

# Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



**CAL POLY**

Construction Management

COLLEGE OF ARCHITECTURE  
& ENVIRONMENTAL DESIGN

## PLO# 8. Apply electronic-based technology to manage the construction process.\*

### Assessment Measure Summary Results

| Assessment Measure 1: Activity with Rubric |                                                                                                                                                                                                                                                                                                                                                          | MEETS TARGET |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Type:                                      | Direct Measure                                                                                                                                                                                                                                                                                                                                           |              |
| Course & Assignment:                       | CM 280 (Building Information Modeling); Embedded Question in Exam with Rubric                                                                                                                                                                                                                                                                            |              |
| Goal:                                      | 80% of students achieve 80% or better                                                                                                                                                                                                                                                                                                                    |              |
| Date(s) of OAM reviews:                    | June 2021 (for AY 2020-2021)<br>June 2022 (for AY 2021-2022)<br>June 2023 (for AY 2022-2023)<br>June 2024 (for AY 2023-2024)<br>June 2025 (for AY 2024-2025)<br>June 2026 (for AY 2025-2026)                                                                                                                                                             |              |
| Results:                                   | 98% of students achieved 80% or higher in AY 2020-2021<br>96% of students achieved 80% or higher in AY 2021-2022<br>99% of students achieved 80% or higher in AY 2022-2023<br>96% of students achieved 80% or higher in AY 2023-2024<br>99% of students achieved 80% or higher in AY 2024-2025<br>97% of students achieved 80% or higher in AY 2025-2026 |              |
| Revisions made to instrument:              | None.                                                                                                                                                                                                                                                                                                                                                    |              |
| Actions Taken and Results:                 | No follow-up action is needed.                                                                                                                                                                                                                                                                                                                           |              |
| Recommendations for Improvement:           | Adding more Bluebeam tools will strengthen student skills and meet industry needs.                                                                                                                                                                                                                                                                       |              |

| Assessment Measure 2: Survey – Graduating Seniors |                                                                                                                                                                                                                                                                                      | GOAL MET |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Type:                                             | Indirect Measure                                                                                                                                                                                                                                                                     |          |
| Goal:                                             | 80% of students rate their ability as good and above.                                                                                                                                                                                                                                |          |
| Dates of OAM reviews:                             | June 2021 (for AY 2020-2021); June 2024 (for AY 2023-2024); June 2025 (for AY 2024-2025); June 2026 (for AY 2025-26)                                                                                                                                                                 |          |
| Results:                                          | June 2021: 96% of students rated abilities as good or above (n=53)<br>June 2024: 93% of students rated abilities as good or above (n=59)<br>June 2025: 100% of students rated abilities as good or above (n=9)<br>June 2026: 90% of students rated abilities as good or above (n=20) |          |
| Actions Taken:                                    | Student-led senior projects collected qualitative data using focus groups to get additional insights (June 2024 and June 2025).                                                                                                                                                      |          |
| Recommendations for Improvement:                  | Work with ASCM student club to increase response rates.                                                                                                                                                                                                                              |          |

| Assessment Measure 3: Survey – Industry Employer |                  | GOAL MET |
|--------------------------------------------------|------------------|----------|
| Type:                                            | Indirect Measure |          |

Outcomes Assessment Report

**PLO 8:e-based Technology**

Date of Report: July 2026

\*Previously PLO Number 10. The number was adjusted when original PLOs 7 (documents), 9 (multi-disciplinary skills), and 13 (risk management) were removed from the original required PLO assessment measures.

