

# GRADUATE CERTIFICATE IN EMBEDDED SYSTEMS

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The Graduate Certificate in Embedded Systems provides an introduction to embedded systems, including hardware design and software engineering principles. Students learn to apply electrical engineering, computer engineering, and computer science principles in real-world embedded platforms.

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

## Learning Objectives

Upon successful completion, students will be able to:

1. Think critically about embedded and Internet-of-Things (IoT) computing.
2. Communicate effectively both with technical experts in their field and with experts from related fields who do not have specific background in embedded and IoT computing.
3. Assimilate advanced knowledge from disciplines of science and engineering to broaden their expertise in Embedded and IoT computing.

## Requirements Effective Fall 2025

Additional coursework may be required due to prerequisites.

| Code  | Title  | Credits      |
|---|--|--------------|
| Select three courses from the following: <sup>1</sup> |  | 11-12        |
| CS 545  | Machine Learning                             |              |
| CS 560/ECE 560  | Foundations of Fine-Grain Parallelism        |              |
| 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 661   | Advanced Topics in Embedded Systems          |              |
| <b>Program Total Credits:</b>                         |  | <b>11-12</b> |

\*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.

<sup>1</sup> At least one ECE course is required.