The following SLOs for the Computer Engineering program are assessed during the 2015-16 Academic Year:

Year 3: 2015-2016	
1. Which SLO(s) to assess	**SLO (c)** - 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. **SLO (h)** - Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

Each SLO is mapped to and assessed using different performance indicators (PIs), where each PI maps to a student-submitted item in a course (i.e. project, exam problem, assignment, lab report, etc.). For each PI, assessment is performed using a rubric on the scale of 1-4. The rubrics and PIs reported here have been used to satisfy the assessment and continuous improvements needs for external accreditation by the Accreditation Board for Engineering and Technology (ABET) organization. A score of 3 or higher on the rubric is considered as meeting the requirements of the Performance Indicator.

Assessment of SLO (c):

Two different performance indicators that map to SLO (c) had new items that were assessed in the 2015-16 academic year:

Performance Indicator 1: Write a bug-free assembly language program that produces a specified output.

Rubric:
(1) Unable to write most fundamental components of the program
(2) Program has 5 or more bugs
(3) Program has fewer than 5 bugs but more than 1 bug
(4) Program has 0-1 bugs

Quarter: Winter, 2016
Course: CS 2430 (Computer Organization and Assembly Language Programming)
Item: Final Exam, problem 4
Average score (out of 4): 2.56 (39 submissions)
Score of 3 or higher: 56.4%

Performance Indicator 2: Design CPU components that correctly interfaces with other components for the proper execution of a computer program.

Rubric:
(1) CPU simulation does not run
(2) CPU runs but does not obtain positive score (# of correct instructions minus # of incorrect instructions) as determined by autograder program. OR CPU runs for a little while before crashing.
(3) Positive score as determined by autograder program. OR score does not stop counting up.
(4) Score of 40 or more out of 47 as determined by autograder program

Quarter: Winter, 2016
Course: CMPE 3430 (Computer Architecture)
Item: Final project implementation by partners
Average score (out of 4): 2.24 (17 submissions, undergrads only)
Score of 3 or higher: 35.3%

Assessment of SLO (h):

Two different performance indicators that map to SLO (h) had new items that were assessed in the 2015-16 academic year:

Performance Indicator 1: Specify considerations of a product design from an economic, environmental, or societal perspective.

Rubric:
(1) No considerations specified
(2) At least 1 consideration specified
(3) Multiple considerations specified
(4) Multiple considerations specified. At least one of the responses is well-thought out.

Quarter: Winter, 2016
Course: ENGR 1011 (Engineering: An Introduction)
Item: Team project poster
Average score (out of 4): 3.5 (8 submissions)
Score of 3 or higher: 100%

Performance Indicator 2: Create systems that can be easily taught to and duplicated by others.

Rubric:
(1) Project report fails to document how system can be duplicated by others
(2) Project report partially documents how system can be duplicated by others
(3) Project report fully documents how system can be duplicated by others
(4) Project report fully documents in a clear and convincing fashion how system can be duplicated by others

Quarter: Spring, 2016
Course: CMPE 3434 (Microprocessor Lab)
Item: Final written project report
Average score (out of 4): 3.18 (11 submissions)
Score of 3 or higher: 63.6%

Assessment Results Summary

Assessment results show that students have a more difficult time with SLO (c). This is because the problems used for assessing SLO (c) are generally difficult, and require proficiency in computer programming, as well as working with logic simulation software where students must implement large-scale, complex digital logic. Students who perform well in SLO (c) are generally very capable students in our program, who would perform well in a broad range of courses.