

Assessment Plan, Measures and Actions Taken

Construction Management B.S. Program

Academic Year 2016-2017

Department of Manufacturing and Construction Management

School of Engineering, Science and Technology

Central Connecticut State University

Assessment Plan

From the Mission Statement and Goals of the Construction Management B.S. program, the Program Learning Outcome (PLOs) were developed, which are matched to the 20 Student Learning Outcomes (SLOs) required by ACCE. Each SLO is assessed by two Assessment Measures, where at least one of the measures is Direct Assessment, such that:

1. Direct Assessment (DA) of the twenty SLOs using a rubric developed for each SLO.
2. Direct Assessment (DA) and Indirect Assessment (IA) of each SLO by the AC exam of AIC. The ACCE standard specifies twelve Learning Outcomes from the AC exam as Direct Assessments (SLO 6, 7, 8, 12-20), and eight Learning Outcomes as Indirect Assessments (SLO 1-5, 8, 9, 10, 11)

Table 1. Matching of the SLO's to the PLO's, and each SLO is assessed by two Assessment Measures (at least one is Direct Assessment)

SLO	PLO	Course No.	Assessment Measurement	DA / IA
1	4	CM 465	Rubric; 70% of students obtain 70% or better	DA
1	4	AC Exam	Score; 85% of students obtain 50% or better	IA
2	4	CM 455	Rubric; 70% of students obtain 70% or better	DA
2	4	AC Exam	Score; 85% of students obtain 50% or better	IA
3	1.5	CM 335	Rubric; 70% of students obtain 70% or better	DA
3	1.5	AC Exam	Score; 85% of students obtain 50% or better	IA
4	1.2	CM 325	Rubric; 70% of students obtain 70% or better	DA
4	1.2	AC Exam	Score; 85% of students obtain 50% or better	IA
5	1.4	CM 355	Rubric; 70% of students obtain 70% or better	DA
5	1.4	AC Exam	Score; 85% of students obtain 50% or better	IA
6	1.1	CM 435	Rubric; 70% of students obtain 70% or better	DA
6	1.1	AC Exam	Score; 85% of students obtain 50% or better	DA
7	1.4	CM 355	Rubric; 70% of students obtain 70% or better	DA
7	1.4	AC Exam	Score; 85% of students obtain 50% or better	DA
8	3.2	CM 356	Rubric; 70% of students obtain 70% or better	DA
8	3.2	AC Exam	Score; 85% of students obtain 50% or better	DA
9	4	CM 455	Rubric; 70% of students obtain 70% or better	DA
9	4	AC Exam	Score; 85% of students obtain 50% or better	IA
10	2	CM 355	Rubric; 70% of students obtain 70% or better	DA
10	2	AC Exam	Score; 85% of students obtain 50% or better	IA
11	3.3	CM 353	Rubric; 70% of students obtain 70% or better	DA
11	3.3	AC Exam	Score; 85% of students obtain 50% or better	IA
12	1.3	CM 455	Rubric; 70% of students obtain 70% or better	DA
12	1.3	AC Exam	Score; 85% of students obtain 50% or better	DA
13	1.6	CM 455	Rubric; 70% of students obtain 70% or better	DA
13	1.6	AC Exam	Score; 85% of students obtain 50% or better	DA
14	1.3	CM 475	Rubric; 70% of students obtain 70% or better	DA
14	1.3	AC Exam	Score; 85% of students obtain 50% or better	DA

