

# Educational Objectives/Outcomes of the Computer Engineering Undergraduate Program

## BSCE Educational Objectives

The educational objective of the bachelor of science in computer engineering (BSCE) program in the Department of Electrical Engineering and Computer Science (EECS) at Syracuse University is to prepare **well-rounded** graduates that are **ready for work** and **ready for change**.

- **Well-rounded** graduates of the BSCE program are known by their professional competence, innovative thinking, ability to work individually and in diverse teams, leadership abilities, communication skills, and integrity.
- Graduates of the BSCE program who are **ready for work** are engaged in applying the knowledge acquired in their major, combined with their problem solving abilities, to produce feasible solutions to problems, in a timely manner, which are deemed important in industry, government, or academia.
- Graduates of the BSCE program who are **ready for change** exhibit the intellectual flexibility necessary to solve new problems in innovative ways by integrating multiple viewpoints from several disciplines in search of the best possible solutions.

## BSCE Educational Outcomes

**In addition to successfully completing the requirements for the BSCE program, graduates from this program must also achieve the following educational outcomes:**

- (a) An ability to apply knowledge of mathematics and science.
- (b) An ability to design and conduct experiments, and analyze and interpret data.
- (c) An ability to design systems to meet specifications.
- (d) An ability to function independently and on teams.
- (e) An ability to identify, formulate, and solve engineering and scientific problems.
- (f) An understanding of professional, ethical, and safety considerations.
- (g) An ability to communicate effectively, both orally and in writing.
- (h) An understanding of the role of science and engineering in society.
- (i) A recognition of the necessity of lifelong learning.
- (j) An understanding of contemporary issues through a broad liberal arts education.
- (k) An ability to use the modern tools necessary for professional practice.
- (l) An ability to think critically as evidenced by skills in interpretation, analysis, evaluation, inference, argumentation, and reflection.
- (m) An understanding of principles of construction of computing systems.
- (n) An understanding of abstraction and refinement of computing systems.
- (o) An ability to predict and reason about design correctness and performance of computing systems.
- (p) An ability to use methods and practices to design correct and reliable computing systems.
- (q) An ability to test and verify that computing systems are in fact correct and reliable.