GRADUATE CERTIFICATE IN SYSTEMS ENGINEERING PRACTICE

The Graduate Certificate in Systems Engineering Practice introduces students to systems engineering concepts and practices with coursework that instills the key core competencies and skills needed to practice as a systems engineer with complex systems involving hardware and embedded software. This certificate prepares engineers or other professionals in aerospace technology, energy, biosciences, environmental resources, and other fields to lead systems engineering development from concept creation through the system lifecycle. Students who finish SYSE 501 with at least a B+ (87%) or higher in the course can bypass the INCOSE knowledge exam for either ASEP certification or CSEP certification.

Students interested in graduate work should refer to CSU's Graduate and Professional Bulletin (https://catalog.colostate.edu/general-catalog/graduate-bulletin/).

Learning Objectives

Students will:

1. Understand the definition, application and importance of systems engineering.
2. Gain an entry-level understanding of the key tool sets in systems engineering, and be able to successfully perform as an entry-level systems engineer.

Requirements
Effective Fall 2024

Additional coursework may be required due to prerequisites.

Code	Title	Credits
SYSE 501	Foundations of Systems Engineering	3
Select three courses from the following:		9
ENGR 502	Engineering Project and Program Management	
or CIS 600A	Project Management: Information Technology	
or CIS 670	Advanced IT Project Management	
ENGR 531	Engineering Risk Analysis	
SYSE 505	Systems Thinking for the Real World	
SYSE 530	Overview of Systems Engineering Processes	
Program Total Credits:		**12**

*This certificate may have courses in common with other graduate certificates. A student may earn more than one certificate, but a given course may be counted only in one certificate.