Bachelor's Programs

Educational Objectives and Outcomes for the Bachelor's Programs

Computer Science

Graduates of the baccalaureate program in Computer Science are prepared for careers with software companies, developing applications or systems software, or with companies developing software in a scientific or engineering environment.

The degree focuses on the software aspects of computing by building on a set of core courses in areas such as algorithms, machine organization, programming language concepts, theory, computer systems and software engineering.

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 Science. Graduates will have:

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 Science. 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;

l. 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. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.