

ELECTRICAL AND COMPUTER ENGINEERING PROGRAM ASSESSMENT PLAN

Program Learning Objectives

After extensive review by the faculty, the following were adopted as the ECE Program Educational Outcomes, through which the Objectives of the Program will be met:

1. Students will acquire knowledge and skill in the mathematics underlying electrical and computer engineering analysis and design, including calculus, linear algebra, discrete mathematics, and probability.
2. Students will develop a firm foundation in the physical sciences underlying electrical and computer engineering analysis and design, including fundamental physics and electricity and magnetism.
3. In recognition of the broad choice of career paths within ECE and the societal impact of engineering, students will obtain knowledge of modern physics or other sciences such as biology, chemistry, or environmental science.
4. Students will be able to use the tools of Electrical and Computer Engineering, including computer simulation, design and analysis software, and laboratory measurement equipment.
5. Students will be able to design and conduct experiments, and analyze and correctly interpret data.
6. Students will gain a sufficient foundation in the fundamental areas of electrical and computer engineering to understand problems in a broad context. These fundamental areas include: circuits and systems, electromagnetics, microelectronics, digital systems, computer architecture, signals and communications.
7. Students will have the in-depth training in at least one fundamental ECE area to conduct detailed design and analysis and will develop the skills to bring a design project to successful completion.
8. Students will gain the skills and general engineering knowledge necessary to function in an engineering project team.
9. Students will be exposed to the issues of professionalism and ethical responsibility through examples.
10. Students will be able to communicate effectively with their peers and the public in written, oral, and graphical forms.
11. Students will start to understand the societal context and impact of engineering.
12. Students will learn to appreciate the value of the creation and dissemination of new engineering knowledge and the need to engage in life-long learning.
13. Students will broaden their education through exposure to the humanities and/or social sciences.

Table 2	ECE Advanced Electives & Capstone Design							
	Computers	Signals & Communications			VLSI & Electro n	Waves & Devices		Design Project
Educational Outcome	201	244 (237)	24 5	24 6	261	223	235 (396)	349
1. Math	x	x			x	x		
2. Science						x		
3. Science 2						x		
4. ECE tools				x	x		x	x
5. Lab					x		x	x
6. ECE Fund. (theory)	x	x		x	x	x		
7. ECE Depth	x	x		x	x		x	x
8. Engineering teamwork								
9. Ethics/Professionalism								
10. Communication	x	x		x	x	x	x	x
11. Societal Impact								
12. Research		x			x	x	x	

Assessment Methods

- Embedded assignments and test questions in each required course are aligned with program learning objectives and are reviewed each term by faculty.
- EBI Engineering Senior Exit Survey questions are aligned with program learning objectives and are reviewed every other year.