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2014-2015 CSCI EETF Assessment Year End Report, June, 2015

Program Name(s)	EETF Faculty Rep	Department Chair
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A. Program Student Learning Outcomes

The Student Learning Outcomes are in line with those of ABET (Accreditation Board for Engineering and Technology, Inc.). Students graduating with a B.S. in Computer Engineering from Cal State East Bay will demonstrate the following learning outcomes:

a. An ability to apply knowledge of mathematics, science and engineering
b. An ability to design and conduct experiments, as well as to analyze and interpret data
c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. An ability to function on multidisciplinary teams
e. An ability to identify, formulate, and solve engineering problems
f. An understanding of professional and ethical responsibility
g. An ability to communicate effectively (3g1 orally, 3g2 written)
h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. A recognition of the need for, and an ability to engage in life-long learning
j. A knowledge of contemporary issues
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

B. Program Student Learning Outcome(s) Assessed

Our assessment is based on the ABET student learning outcomes. In the past couple of months, we have done preliminary assessments of most outcomes using one or more performance indicators per outcome

C. Summary of Assessment Process

The primary purpose of assessment is to facility a cycle of continuous improvement for the Computer Engineering program. The student learning outcomes used are designed to cover a breadth of skills needed for students to function as computer engineers either in industry or academia. The learning outcomes also ensure that students who enroll in our program will receive no less than the basic educational standards required for all engineering programs across the country.

Our assessment is based on the use of several performance indicators to measure how students are faring in each of the 11 learning outcomes. The indicators are based on selected exam problems, projects, reports, and presentations of a broad range of required courses in the Computer Engineering curriculum. Most courses are upper-division, while some are lower

division. The indicators are assessed using a rubric of scale 1 through 4. Students who achieve a score of 3 or better are considered to have met the performance requirements of the indicator. A year ago, we reported on our preliminary assessment using material from the academic years of 2011-12, 2012-13, and 2013-14. We now report assessment results for the 2014-15 academic year. Note that not all performance indicators of all student learning outcomes are assessed each year. Hence, we report on only the performance indicators that have been assessed this past year. Some performance indicators have been modified from the previous year to more accurately reflect the goals of the student learning outcomes.

The assessment results will be presented to the ABET organization when they visit for the first time in October of 2015. They will recommend improvements to our assessment process, and the process is re-evaluated on a 6-year cycle. After the first ABET visit, we will assess 2 student learning outcomes per year, using existing or updated performance indicators, such that after 6 years, all 11 outcomes will have been assessed in preparation for ABET's following visit.

D. Summary of Assessment Results

The following shows the results of the performance indicators used to assess the ABET student learning outcomes for the 2014-15 academic year. The percentage of students who meet the performance requirements (score of 3 or 4 on a rubric scale of 1 to 4) of each indicator are shown in parentheses after the indicator. The "N" is the number of students who participated in the assessment. Because our class sizes are often smaller than 10, the "N" can be less than 10. Note that a few indicators are used to assess multiple student learning outcomes, because the course material used for those indicators are applicable to multiple learning outcomes.

SLO (b): an ability to design and conduct experiments, as well as to analyze and interpret data
Indicator 1: Analyze time-domain signals using a frequency-domain representations (50.0%, N=8)

SLO (g): an ability to communicate effectively (3g1 orally, 3g2 written)
Indicator 1: Present in class a literature review of state-of-the-art research (80.0%, N=30)
Indicator 2: Articulate ideas for a project design in a written proposal (80.0%, N=10)
Indicator 3: Present a microprocessor project design and implementation orally in class (70.0%, N=10)

There's room for improvement in terms of their abilities to design and conduct experiments, as well as to analyze and interpret data.

E. Suggestions and Recommendations for the CSCI EETF in the Future