Annual Academic Assessment Report

Bachelor of Science in Electrical Engineering (ELEGBS)

Student Learning Outcomes:

The student learning outcomes are labeled as 1-7 in the current documentation and follow the standard ABET outcomes. In the future, the outcomes will be labeled EE1 to distinguish them from the other two ABET-accredited programs in the department.

EE1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

EE2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

EE3. An ability to communicate effectively with a range of audiences.

EE4. 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.

EE5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

EE6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

EE7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Assessment and Evaluation: AY 2023-2024 The Department of Electrical Engineering and Computer Science (EECS) evaluated Student Learning Outcome assessments. The results of the analysis include the following:

- **Outcome EE1**:
    - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE2**:
    - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE3:**

- o The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE4:**
  - o The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE5:**
  - o The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE6:**
  - o The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE7.**
  - o The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

Changes to the Degree Program – Planned or Considered

There are no changes to the BS in Electrical Engineering degree program planned or considered based on the assessment and evaluation process. In November 2023, the faculty voted to change from four categories of electrical engineering technical electives to two categories of technical electives to make it easier to advise students. The first category is 12 hours of Electrical Engineering Technical Electives defined as any ELEG 40000-level or higher course not required for the degree except for ELEG 4880V Special Problems. The second category is 9 hours of Technical Electives that can be 20000-level or above courses in engineering, science, or math, BIOL 15403, CHEM 11203, but excludes ELEG 39003, ELEG 39903, and any history courses in the math and sciences. Note that ELEG 4880V can still count towards Technical Electives. In addition, the program is now under a new merger of the Department of Computer Science and Computer Engineering (CSCE) and the Department of Electrical Engineering (ELEG) into the new Department of Electrical Engineering and Computer Science (EECS) that officially began August 14, 2023. This is an organizational change and for now degree programs will not be changed, although we anticipate there may be changes in the future. For example, some technical electives could be shared between computer engineering and electrical engineering. Therefore, we do anticipate some changes to the BS in Electrical Engineering in the future.

Changes to the Assessment Process – Planned or Completed

The BS in Computer Engineering, BS in Computer Science, and BA in Computer Science programs have a slightly different assessment processes than the BS in Electrical Engineering processes. We anticipate merging the processes, so they are near identical in all four programs.