

Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



CAL POLY

Construction Management

COLLEGE OF ARCHITECTURE
& ENVIRONMENTAL DESIGN

PLO# 4. Create construction project cost estimates.

Assessment Measure Summary Results

Assessment Measure 1: Individual Assignment with Rubric		GOAL NOT MET
Type:	Direct Measure	
Course & Assignment:	CM 314 (Heavy Civil Construction Management); Estimating Lab	
Goal:	80% of students achieve an estimate within 15% of known costs	
Date(s) of OAM reviews:	Winter 2021, Spring 2021, Winter 2022, Spring 2022, Spring 2023, Fall 2023, Winter 2024, Spring 2024, Fall 2024, Winter 2025, Spring 2025, Fall 2025, Winter 2026, Spring 2026	
Results:	63% of students estimated costs within 15% accuracy in AY 2020-2021 73% of students estimated costs within 15% accuracy in AY 2021-2022 60% of students estimated costs within 15% accuracy in AY 2022-2023 63% of students estimated costs within 15% accuracy in AY 2023-2024 71% of students estimated costs within 15% accuracy in AY 2024-2025 51% of students estimated costs within 15% accuracy in AY 2025-2026	
Revisions made to instrument:	None.	
Actions Taken and Results:	The course now has three sections, each taught by different faculty members to meet the increased demand from another department on campus and a newly offered minor. It is important to provide additional training for the faculty members to ensure consistent and rigorous instruction across all sections.	
Recommendations for Improvement:	Faculty consistently report and analyze assessment data each quarter and year. Sharing their effective practices with other faculty and the outcomes assessment committee would help streamline, evaluate, and better document assessment processes for all measures.	

Assessment Measure 2: Survey – Graduating Seniors		GOAL PARTIALLY 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: 89% of students rated abilities as good or above (n=53) June 2024: 91% of students rated abilities as good or above (n=58) June 2025: 78% of students rated abilities as good or above (n=9) June 2026: 1000% 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
--	----------

Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



CAL POLY

Construction Management

COLLEGE OF ARCHITECTURE
& ENVIRONMENTAL DESIGN

Type:	Indirect Measure
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: 84% of employers rated abilities as good or above (n=21) June 2024: 60% of employers rated abilities as good or above (n=20) June 2026: 88% 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 (through Fall 2023)	
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	
Results:	100% of students outperformed the national average on each exam (Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023).	
Actions Taken:	None	
Recommendations for Improvement:	After Fall 2023, the AIC exam no longer reports results for this measure; discontinue use of AIC exam as assessment measure for this PLO	

Method of Assessment:

This assessment evaluates students' creation of a concrete slab estimate with costs provided, and students should accurately estimate the project to within 15% of known costs.

Actions taken:

Direct Assessment Measure:

A new faculty member was hired to teach this course. Initially, the students did not meet the target during the first couple of quarters of instruction. However, after receiving additional mentorship, the students have improved their performance on the assessment.

Discussion:

The assessment tool is still considered appropriate for this PLO. The assessment instrument is well structured and evaluates students' abilities to create an estimate.

When creating the estimate, students are well versed in the technology and processes for completing the technical aspects of the estimate. Areas of weakness include understanding how to allocate contingency, determining the amount of time to complete the work, and accounting for a sloped side but flat slab.

Recommendations for Improvement:

In Fall 2026, the outcomes assessment measure will move to CM 4411 as part of the semester-based curriculum transition. Current OAM faculty should collaborate with the CM 4411 team to establish

Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



CAL POLY
Construction Management
COLLEGE OF ARCHITECTURE
& ENVIRONMENTAL DESIGN

effective methods for data collection, analysis, and reporting. Developing a clear rubric will help identify areas where students need additional support, allowing targeted improvements across the curriculum.

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 who achieved an estimate within 15% of known costs	Percent of students within 15% of known costs
Winter 2021	18	11	61%
Spring 2021	51	35	65%
Winter 2022	51	35	65%
Spring 2022	59	48	81%
Spring 2023	25	15	60%
Fall 2023	57	43	75%
Winter 2024	49	33	67%
Spring 2024	47	20	43%
Fall 2024	50	37	74%
Winter 2025	36	26	72%
Spring 2025	37	25	68%
Fall 2025	41	20	49%
Winter 2026	47	20	43%
Spring 2026	25	15	60%

Assessment Measure 2: Survey – Graduating Seniors

Rating	2020-2021	2023-2024	2024-2025	2025-2026
Poor	0	1	0	0
Fair	6	4	2	0
Good	24	31	3	10
Very Good	13	15	3	8
Excellent	10	7	1	2
Total Responses	53	58	9	20
Total - Good or Better	47	53	7	20
Percentage - Good or Better	89%	91%	78%	100%