As prescribed in Section 8.5.1 and 9.4.1 of ACCE Document 103, Standards and Criteria for the Accreditation of Construction Education Programs

# Outcomes Assessment

## Student Learning Outcomes and Degree Program Objectives



**CAL POLY**

Construction Management

COLLEGE OF ARCHITECTURE  
& ENVIRONMENTAL DESIGN

|                                  |                                                                                                                                                                                                                     |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                            | 50% of employers rate students' abilities as good and above.                                                                                                                                                        |
| Dates of OAM reviews:            | June 2021 (for AY 2020-21); June 2024 (for AY 2023-2024); June 2026 (for AY 2025-2026)                                                                                                                              |
| Results:                         | June 2021: 100% of employers rated abilities as good or above (n=21)<br>June 2024: 100% of employers rated abilities as good or above (n=28)<br>June 2026: 93% of employers rated abilities as good or above (n=30) |
| Actions Taken:                   | Advertising survey at annual CMAC meeting to increase response rate                                                                                                                                                 |
| Recommendations for improvement: | Survey lacks consistent responses; work with CMAC Committee to determine ways to increase response rates.                                                                                                           |

| Assessment Measure 4: AIC Exam   |                                                                                                                                                      | GOAL MET |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Type:                            | Indirect Measure                                                                                                                                     |          |
| Goal:                            | The department's performance is better than the national average.                                                                                    |          |
| Dates of OAM review:             | Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2025, Fall 2025                                                                    |          |
| Results:                         | 100% of students outperformed the national average on each exam (Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2025, Fall 2025). |          |
| Actions Taken:                   | None                                                                                                                                                 |          |
| Recommendations for Improvement: | None                                                                                                                                                 |          |

### Method of Assessment:

This assessment evaluates students' ability to apply e-based technology to manage the construction process. The course (CM 280) covers multiple construction technologies, but utilizes Bluebeam for the assessment. The assessment measure uses a standardized rubric created and validated by faculty.

### Actions taken:

#### Direct Assessment Measure:

No adjustments have been made to the assessment instrument.

### Discussion:

The assessment tool remains appropriate for this PLO. The assessment instrument is well-structured and evaluates students' ability to apply e-based technology to management the construction process.

During the semester transition conversations with industry, industry members have recommended increased utilization of tools within Bluebeam.

### Recommendations for Improvement:

With the transition to a semester-based curriculum in Fall 2026, the assessment instrument and assignment will remain in CM 1280. Ongoing quarterly reporting by faculty will support effective monitoring of student learning outcomes and continuous improvement.

# Outcomes Assessment

## Student Learning Outcomes and Degree Program Objectives



The Bluebeam assignment can be updated to incorporate more tools used in Bluebeam (overlay, toolboxes, layers, etc.) to provide a more in-depth understanding of Bluebeam, per industry recommendations.

### Additional Data for Outcomes Assessment Measures:

#### Assessment Measure 1: Individual Assignment with Rubric

| Quarter     | Number of CM students who completed the assignment | Total number of CM students with 80% or more on the assignment | Percent of students with 80% or more |
|-------------|----------------------------------------------------|----------------------------------------------------------------|--------------------------------------|
| Winter 21   | 67                                                 | 66                                                             | 99%                                  |
| Spring 21   | 65                                                 | 64                                                             | 98%                                  |
| Fall 21     | 32                                                 | 30                                                             | 94%                                  |
| Winter 22   | 46                                                 | 45                                                             | 98%                                  |
| Fall 22     | 41                                                 | 40                                                             | 98%                                  |
| Winter 23   | 44                                                 | 44                                                             | 100%                                 |
| Spring 23   | 40                                                 | 39                                                             | 98%                                  |
| Fall 23     | 76                                                 | 73                                                             | 96%                                  |
| Winter 24   | 19                                                 | 18                                                             | 95%                                  |
| Spring 24   | 21                                                 | 20                                                             | 95%                                  |
| Fall 2024   | 11                                                 | 11                                                             | 100%                                 |
| Fall 2024   | 9                                                  | 9                                                              | 100%                                 |
| Fall 2024   | 9                                                  | 9                                                              | 100%                                 |
| Winter 2025 | 21                                                 | 21                                                             | 100%                                 |
| Winter 2025 | 22                                                 | 22                                                             | 100%                                 |
| Winter 2025 | 16                                                 | 16                                                             | 100%                                 |
| Spring 2025 | 24                                                 | 24                                                             | 100%                                 |
| Spring 2025 | 17                                                 | 15                                                             | 88%                                  |
| Spring 2025 | 13                                                 | 13                                                             | 100%                                 |
| Fall 2025   | 19                                                 | 18                                                             | 95%                                  |
| Fall 2025   | 20                                                 | 20                                                             | 100%                                 |
| Fall 2025   | 3                                                  | 3                                                              | 100%                                 |
| Winter 2026 | 10                                                 | 10                                                             | 100%                                 |
| Winter 2026 | 23                                                 | 23                                                             | 100%                                 |
| Winter 2026 | 21                                                 | 21                                                             | 100%                                 |
| Winter 2026 | 8                                                  | 6                                                              | 75%                                  |
| Spring 2026 | 23                                                 | 23                                                             | 100%                                 |
| Spring 2026 | 12                                                 | 11                                                             | 92%                                  |
| Spring 2026 | 14                                                 | 14                                                             | 100%                                 |
| Spring 2026 | 15                                                 | 14                                                             | 88%                                  |

