

**Bloomsburg University of Pennsylvania
Electronics Engineering Technology Program**

Program Assessment and Improvement Plan

Student Outcomes

The EET program has an established procedure to assess the student outcomes, summarize and evaluate the assessment data, and determine the necessary curriculum and related changes needed to improve the program. The continuous improvement process for the student outcomes is shown in Figure 1.

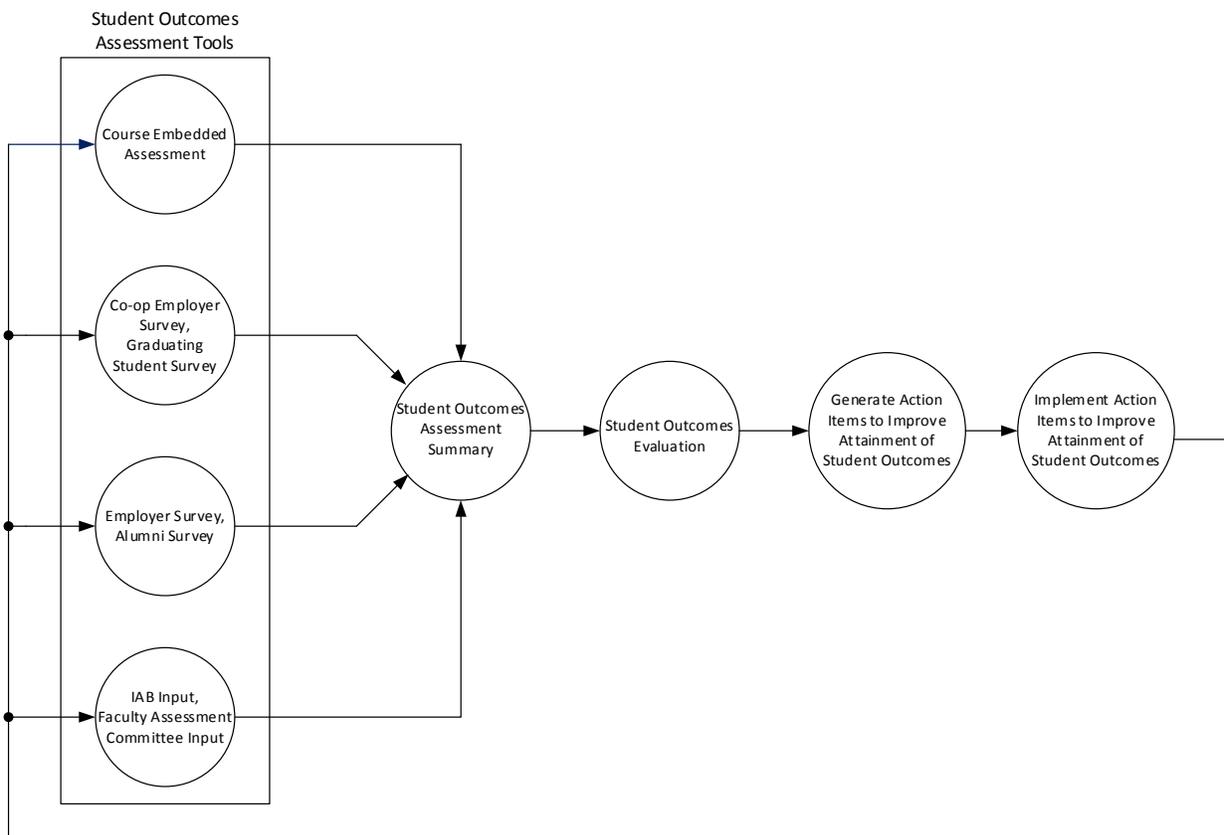


Figure 1: Student Outcomes Assessment and Improvement Process

The program assessment committee (current members: Ghassan Ibrahim, Fan Jiang, Biswajit Ray, and Peter Stine) is responsible for evaluating, identifying and monitoring the action items generated from the student outcomes assessment and continuous improvement process.

Assessment Methods

The student outcomes are evaluated using two types of assessment methods.

- Direct assessment
 - Uses performance-indicator based course-embedded assessment procedure to assess and evaluate each course within the scope of established student outcomes.
 - Each outcome is assessed based on multiple performance indicators, and each performance indicator is assessed via multiple courses.
 - Since each performance indicator is based on multiple courses with differing number of students, a weighted average method (with weight being the number of students in a course) is used to calculate the *student outcome index* for each performance indicator, defined as percent of students achieving a score of 70% or higher.
 - For a given performance indicator, a *student outcome index* of less than 75% shall require an action item initiation for improvement.

- Indirect assessment
 - Uses surveys to assess and evaluate the student outcomes.
 - In a four point scale (E: Excellent, G: Good, S: Satisfactory, and U: Unsatisfactory), the percent of weighted “E+G” responses is defined as the *student outcome index*.
 - For survey-based assessments, a *student outcome index* of less than 75% shall require an action item initiation for improvement.

