Annual Academic Assessment Report
Department of Electrical Engineering and Computer Science
Ph.D. in Electrical Engineering
June 2025

I.   Student Learning Outcomes

The Ph.D. in Electrical Engineering student learning outcomes are identified as EE1 through EE7:

EE1.   Apply knowledge of engineering, science, and mathematics to analyze and solve advanced electrical engineering problems.

EE2.   Locate literature and other sources of information relevant to a specific topic, understand and evaluate it, and apply the information.

EE3.   Define and conduct independent research, and to make effective use of the tools available for that research. A student should also be able to develop new tools, methods, and techniques when necessary to accomplish research objectives.

EE4.   Have an in-depth knowledge of some specialty area within electrical engineering, and should have a broad knowledge of related areas in engineering, science, and mathematics.

EE5.   Communicate effectively using both oral and written presentations.

EE6.   Understand the need for continued learning and professional development, and should understand the need to maintain awareness of current professional issues.

EE7.   Have an appreciation of the importance of professional responsibility to society in such areas as the environment, social issues, and safety, and should be committed to ethical conduct in all areas.

II.   Assessment and Evaluation: AY 2024-2025

The Department of Electrical Engineering and Computer Science (EECS) evaluated Student Learning Outcome assessments. The results of the analysis are summarized in 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:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome EE4:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

- **Outcome EE5:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome EE6:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome EE7.**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.

III. Changes to the Degree Program- Planned or Considered

There are no changes in the Ph.D. Electrical Engineering degree program planned or considered based on the assessment and evaluation process. The program is under the Department of Electrical Engineering and Computer Science (EECS) that officially began August 14, 2023. This was an organizational change and for now degree programs will not be changed. It is anticipated there may be program changes in the future. For example, the EECS faculty may consider graduate courses that could be shared between the Computer Engineering, Computer Science and Electrical Engineering degree programs. Consideration for continuing improvements will be considered by the faculty during the 2025-2026 academic year.

IV. Changes to the Assessment Process - Planned or Considered

The Ph.D. in Electrical Engineering program outcomes are assessed using the following tools:

1. **Course Evaluation:** Evaluations of the course content pertaining to specific outcomes by students and faculty. These are assessed numerically in the following levels:

   (1) Not improved after taking the course

   (2) Slightly improved after taking the course

   (3) Improved after taking the course

   (4) Significantly improved after taking the course

   (5) Greatly improved after taking the course

2. **Evaluation at Candidacy Exam (Candidacy Exam and Proposal Defense)**: The advisory committee reviews and critiques research plans of the student based on the research proposal and oral examination of the student.

3. **Final Presentation/Thesis/Dissertation Defense Evaluation:** These are assessed at the final comprehensive exam presentation or thesis/dissertation defense through a questionnaire filled out by the student's advisory/thesis/dissertation committee members and their major advisor. Each of the outcomes is assessed numerically in the following levels:

   (1) Very poor

   (2) Poor

   (3) Acceptable

(4) Good

(5) Excellent

4. **Exit Interview: G**raduating students complete an online survey about their experiences during their degree program.

During the 2024-2025 academic year, average course evaluations were at or above (4). During the 2024-2025 academic year, average final presentation scores were at or above (4). Improvements to the Student Learning Outcomes and assessment process will be considered by the EECS faculty during the 2025-2026 academic year.