15	1.4	CM 356	Rubric; 70% of students obtain 70% or better	DA
15	1.4	AC Exam	Score; 85% of students obtain 50% or better	DA
16	1.4	CM 455	Rubric; 70% of students obtain 70% or better	DA
16	1.4	AC Exam	Score; 85% of students obtain 50% or better	DA
17	1.1	CM 435	Rubric; 70% of students obtain 70% or better	DA
17	1.1	AC Exam	Score; 85% of students obtain 50% or better	DA
18	3.2	CM 455	Rubric; 70% of students obtain 70% or better	DA
18	3.2	AC Exam	Score; 85% of students obtain 50% or better	DA
19	3.1	CM 425	Rubric; 70% of students obtain 70% or better	DA
19	3.1	AC Exam	Score; 85% of students obtain 50% or better	DA
20	3.2	CM 275	Rubric; 70% of students obtain 70% or better	DA
20	3.2	AC Exam	Score; 85% of students obtain 50% or better	DA

Table 2. Mapping of the ACCE SLO to the CM courses

Course No.	Course Title	Student Learning Outcomes																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CM 135	Construction Graphics/Take-Off				I					I											
CM 145	CAD & BIM Tools for Constructn									I											
CM 155	Construction Documents	I	I				I	I					I					I	I		
CM 235	Building Construction Systems								I										I		
CM 245	Heavy/Hwy Construct. Systems								I						I		I		I		
CM 275	Intro to MEP Systems																				DA
CM 325	Building Construct. Estimating		R		DA						R										
CM 335	Construction Safety			DA																	
CM 345	Heavy/Hwy Constr. Estimating		R		R						R										
CM 353	Introduction to Surveying											DA									
CM 355	Construction Planning		DA			DA		DA			DA										
CM 356	Materials of Construction								DA						DA						
CM 425	Applied Structural Systems								R											DA	
CM 435	Construction Superintendency						DA											DA			
CM 455	Constr. Project Management									DA			DA	DA			DA		DA		
CM 465	Construction Internship	DA																			
CM 475	Constr. Business Principles														DA		R	R			
AC Exam	By AIC in CM 485 Senior Lab	IA	IA	IA	IA	IA	DA	DA	DA	IA	IA	IA	DA	DA	DA	DA	DA	DA	DA	DA	DA
* ET 241	Applied Statics/Strength of Mats																				
** CM 415	Intro to Constr. Law																	R			

I = Introduced, R = Reinforced, DA = Direct Assessment, IA = Indirect Assessment

** ET 241: taught by different department*

*** CM 415: Elective course*

Assessment Implementation Plan

Fig. 1 shows the AC Exam Results in the twenty Student Learning Outcomes for 2015-16 and 2016-17 Academic Years of the Primary Goal of 85% of students scoring 50% or better. Based on the Assessment Results of each of the SLO's, the action to be taken is summarized in Table 3.

