ANNUAL PROGRAM REPORT

College	College of Science
Department	Engineering
Program	Computer Engineering
Reporting for Academic Year	2018-2019
Last 5-Year Review	none
Next 5-Year Review	2023-2024
Department Chair	Saeid Motavalli
Date Submitted	

I. SUMMARY OF ASSESSMENT

A. Program Learning Outcomes (PLO)

1. An ability to identify, formulate, and solve complex engineering problems by applying principles .

B. **Program Learning Outcome(S) Assessed**

Sampling Procedure:

Students in different classes were assessed based on specific course material in the computer engineering discipline. The knowledge to be successful in these courses is cumulative where ENGR 230 material is introductory level, CS 321 material is practice level, and CMPE 480 is mastery level. Problems were chosen by the proctoring professor to be exemplary of the material in each course.

Sample Characteristics:

The course used for assessment are all required courses in the computer engineering discipline. Correct completion of each question requires essential knowledge for completion of the degree program. The selection was done in consultation between the individual proctoring professors, the assessment coordinator, and the department chair for computer engineering.

Data Collection:

Rubric:
(1) Correctly specified less than 25% of all components and connections in circuit designs
(2) Correctly specified 25% or more of all components and connections in circuit designs
(3) Correctly specified 50% or more of all components and connections in circuit designs
(4) Correctly specified 75% or more of all components and connections in circuit designs

D. **Summary of Assessment Results**

Main Findings:

With respect to PLO2: Students in ENGR 230, and to a lesser extent CS 321 tend to either understand the material, or not understand it as reflected in the bimodal distribution of scores. While some people successfully complete the introductory training in ENGR 230, some people are unable to understand and use knowledge taught. This is less of a problem in CS 321.

With respect to PO3: Less than half of the students were able to satisfy this learning outcome when measured by the learning outcome in CMPE 480. This may be due to a particularly set of exam question relative to the questions used in PLO2.

Recommendations for Program Improvement:

Consistent syllabi and sample questions should be developed by the department for each course to uniformly measure the PLOs across courses that may be run by multiple professors. While this may encourage professors to “teach to the test” to some degree, if the assessment covers only the core material, then professors will have wide latitude to teach the material as they see fit.

Next Step(s) for Closing the Loop:

Professors in computer engineering should convene to prepare the assessment questions for each class. Additionally, creating questions that test introductory, practice, and mastery levels, should be considered. However, the assessment questions should be balanced in that they can be solved at the end of a final exam.

Other Reflections:

The syllabi and assessment questions used for CAPR assessment and ABET assessment should be co-created to minimize the impact of program assessment to the student learning experience.

E. **Assessment Plans for Next Year**

We plan to continue assessment with midterm exam questions and final exam questions where feasible for individual work for PLOS 1,2,4,6, and 7. PLOs 3 and 5 require assessment of group work and an ability to communicate respectively. For PLO 3, group project grades and peer review questionnaires will be used for assessment. For PLO 5, written and oral assignments will be used for assessment. The next set of PLOs to assess (on the new set) are PLO 3 and 6. PLO 3 will be assessed by with a written assignment in ENGR 200 and with an oral presentation in CMPE 344.