Computer Engineering Program  
(a joint program of EEE and CSC departments)

Assessment Report Fall 2007 – Spring 2008

Narrative Submission: (by addressing the following questions)

1. What goals or learning objectives/outcomes were assessed in the AY ending June 30 2008.
   a. Oral Communication: CpE 190 and CpE 191, Senior Projects I and II
   b. Written Communication: CpE 190 and CpE 191, Senior Projects I and II
   c. Outcomes through faculty surveys (joining within EEE and CSC assessments)
   d. Outcomes through student-exit surveys (joining within EEE and CSC assessments)
   e. Teamwork (joining within EEE and CSC assessments)
   f. Ethics (joining within EEE and CSC assessments)
   g. Outcomes through alumni surveys (industrial visits)
   h. Life-long learning (joining EEE and CSC assessments)

2. How did you assess these learning outcomes?
   a. Oral communication was assessed through direct observation of student oral presentation skills during the senior project presentations (CpE 190 and CpE 191).
   b. Written communication was observed through direct evaluation of senior project reports (CpE 190 and CpE 191).
   c. Faculty surveys have been distributed, collected, and analyzed (joining within EEE and CSC surveys).
   d. Student-exit interview has been conducted with about 50% of graduating seniors.
   e. Teamwork (joining within EEE and CSC surveys).
   f. Ethics evaluation was conducted using an “Incident at Morales” video and subsequent written assignment and/or questions. The video has been commissioned by National Institute for Engineering Ethics and funded by NSF.
   g. Industrial visit to the state government agency Franchise Tax Board has been conducted in May 2008.

3. Describe the measures you used and the information gathered?
   a. Oral communication was evaluated in December 2007 and May 2008. Analysis of data are shown in separate files.
   b. Written Communication was evaluated on senior-project reports in May 2008.
c. Faculty members have been surveyed on how well students understand the concepts in their classes and how well they know the concepts.
d. Ethics, life-long learning, and teamwork were evaluated in May 2008 during senior students' exit interview. Analysis of the data and report is not yet available (joining within EEE and CSC assessments).
e. Industrial visit to the state government agency Franchise Tax Board. Analysis of the data is not yet available.

4. As a result of these assessments what did you learn about the program’s success in helping its students achieve these learning outcomes? In what areas are students doing well and achieving expectations? What areas are seen as needing improvement within your program?
   a. The evaluations of the oral communications show that the students are mostly well prepared to orally present technical information. Improvements are needed in
      i. the structure of the presentation of ideas and arguments which should be persuasive, logical, and clear; supports of solutions;
      ii. the identification of related and existing applications, techniques used are clearly stated and presented in the context of existing applications and solutions;
      iii. the introduction, body, and conclusion to be clearly delineated, provision of a clear summarized project.
   b. The evaluations of the written communications show that students have good writing skills in general except improvements are needed in the following areas:
      i. the identifications of key design decisions and alternatives which should be compared; reasoning with showing a depth of comprehension.
      ii. the conclusion shows a deep understanding of the subject area.
   c. For each course evaluated in the faculty survey high-risk areas where students do not perform well and lack understanding of important concepts are identified.

5. As a result of faculty surveys, are there any program changes anticipated? If so, what are those changes? How will you know if these changes achieved the desired results?
   The following have been planned:
   a. enforcements of conceptual learning areas that students show weakness will be addressed for implementations by the curriculum committee.
   b. new elective courses to remediate areas of learning important concepts are planned.
   c. to identify courses pre-senior project to introduce and develop oral presentation skills in order to develop into the curriculum matrix.
d. to introduce a new technical-writing class.

e. to incorporate teamwork practice in the curriculum before senior projects.

f. to include a GE course on ethics or to develop one in the college.

In order to assess the results from the changes stated above, a new 3-year assessment plan is to be developed in the new academic year to initiate new assessment cycles.

6. Did your department engage in any other assessment activities such as the development of rubrics, course alignment?
   a. Rubrics have been developed for
      i. oral communications, written communications, ethics, life-long learning, appreciation of diverse cultures, teamwork, and individual course objectives;
      ii. surveys (updated industrial visits);
      iii. a matrix developed to relate the industrial-visit survey to the educational objectives.

   b. Assessment process has been refined with
      i. updated course syllabi updated in which the objectives of each course to support student learning outcomes are identified;
      ii. a new assessment matrix that assigns specific student learning outcomes to selective courses is developed.

7. What assessment activities are planned for the upcoming academic year?
   a. Reviews the surveys and analyses.
   b. To incorporate the changes needed from the survey results into the curriculum.
   c. To continue the development of the course-objective rubrics.
   d. Planning data collection during the Fall 2008 and Spring 2009 semesters.
   e. To continue the development of the curriculum matrix.
   f. To develop a new 3-year assessment plan.
   g. To initiate the accreditation self-study report.