Educational Objectives/Outcomes of the Electrical Engineering Undergraduate Program

**BSEE Educational Objectives**

The educational objective of the bachelor of science in electrical engineering (BSEE) 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 BSEE 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 BSEE 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 BSEE 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.

**BSEE Educational Outcomes**

In addition to successfully completing the requirements for the BSEE program, graduates from this program must achieve the following Student Outcomes prior to graduation:

(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 think critically as evidenced by skills in interpretation, analysis, evaluation, and inference.