

## **9. ACADEMIC QUALITY PLANNING PROCESS AND OUTCOME ASSESSMENT**

### **9.1. Requirements**

Provide a copy of the Program Quality Improvement Plan in Appendix C of Volume II including the following:

#### **9.1.1. CONTINUOUS IMPROVEMENT**

#### **9.1.2. EDUCATIONAL UNIT STRATEGIC PLAN**

#### **9.1.3. DEGREE PROGRAM ASSESSMENT PLAN**

CM Quality Improvement Plan (QIP) includes CM Strategic Plan, Degree Program Assessment Plan, and Program Assessment Implementation Plan. The QIP is provided in Appendix C in Volume II.

**Provide the educational unit's comprehensive Assessment Plan for the continuous improvement of the degree program with documented results from all systematically collected information, and:**

##### **9.1.3.1. Describe the Mission Statement of the degree program.**

Mission Statement: The Cal Poly Construction Management program builds innovative leaders in the construction industry by integrating technical knowledge, engaging in life-long learning, and solving problems as a highly effective manager through communication and collaboration.

##### **9.1.3.2. Describe the Degree Program Objectives (to be evaluated for clarity and ability to permit assessment of achievement).**

As a professional program within the University, the Department is committed to upholding the comprehensive nature of the educational experience offered in the university environment. The curriculum in construction management leads to the bachelor of science degree which is accredited by the American Council for Construction Education. The Degree Program Objectives are mapped with Program Learning Outcomes in order for us to assess the attainment of achievement. In support of the interdisciplinary goals of the CAED and the mission of Cal Poly, the Department is committed to producing graduates who

1. Demonstrate a readiness and ability to perform in the construction industry, as evidenced by attainment of PLOs 4, 5, 7, 10, 11, 14, 15, 16, 19, and 20;

2. Demonstrate an ability to apply problem solving skills and integrate technical knowledge, as evidenced by attainment of PLOs 3, 8, 12, 13, 17, and 18;
3. Demonstrate an ability to participate successfully within an interdisciplinary team environment, as evidenced by attainment of PLO 9;
4. Demonstrate an understanding of professional behavior, standards, and leadership attributes, as evidenced by attainment of PLO 6 and 23;
5. Demonstrate an ability to communicate effectively, both orally and written, and professionally present ideas, as evidenced by attainment of PLOs 1 and 2;
6. Demonstrate a propensity for lifelong learning and service to the industry and community at large, as evidenced by attainment of PLO 21 and 22;
7. Demonstrate an understanding of construction management in the context of the larger world of the arts, sciences, and technology, as evidenced by attainment of PLO 24; and
8. Demonstrate an ability to make reasoned decisions based on a respect for diversity, as evidenced by attainment of PLO 25.

**9.1.3.3. Describe the Program Learning Outcomes and demonstrate that they are regularly formulated, evaluated, and reviewed with the appropriate participation of faculty, students, industry advisors, and other pertinent parties.**

As indicated in Section 3.1.5, the Program Learning Outcomes were adopted by the Department to meet or exceed the ACCE Student Learning Outcomes; to complete the Degree Program Objectives; to align with the University Learning Objectives; to align with the Western Association of Schools and Colleges [WASC] Core Competencies.

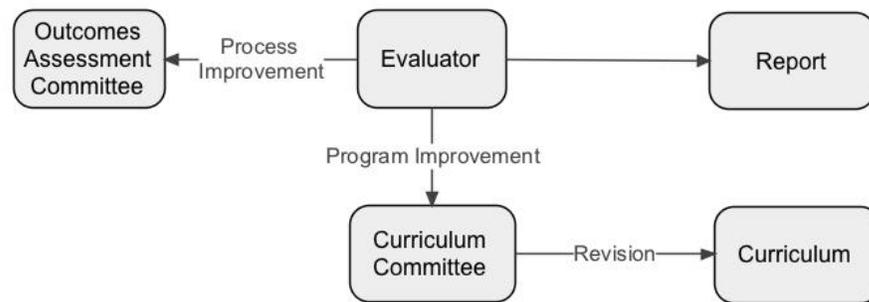
They were formulated by an Outcomes Assessment Committee consist of CM faculty. This committee solicited input from internal and external faculty, the curriculum and outcomes assessment committees of the Construction Management Advisory Committee (CMAC), student focus groups, and others.

Data from multiple sources are collected for each of the PLOs on an annual basis. One of the more significant data sources comes from the annual evaluation by the faculty of their own courses with respect to each PLO covered in their classes.

Evaluators have a central role in developing evaluation methodologies, as illustrated in Figure 9.1.3.3. For every evaluation, there is a report

containing comparative and descriptive information distributed to a pre-determined list of recipients. The evaluator(s) is charged with recommending changes to the program's curricula or to the outcome assessment process itself. Recommendations are in the form of written documents submitted to the appropriate committee and then reviewed by the entire faculty at the fall retreat every year.

*Figure 9.1.3.3 PLO Evaluation Process*



**9.1.3.4. Describe the assessment tools used to measure Degree Program Objectives and Program Learning Outcomes as stated in 9.1.3.2 and 9.1.3.3 above, and,**

As shown in Section 9.1.3.2, each of the Program Learning Objectives is mapped to the eight Program Objectives of the CM Department.

