

Construction Management Program Annual Report on Assessment 2014-2015 Academic Year

Preface

Following is the Construction Management Program’s assessment report for the 2014-2015 academic year. It is important to note that the American Council for Construction Education (ACCE), the academic accreditation organization of construction management programs, has recently revised its standards and criteria for accreditation to reflect an outcome-based assessment approach, effective fall 2015. Accordingly, the CM program’s learning outcomes will be updated to be consistent with the new ACCE requirements for the next review cycle.

1. What Learning Outcomes did you assess?

The following Program Learning Outcomes ([link to full document](#)) were assessed:
(I = Introduced, T = Taught, U = Utilized // ***Bold-Italicized*** = *Assessed in the designated course*)

(Green = Standard Met, Yellow = At Standard, Red = Standard Not Met)

PLO#	Title	107	110	116	181
1	Communication		T	<i>T</i>	<i>U</i>
2	Leadership	T	T		U
3	Team Relations	T	T	T	
4	Problem Solving/Critical Thinking*	<i>T</i>	T		
5	Business Management				<i>U</i>
6	Procurement & Pre-Construction		T	<i>T</i>	
7	Project Administration & Control		T	T	
8	Construction Knowledge		T	T	
9	Legal & Ethical Responsibilities		T	T	<i>U</i>
10	Integrated Project Practices	T			
11	Sustainability				U
12	Safety	T			T
GE-E	Lifelong Learning (E)			<i>T</i>	<i>U</i>
GE-IB	Integration				
GE-ID	Integration				<i>U</i>

*Note that this also meets GE A3 requirements.

2. What instruments did you use to assess them?

Direct measures:

The primary measure for program outcomes is the course learning outcomes (direct assessment). This is done in a two-year cycle, whereby we assess each required CM course

for its content, alignment with program goals, and program learning outcomes. The two-year review cycles are part of the so-called “Course Kaizen” series. Each course Kaizen session takes approximately 3 hours and strives to fulfill the two key pillars of lean: *respect for people* and *continuous improvements*. The CM Program has completed the first cycle of Course Kaizens at the conclusion of last academic year ([link to Kaizen schedule](#)).

It should be noted that instructors of record present the specific measures used to assess program-learning outcomes. The attached (appendix I) course assessment form is utilized by each faculty member to compile the relevant information, analyze the data, and close the loop in the process of continuous improvement.

The following courses were reviewed during the 2014-2015 academic year:

Fall 2014:

- CM 181 ([link to documents](#))
- *CM 193 (Internship) – Postponed to AY 15/16*
- *CM Design Elective* (Changed to reviewing elective track - TBD)*
- *CM Sector Elective* (Changed to reviewing elective track - TBD)*
- *CM Tech Elective* (Changed to reviewing elective track - TBD)*

Spring 2015:

- CM 107/L ([link to documents](#))
- CM 110 ([link to documents](#))
- CM 116 ([link to documents](#))
- *CM 122 – Postponed to AY15/16*

Indirect measures:

- Alumni Survey (Spring)
- Student Exit Surveys (Fall & Spring)
- Student Competitions (Fall & Spring)

Additional measures not listed in SOAP:

None this year.

3. What did you discover from the findings?

Findings:

The most important findings are summarized below based upon the assessments. Links to full documentation for each assessment can be found via the links in the ‘measures’ section above.

Direct measures:

Course Kaizen Reviews

Here are some of the significant findings from the Course Kaizen review series this semester:

1. CM 107/L Kaizen:
 - a. The primary program learning outcome assessed in this course was #4 (Problem Solving & Critical Thinking).
 - i. In the lecture portion of the class:
 1. There were 4 different assessment methods used to evaluate this program learning outcome. Students achieved the required minimum (70% average in all cases) in 3 out of 4 methods.
 2. The instructor noted the following from the assessment results:
 - a. There was an overall lack of participation by students in class.
 - b. Most students had taken pre-requisite courses years prior.
 - c. The new textbook presented more challenging materials.
 - ii. In the lab portion of the class:
 1. Students achieved the required minimum (70% average in all cases) in all methods (4 of 4).
2. CM 110 – Course Kaizen was conducted, but no assessment results were presented by instructor.
3. CM 116
 - a. There were three primary program outcomes assessed in this course:
 - i. PLO1 – Communication
 - ii. PLO6 – Preconstruction Planning
 - iii. GE1 – Lifelong Learning (E)
 - b. The instructor assessed these outcomes with 5 course learning outcomes with a minimum standard of 70% score. All outcomes met this minimum standard.
4. CM 181
 - a. There were four primary program learning outcomes assessed in this course:
 - i. PLO1 – Communication
 - ii. PLO5 – Business Management
 - iii. PLO9 – Legal & Ethical Responsibilities
 - iv. GE1 – Lifelong Learning (E)
 - v. GE3 – Integration (ID)
 - b. The instructor assessed these outcomes with 5 course learning outcomes with a minimum standard of 70% score. All outcomes met this minimum standard.

