GRADUATE CERTIFICATE IN COMPUTER SYSTEMS ENGINEERING

The Graduate Certificate in Computer Systems Engineering is designed for students and professionals seeking knowledge and skills in state-of-the-art parallel hardware architectures, parallel software programming, algorithms, and networking technologies. Students stay current on rapidly advancing technology and learn to problem-solve for future challenges.

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

Learning Objectives

Upon successful completion, students will be able to:

1. Think critically about computing systems, including hardware, software, and hardware-software co-design issues.
2. Communicate effectively both with technical experts in their field and with experts from related fields who do not have specific background in computer systems.
3. Assimilate advanced knowledge from disciplines of science and engineering to broaden their expertise in computer systems.

Requirements Effective Fall 2025

Additional coursework may be required due to prerequisites.

Code	Title	Credits
Select three courses from the following: [1]		11-12
CS 530	Fault-Tolerant Computing	
CS 545	Machine Learning	
CS 556	Computer Security	
CS 575	Parallel Processing	
ECE 528/CS 528	Embedded Systems and Machine Learning	
ECE 554	Computer Architecture	
ECE 561/CS 561	Hardware/Software Design of Embedded Systems	
ECE 564	Semiconductor Memory	
ECE 658/CS 658	Internet Engineering	
ECE 661	Advanced Topics in Embedded Systems	
Program Total Credits:		**11-12**

*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.

[1] At least one ECE course is required.