Annual Academic Assessment Report
Department of Electrical Engineering and Computer Science
Ph.D. in Computer Engineering
June 2024

I. Student Learning Outcomes

The Ph.D. in Computer Engineering student learning outcomes are identified as CE1 through CE5:

CE1. Identify and formulate a research-related problem, complete a literature search related to the problem, generate and analyze results, and develop and defend a proposal project plan.

CE2. Contribute to the body of knowledge in computer engineering.

CE3. Demonstrate mastery of fundamental material in computer engineering.

CE4. Generate a dissertation that meets high academic standards.

CE5. Describe advanced topics in computer engineering to a variety of audiences and through multiple modes.

II. 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 are summarized in the following:

- **Outcome CE1**:
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome CE2**:
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome CE3:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome CE4:**
  - The outcome measured in courses indicates students are achieving the Outcome at the desired target level.
- **Outcome CE5:**
  - 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. in Computer Engineering degree program planned or considered based on the assessment and evaluation process. During the 2023-2023 academic year, the CSCE faculty approved a change in Ph.D. Qualifying Exam procedures towards only an oral exam held by the student's Advisory Committee. This change was introduced during the 2023-2024 academic year. Students entering the program prior to Fall 2024 can select either a

written or oral format for the Ph.D. qualifying exam.

The program is now under a recent 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 modified. 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.

IV. Changes to the Assessment Process - Planned or Considered

The Ph.D. in Computer 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.
2. **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.

There will be an external review of the graduate programs in Computer Engineering during October 2024. The recommendations and comments from the evaluators will be assessed by the EECS Department and College of Engineering. Improvements to the Student Learning Outcomes and assessment process will be considered by the EECS faculty during the 2024-2025 academic year.