#### Assessment Measure 2: Survey – Graduating Seniors

| Rating | 2020-2021 | 2023-2024 | 2024-2025 | 2025-2026 |
|--------|-----------|-----------|-----------|-----------|
| Poor   | 0         | 0         | 0         | 0         |

Outcomes Assessment Report

#### PLO 8:e-based Technology

Date of Report: July 2026

*\*Previously PLO Number 10. The number was adjusted when original PLOs 7 (documents), 9 (multi-disciplinary skills), and 13 (risk management) were removed from the original required PLO assessment measures.*

*As prescribed in Section 8.5.1 and 9.4.1 of ACCE Document 103, Standards and Criteria for the Accreditation of Construction Education Programs*

# Outcomes Assessment

## Student Learning Outcomes and Degree Program Objectives

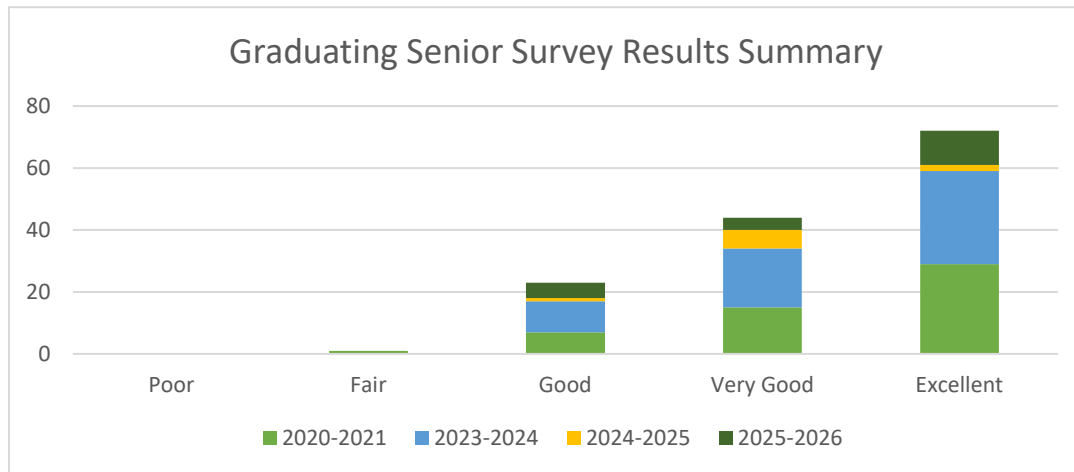


**CAL POLY**

Construction Management

COLLEGE OF ARCHITECTURE  
& ENVIRONMENTAL DESIGN

|                             |     |     |      |     |
|-----------------------------|-----|-----|------|-----|
| Fair                        | 2   | 4   | 0    | 2   |
| Good                        | 17  | 17  | 3    | 7   |
| Very Good                   | 16  | 24  | 4    | 7   |
| Excellent                   | 18  | 14  | 2    | 4   |
| Total Responses             | 53  | 59  | 9    | 20  |
| Total - Good or Better      | 51  | 55  | 9    | 18  |
| Percentage - Good or Better | 96% | 93% | 100% | 90% |