Indirect measures:

Senior Exit Survey (available upon request)

General Findings:

- 44% of the graduates were in the previous curriculum (before 2011/2012).
- Half were interested in graduate studies, over a third (33%) of which would like to start within 2 years.
- 75% were offered full time employment after graduation.
 - 92% were offered full time employment in construction related fields. Most (73%) received 2 or more offers.
- 81% are currently employed.
 - 77% are employed in construction, out of which 64% work in Northern California and the rest work in Fresno/Central Valley. All received a salary offer of more than \$55,000.
- 50% of students changed to CM from another major.
- 56% of students were transferred from community colleges.
- 88% of students completed an internship.
- CM Program Perceptions:
 - The majority of students (75%) felt that they were prepared to work as an entry level CM
 - The majority of students (82%) were satisfied with their Fresno State education
 - The majority (75%) of students were satisfied with the advising process

Alumni Survey (available upon request)

General Findings:

- Over 77% of the graduates were in the previous curriculum (before 2011/2012).
- Over half (54%) were interested in graduate studies.
 - Over half (55%) would like to start immediately or within 2 years.
 - 13% would like to start within 5 years.
 - The majority (70%) preferred a combination of Online and Face-to-Face instructions.
- 95% of the graduates are currently employed in construction with the majority working in Fresno/Central Valley (44%) and Northern California (41%).
 - Most (80%) received a salary offer of more than \$55,000.
- Over 74% of the graduates completed an internship, almost half (45%) of which completed more than one internship.
- CM Program Perceptions:
 - The majority of the graduates (75%) felt that the CM Program adequately prepared them for a career in CM.
 - The majority of the graduates (83%) were satisfied with their Fresno State education

Actionable Findings:

- Recruitment – with the impaction on horizon, we will be partnering with the outreach office to reconfigure new admission criteria (index) for both in and out of service areas. In addition, we will be developing a combination of summer courses and internships to recruit high school and community college (transfer) students. There will be scholarships available to target high achieving students – those who had applied but could not get in Smittcamp Honors College or LCOE’s Husband-Boeing Honors Program.
- Program to Department – another one of our goals is to transition the CM Program into a Department. The program has been functioning essentially like any other department within the college. There is no need for additional resources, personnel, or infrastructure. It is simply a designation. The most recent ACCE (external accreditation body) slated this as one of the top priorities as well.
- Graduate Degree in CM – we will embark on development of a joint Construction Management graduate degree program in collaboration with the Civil Engineering Department.

Additional measures not listed in SOAP:

None this year.

4. What changes did you make as a result of these findings?

The most important findings and changes identified from the above findings are summarized on our ‘Kaizen Action Items’ spreadsheet ([link to spreadsheet](#)). Each item below summarizes the key changes to be made based upon the findings above.

1. List of outstanding action items from ‘Kaizen Action Items’:
 - a. Create lab periods for CM 7S
 - b. Input changes to courses into system as listed
 - c. Assign course ‘custodians’ for all courses taught by part time instructors
 - d. Recommend that lower division students take ART 20 (Drawing) for C1 GE course
 - e. Request waiver for A3 (critical thinking) course since it is now included and assessed in CM 20
 - f. Create lab periods for CM 140
 - g. Create summer bridge program tailored for competition preparation
 - h. Review AIC Exam in Spring
 - i. Set up Fall & Winter job fairs with local companies
 - j. Review adding back Architectural option into catalog (courses still exist)
2. Additional changes from assessments:
 - a. There were two primary action items from the CM 107 Kaizen:
 - i. Instructors were recommended to reach out to professors at other institutions to discuss best practices for delivering this content.

- ii. Instructors agreed to work on developing higher quality lab tutorial videos for students.
- b. The instructor for CM 116 implemented a ‘specifications grading’ approach for this course. The faculty agreed to review this approach again next academic year and determine if this approach would be appropriate for more courses.
- c. There were four primary action items from the CM 181 Kaizen:
 - i. Review measures of assessment: direct and indirect measures;
 - ii. Bring more diverse group of presenter (i.e., field personnel);
 - iii. Bring a global perspective into the class;
 - iv. Create a possible link between CM 1S and CM 181 (Entrance vs Exit).

5. What assessment activities will you be conducting in the 2015-2016 academic year?

The following Course Kaizen review series are planned during the 2015-2016 academic year:

Fall 2015:

- CM 122
- CM 127
- CM 140
- CM 170

Spring 2016:

- CM 1S
- CM 4
- CM 7S
- CM 20

In addition to the direct measures from Course Kaizen review series, the following assessment activities are planned:

- Direct:
 - Senior Capstone Projects (CM 180A&B – Spring 2015)
 - Student Internship Evaluations (CM 193 – Fall)
- Indirect:
 - Employer Survey (Spring)
 - Student Exit Surveys (Fall & Spring)
 - Student Competitions (Reno Course – Spring)

Special Note: CM Program will be revising program goals and learning outcomes to meet our accreditation body’s new ‘Outcome Based’ evaluation process. Continued

discussions were held during the Spring 2015 CM Faculty Retreat. The final version of program goals and outcomes is expected by mid-semester (Fall 2015).