The following assessment tools are used to gather information about the Program Learning Outcomes:

- review of direct assessments measured from student work;
- results of the comprehensive American Institute of Constructors (AIC) Exam;
- graduating senior exit survey;
- industry surveys; and
- input from the program's industry advisory board.

**Describe the frequency for using the tools.**

See the Outcomes Assessment and Cour Mapping Matrix.

**Describe the procedures for data collection.**

For the direct assessments measured in each course, the faculty PLO champion is responsible for collecting results of the measure on a quarterly basis. Results are tabulated and provided to the outcomes assessment committee on either a quarterly or annual basis, as determined by the PLO champion. All results are collected in Microsoft

Teams. For more information about each assessment measure, see the Visiting Team folder for each PLO

The AIC exam is administered twice yearly. The results of the AIC exam are collected by the Senior Project Director and forwarded on to the Outcomes Assessment Committee for review and recording. All results are collected in Microsoft Teams.

The graduating senior survey and industry employer surveys are sent out annually each spring (May or June) using Survey Monkey. The results are recorded and collected by Survey Monkey, with consolidated annual results updated in Microsoft Teams.

**9.1.3.5. Describe the Performance Criteria used to measure the achievement of the Degree Program Objectives and Program Learning Outcomes as stated in 9.1.3.2 and 9.1.3.3 above.**

See the Outcomes Assessment and Course Mapping Matrix.

**9.1.3.6. Describe the Evaluation Methodology used for data collection.**

See the visiting team shared folder for each PLO

**9.1.4. ASSESSMENT IMPLEMENTATION PLAN**

Describe the educational unit's Assessment Implementation Plan for the continuous improvement of the degree program and provide evidence that the degree program is making progress in achieving its mission, objectives, and learning outcomes and that it takes the outcomes assessment results into consideration in degree program development.

Specifically demonstrate that:

**9.1.4.1. The degree program is conducting a comprehensive assessment of its goals and Program Learning Outcomes, and collecting data at least annually.**

The Quality Improvement Plan in Appendix C clearly identifies what data is being collected to support each PLO. Data collections happens at least annually, with full review happening every three years (See the Outcomes Assessment and Course Mapping Matrix for a complete schedule).

9.1.4.2. The results of each assessment cycle are documented in a systematic manner and that a complete assessment cycle of all Student Learning Outcomes is conducted at least once every three years.

The results of each assessment cycle are documented in a PLO report which includes the direct assessment embedded in one of the core courses as well as the results of the AIC exams and survey responses.

See the Outcomes Assessment and Course Mapping Matrix for a complete schedule.

9.1.4.3. Evaluation of the Degree Program Objectives and Program Learning Outcomes are being compared to the stated performance criteria to determine whether stated objectives and Program Learning Outcomes were achieved and if there is a validated need for improvement in any areas.

The assessment of the CM Program Objectives is supported by the evidences of the attainment of CM PLOs. Table 9.1.4.3 shows how CM Program Objectives are mapped to Program Learning Outcomes

The results of each 3-year cycle are shared and evaluated each year at the fall department retreat. Any challenges, weaknesses, and strengths are discussed so improvements can be made to the instrument, program, or individual courses.

*Table 9.1.4.3 Mapping of CM Program Objectives and PLOs*

	<b>Program Objectives</b>	<b>PLO #</b>
1.	Demonstrate a readiness and ability to perform in the construction industry	4, 5, 7, 10, 11, 14, 15, 16, 19, 20
2.	Demonstrate an ability to apply problem-solving skills and integrate technical knowledge.	9
3.	Demonstrate an ability to participate successfully within an interdisciplinary team environment.	6, 23
4.	Demonstrate an understanding of professional behavior, standards, and leadership attributes.	6, 23
5.	Demonstrate an ability to communicate effectively, both orally and written, and professionally present ideas.	1, 2

	<b>Program Objectives</b>	<b>PLO #</b>
6.	Demonstrate a propensity for life long learning and service to the industry and community at large.	21, 22
7.	Demonstrate an understanding of construction management in the context of the larger world of the arts, sciences, and technology	24
8.	Demonstrate ability to make reasoned decisions based on a respect for diversity	25

9.1.4.4. After each comprehensive assessment cycle, the entire process is being reviewed and updated with plans for improvement including any revisions to the degree program's assessment plan.

The CM Department conducts comprehensive assessments of all Program Objectives and Learning Outcomes. External survey data is collected once every year. The AIC Level 1 exam is administered in both fall and spring quarters with data collection occurring concurrently with the exams. All course-level assessments are administered every quarter in each section of every class in which the embedded assessment is hosted with data is collected concurrently.

For each PLO, process evaluators (PLO Champions) are tasked with, for every evaluation, composing a report containing comparative and descriptive information, and distributed to a pre-determined list of recipients. The evaluator(s) is charged with recommending changes to the program's curricula or to the outcome assessment process itself. Recommendations are in the form of written documents submitted to the appropriate committee.