology, or a closely related field
 - Applicants without a four-year degree in Engineering, Engineering Technology, or a closely related field must complete the necessary pre-requisite foundation courses:
 - » Mathematics, Chemistry, Physics, Materials, and Engineering
 - » All necessary foundation courses will be specified by the admissions committee after an applicant's credentials are assessed.
2. Official undergraduate and graduate transcripts from a regionally accredited institution of higher education with a minimum GPA of 3.00 on a 4.00 scale. A GPA of 2.70 to 2.99 GPA or commensurate work experience also may be considered conditionally.

Central Connecticut State University
Graduate Recruitment & Admissions Office
1615 Stanley Street
Central Welcome Center
New Britain, CT 06050

By Email: graduateadmissions@ccsu.edu



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).