Outcomes Assessment

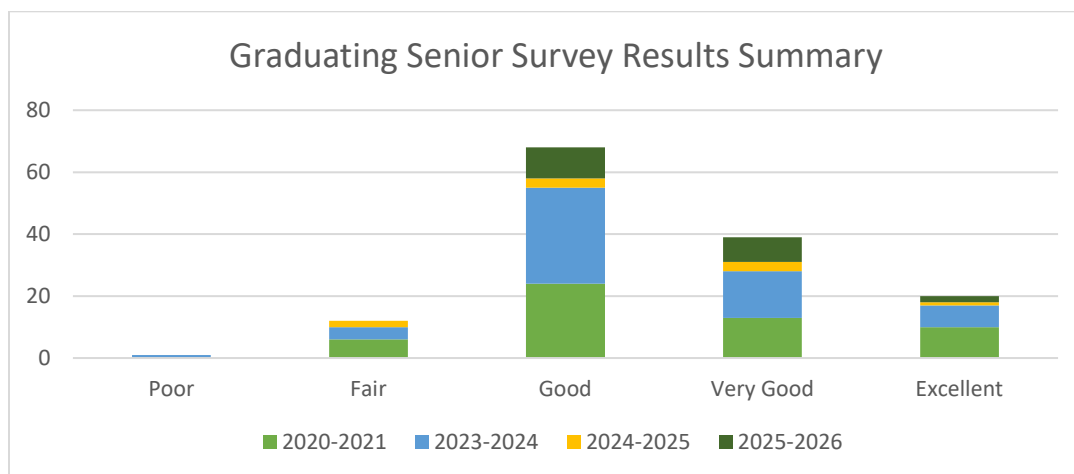
Student Learning Outcomes and Degree Program Objectives



CAL POLY

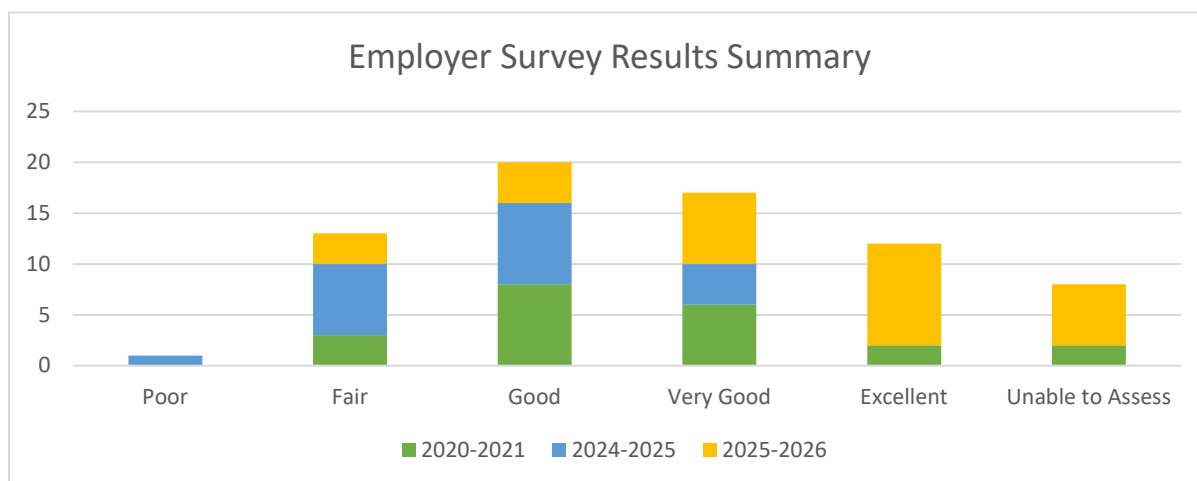
Construction Management

COLLEGE OF ARCHITECTURE
& ENVIRONMENTAL DESIGN



Assessment Measure 3: Survey – Industry Employers

Rating	2020-2021	2024-2025	2025-2026
Poor	0	1	0
Fair	3	7	3
Good	8	8	4
Very Good	6	4	7
Excellent	2	0	10
Unable to Assess	2	0	6
Total Responses	21	20	30
Total - Good or Better	16	12	21
Percentage - Good or Better (excludes unable to assess responses)	84%	60%	88%



Assessment Measure 4: AIC Exam Results Summary:

Note: The AIC exam stopped reporting PLO4 results after Fall 2023.

	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	Spring 2026
School Average	73%	76%	83%	82%	78%	0%	0%	0%	0%	0%
National Average	65%	70%	74%	69%	67%	0%	0%	0%	0%	0%

Outcomes Assessment

Student Learning Outcomes and Degree Program Objectives



CAL POLY
Construction Management
COLLEGE OF ARCHITECTURE
& ENVIRONMENTAL DESIGN

