

MAJOR IN COMPUTER ENGINEERING

From self-driving cars to smart cities, we live in a hyper-connected world. As the smart thinkers behind today's smart devices and systems, computer engineers hold the key to understanding, advancing, and protecting the security of next generation technologies.

A degree in computer engineering from CSU will help you make an impact beyond your computer screen. Affording a big picture view of how technology works, computer engineers look at the interplay between hardware and software to create solutions that benefit society. Have an interest in robotics, artificial intelligence, machine learning, neural networks, or data science? With coursework designed to help you understand, advance, and protect the security of next generation technologies, our professors will arm you with knowledge to drive innovation, whether creating an elegant device that fits in the palm of your hand or optimizing a colossal system to manage and move data.

While our undergraduate program gives you the option to keep your studies broad, you may also specialize in one of the following concentrations:

- Aerospace Systems Concentration (<https://catalog.colostate.edu/general-catalog/colleges/engineering/electrical-computer/computer-engineering-major-aerospace-systems-concentration/>)
- Embedded and IoT Systems Concentration (<https://catalog.colostate.edu/general-catalog/colleges/engineering/electrical-computer/computer-engineering-major-embedded-iot-systems-concentration/>)
- Networks and Data Concentration (<https://catalog.colostate.edu/general-catalog/colleges/engineering/electrical-computer/computer-engineering-major-networks-data-concentration/>)

Career Opportunities

A field of endless possibilities, career paths for computer engineers are largely dependent on personal interests. Computer Engineering alumni hold positions such as software engineer for a tech giant, designer for a start-up company, and program manager for NASA. In addition to being one of the most lucrative college majors, Computer Engineering currently ranks among the top 10 majors in demand for bachelor's, master's, and doctoral degrees according to the National Association of Colleges and Employers. Almost every industry recruits computer engineering graduates, including aerospace, biomedical and healthcare, clean energy, robotics, climate science, manufacturing, agriculture, and transportation.

Learning Objectives

The Computer Engineering program educational objectives are designed and implemented around the following three principal attributes: mastery, innovation, and leadership.

Graduates of the Computer Engineering program will be able to:

1. Identify, formulate, and solve engineering problems in hardware, software, and integrated systems by applying principles of computer engineering, science, and mathematics
2. Apply the engineering design process to develop computer engineering solutions, balancing technical objectives with broader considerations including public health and safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. Communicate effectively with a range of audiences
4. Recognize ethical and professional responsibilities in computer engineering and make informed judgments, considering their impact in global, economic, environmental, and societal contexts
5. Function effectively on teams, collaborating on tasks related to computer engineering, to establish goals, task plans, and to meet task objectives
6. Develop and conduct appropriate experimentation, analyze results, and use principles of computer engineering to draw conclusions
7. Acquire and apply new knowledge in computer engineering, leveraging appropriate learning strategies

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