Student Outcomes Assessment Instruments

- a) Course embedded assessment: Instructor for each course linked to student outcomes reports the collected data in a *student outcomes assessment summary* table, using one or more of the following data source.
 - i. Homework, quizzes, and exams
 - ii. Lab reports
 - iii. Projects reports and presentations
- b) Graduating student survey
- c) Co-op employer survey
- d) Alumni survey
- e) Employer survey
- f) Industrial Advisory Board (IAB) input
- g) Faculty Assessment Committee input

Student Outcomes Assessment Frequency

The schedule for student outcomes assessment is shown in Table 1.

Table 1: Student outcomes assessment cycle

Student Outcomes	Assessment Instrument	Schedule
a, b, c, d, e, f, g, h, i, j, k	Course embedded assessment	Two times per 6 year cycle
	Co-op employer survey	Every year
	Graduating student survey	Every year
	Faculty Assessment Committee input	Every year
	Industrial Advisory Board input	Every year
	Alumni survey	Every 6 years
	Employer survey	Every 6 years

Attainment of Student Outcomes

The criterion for attainment of each course-embedded performance indicator is defined as at least 75% of students achieving a score of 70% or higher. Similarly, the criterion for attainment of a given student outcome based on surveys is defined as at least 75% of responses are in the Excellent (E) and Good (G) category. In summary, a specific student outcome is considered attained if the following two conditions are met concurrently.

Course-embedded <i>student outcome index</i> for each of the associated performance indicators is	$\geq 75\%$
Survey-based <i>student outcome index</i> is	$\geq 75\%$

Action Items for Continuous Improvement

The student outcome index of a performance indicator not meeting the 75% threshold will automatically generate action item(s) based on course-specific *student outcomes assessment summary* tables. Additionally, even if the student outcome index of a performance indicator meets the 75% threshold, any course associated with that indicator reporting less than 75% of students scoring 70% or higher will generate action item(s) at the course level. For survey-based assessments, if the corresponding student outcome index is below 75%, a program-level action item will be automatically generated as part of the continuous improvement process.

Program Educational Objectives

As part of the EET program’s continuous improvement process, program educational objectives (PEOs) are also assessed, evaluated, and updated in order to continue to meet the need of program constituents. This process is shown below in Figure 2. All of the program constituents play a role in providing feedback, and reviewing and updating the PEOs per the schedule presented in Table 2. During the PEO review process, the university mission statement and vision statements are considered to ensure the PEOs are congruent with the university goals and objectives.

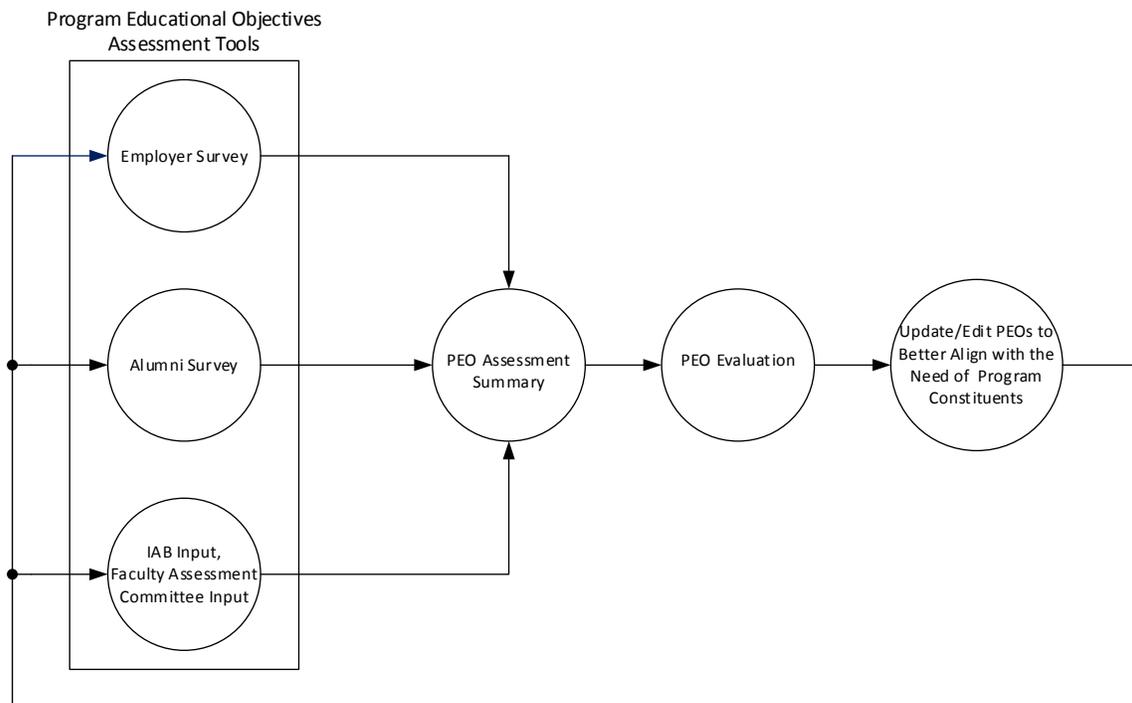


Figure 2: Program Educational Objectives Assessment and Improvement Process

Table 2: Schedule of Constituent Input to PEOs

Assessment Instrument	Schedule	Constituent
Alumni survey	Every 6 years	Alumni
Employer survey	Every 6 years	Employers
Industrial Advisory Board	Every 3 years	Industry representatives
Faculty Assessment Committee	Every 3 years	Program and department faculty members