

Civil Engineering Students' Understanding of the Impact of Engineering Solutions

Civil Engineering BS – College of Engineering and Computer Science

Step 1: Student Learning Outcome

The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.

Step 2: Methods and Measures

For quantitative assessment, exam questions (called SLO assessment exams) are developed in each course to measure student achievement in the specified outcome. Student Learning Outcomes (SLOs) are mapped to courses where the outcome is “Initiated” (I), “Reinforced” (R), or “Enhanced” (E). Although one core course may be sufficient to assess students’ satisfactory performance in one SLO, more than one course is chosen to increase redundancy.

SLO assessment exams are administered every two years unless remediation is required, and are scored on a five-point scale as follows:

- Level 1: No answers or portions of answers correct
- Level 2: 1/3 portion of answer is correct or with minor errors
- Level 3: 2/3 portion of answer is correct or with minor errors
- Level 4: Correct concept on all answers with only small errors
- Level 5: All answers correct

Step 3: Criteria for Success

70% of the class score 70% or higher on the assessment exam.

Step 4: Results

In fall 2017, the assessment exam was administered to students enrolled in the following courses with the following results:

- EGCE 401 (R), sample size 53, Score of 4.59 > 3.5
- EGCE 494L (E), sample size 34, Score of 4.13 > 3.5
- EGCE 482 (E), sample size 63, Score of 3.51 > 3.5

Overall score of 4.41 well exceeded the threshold for success.

Step 5: Improvement Actions

In accordance with the department’s Assessment Plan, no remediation plan is required since the outcome was ‘met’. The outcome will be reassessed in two years and will continue to be monitored for improvement actions as applicable.