### Assessment Measure 3: Survey – Industry Employers

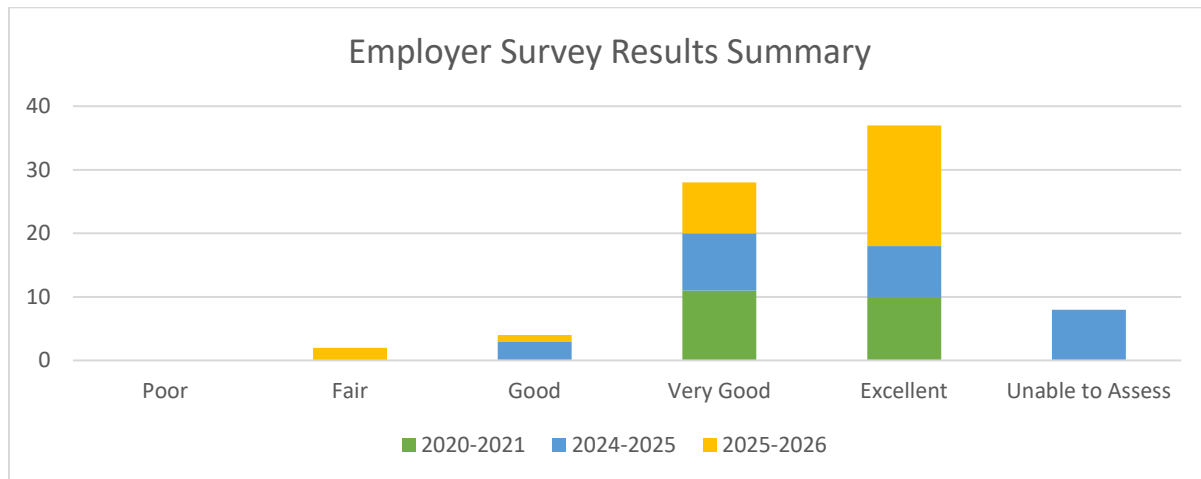
| Rating                                                               | 2020-2021 | 2024-2025 | 2025-2026 |
|----------------------------------------------------------------------|-----------|-----------|-----------|
| Poor                                                                 | 0         | 0         | 0         |
| Fair                                                                 | 0         | 0         | 2         |
| Good                                                                 | 0         | 3         | 1         |
| Very Good                                                            | 11        | 9         | 8         |
| Excellent                                                            | 10        | 8         | 19        |
| Unable to Assess                                                     | 0         | 8         | 0         |
| Total Responses                                                      | 21        | 28        | 30        |
| Total - Good or Better                                               | 21        | 20        | 28        |
| Percentage - Good or Better<br>(excludes unable to assess responses) | 100%      | 100%      | 93%       |

# Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



**CAL POLY**  
Construction Management  
COLLEGE OF ARCHITECTURE  
& ENVIRONMENTAL DESIGN



Assessment Measure 4: AIC Exam Results Summary:

*Note: The AIC exam did not report PLO 8 results for Spring 2024, Fall 2024, and Spring 2026.*

## AIC Exam Results - PLO No.8

|                  | Fall 2021 | Spring 2022 | Fall 2022 | Spring 2023 | Fall 2023 | Spring 2024 | Fall 2024 | Spring 2025 | Fall 2025 | Spring 2026 |
|------------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| School Average   | 75%       | 80%         | 83%       | 86%         | 78%       | 0%          | 0%        | 89%         | 86%       | 0%          |
| National Average | 66%       | 71%         | 71%       | 75%         | 73%       | 0%          | 0%        | 71%         | 71%       | 0%          |