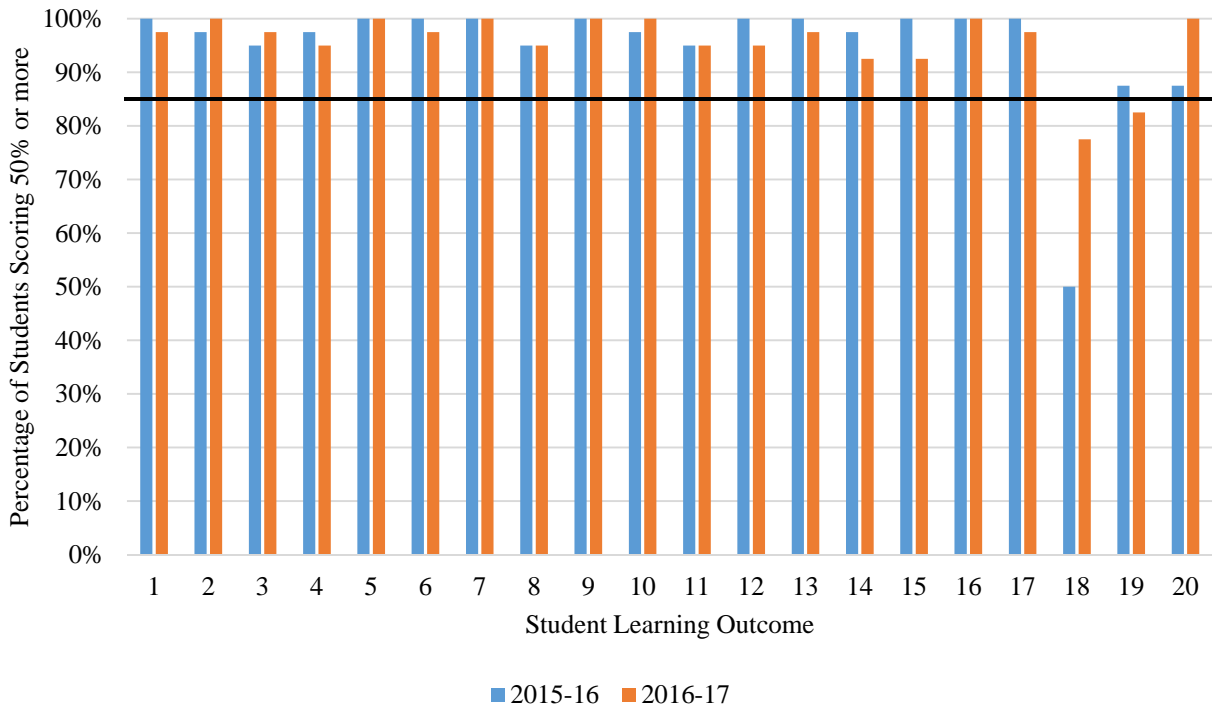


Figure 1. The AC Exam Results for Academic Years 2015-16 and 2016-17.

Table 3. Assessment results of the SLO's and the action taken by the CM Program

SLO	Meets Goal	Course No.	Action taken
1	Yes	CM 465	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
1	Yes	AC Exam	Based on this outcome it would appear that the addition of ENGR290 to the curriculum in Fall 2013 is having the desired results.
2	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
2	Yes	AC Exam	Based on this outcome it would appear that the addition of ENGR290 to the curriculum in Fall 2013 is having the desired results.
3	Yes	CM 335	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.

3	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
4	Yes	CM 325	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
4	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
5	Yes	CM 355	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
5	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
6	Yes	CM 435	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
6	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
7	Yes	CM 355	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
7	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
8	Yes	CM 356	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
8	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
9	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
9	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
10	Yes	CM 355	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
10	Yes	AC Exam	Based on the outcome of this year's assessment it would appear that the addition of computer skills assessment in the CM 485 course is having the desired results.
11	Yes	CM 353	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
11	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
12	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
12	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
13	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
13	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
14	Yes	CM 475	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
14	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
15	Yes	CM 356	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.

15	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
16	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
16	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
17	Yes	CM 435	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
17	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
18	Yes	CM 455	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
18	No	AC Exam	The outcome score has increased from 50% in 2015-16 to 78% in 2016-17. Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
19	Yes	CM 425	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
19	No	AC Exam	The faculty teaching the courses CM 425 Applied Structural Systems and ET 241 Applied Statics and Strength of Materials met and discussed possible ways to improve this outcome. Among the changes implemented starting last Spring, Spring 2016, was changing the required book for the two courses to an up-to-date book, and having ET 241 (the pre-req course to CM 425) cover the first half of the book, and CM 425 to cover the second half. It is expected that this change will have a positive impact on the AIC 2017-18 test scores.
20	Yes	CM 275	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.
20	Yes	AC Exam	Faculty are meeting regularly to continue to monitor and discuss progress, currently no action item was considered.

Summary

The program conducts annually a comprehensive assessment of its goals and Learning Outcomes. Every three years the results of each assessment cycle are documented and a complete assessment cycle of all Student Learning Outcomes is conducted. Annually evaluation of the program's objectives and Learning Outcomes are being compared to the set performance criteria to achievement and improvements are recommended and implemented.

The strategic plan is reviewed and updated every six years. A comprehensive review cycle is conducted every three years, which matches the University's Assessment requirements.