

## Computer Engineering

Graduates of the baccalaureate program in Computer Engineering are prepared for careers in the computer industry as well as with companies that integrate computers into more complex products.

The degree focuses on the system and hardware aspects and the interaction of hardware with software by building on courses in microprocessors, computer design and design automation on the one hand, and on data structures and algorithms, operating systems and software engineering on the other.

Based on the Educational Objectives of the College of Engineering and Computer Science, the department has established the following student learning outcomes for the baccalaureate program in Computer Engineering. Graduates of the program will have an ability to:  
Graduates will have:

- a. An ability to apply knowledge of mathematics, science and engineering;
- b. An ability to design and conduct experiments, as well as to analyze and interpret data;
- c. An ability to design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability;
- d. An ability to function on multidisciplinary teams;
- e. An ability to identify, formulate and solve engineering problems;
- f. An understanding of professional and ethical responsibility;
- g. An ability to communicate effectively;
- h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context;
- i. A recognition of the need for and an ability to engage in life long learning;
- j. A knowledge of contemporary issues;
- k. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice;

1. An ability to apply design and development principles in the construction of software systems of varying complexity;

m. An ability to apply design and development principles in the construction of hardware systems of varying complexity.

1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
6. An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.
7. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.