6. What progress have you made on items from your last program review action plan?

Items from 2012 Program Review Action Plan:

Department Status – Pending Approval

- Current Status:
 - LCOE Dean recommended approval in Spring 2015.
 - Academic Senate to review approval in AY15/16.

Leadership, Innovation and Entrepreneurship – In Progress

- Current Status:
 - The CM Program leadership program continues to engage top-notch students and have a significant impact on the overall program.
 - There are two CM faculty members that are Coleman Fellows (Dr. Zoghi and Dr. Wu). Entrepreneurship is integrated throughout the curriculum.
 - Additional funding has been received from Granite Construction to grow this program. The goal is to increase the number of students involved in this program to 10-15% of the overall undergraduate CM majors.

Internship Program – In Progress

- Current Status:
 - Most students now participate in the internship program. However, more work needs to be done to ensure that the experience is consistent for all students.
 - The CM Program received a grant to hire a part-time person to assist with the coordination of the internship program.
 - The internship program is still in transition from a 200-hour requirement to a full 600-hour requirement. It is anticipated that this will be phased in over the next 2-3 years.

Sustainability Certificate Program and Graduate Degree in CM – In Progress

- Current Status:
 - The Sustainability Certificate Program has been paused for the time being in order to focus on a new interdisciplinary graduate degree program in urban studies. The CM Program has taken leadership to help develop this program. This will be the focus for the upcoming coming year.
 - Additionally, the CM Program has partnered with the Gazarian Real Estate Program on a new certificate focused on development of an entrepreneurship in real estate.

Outreach – In Progress

- Current Status:
 - The goal to increase enrollment to 250 students is ongoing. Unfortunately, the overall CM enrollment has continued to dip and is below 200 students at this point. However, this year's enrollment increased and there is more interest from high school and community college students. It is anticipated that the CM enrollment will enhance markedly with the proposed impaction process. There were quite a few out of service area applicants who could not enroll at Fresno State's CM program. The impaction will create new opportunities for those applicants.
 - All faculty members participated in numerous outreach and recruiting events last year. This will continue in the new academic year.
 - The goal is to continue to grow the enrollment by at least 10% each year for the next 5 years.

ADDITIONAL INFORMATION

7. Progress made on items listed in ACCE Re-Accreditation Team Visit

Items from the 2014 ACCE Re-Accreditation Letter:

Strengths

- CM Industry Advisory Board (IAB)
- CM Faculty
- Service Learning integrated throughout curriculum
- Program Support Coordinator (Ms. Robin McNeill)
- LCOE Pathways Student Services program
- CSUF Administration and LCOE Dean's support to make the Program stand-alone unit
- CM Program student body – organized and dedicated

Weaknesses

- Program Outcomes Assessment – Addressed
 - Description: Lack of consistent use of assessment data to improve student achievement
 - Current Status: The assessment process has been streamlined, primarily by using the Course Kaizen Meetings on a consistent basis.
- Curriculum – Addressed
 - Description: Visiting team unable to identify all ACCE topical content (Ethics, Project Management, and Accounting)

- Current Status: This content has been added to several courses that were taught for the first time prior to the accreditation visit. This can be confirmed by reviewing the current course syllabi ([link to syllabi](#)).
- Relations with the General Public – Resolved
 - Description:
 - Website includes language that refers to length of accreditation. (Violated ACCE Standard)
 - Website contains contradictory information.
 - Current Status: Both issues were resolved immediately.
- Course Syllabi – Addressed
 - Description: Course syllabi inconsistent between self-study and course binders. Course descriptions on individual syllabi not consistent with online catalog. Course names varied between syllabi and program flow chart.
 - Current Status: All syllabi have been reviewed and are now consistent with referenced documents ([link to syllabi](#)).

Concerns

- Academic Progress
 - Description: Transition between curriculums has created condition where sequencing, scheduling, and the lack of prerequisites could prevent students from efficiently and effectively obtaining classes needed to progress and/or graduate.
 - Current Status: Nearly all students currently enrolled in the program as within the ‘new’ curriculum standards. Students within the old curriculum standard are advised on a case-by-case basis to ensure that they are able to progress in a timely manner.
- Faculty Evaluation
 - Description: There is no evidence of part-time faculty evaluations, despite these part-time faculty members being used in a fashion similar to tenure-track faculty.
 - Current Status: According to the APM 322b, “For part-time temporary faculty, the first time a course is taught by the instructor and, thereafter, *at least one section every other year of employment* regardless of a break in service.”
 - b. For full-time temporary faculty, *two sections each semester for the first year and two sections each academic year thereafter.*
 -

Undeveloped Potentials

- Department Status
 - Description: The Visiting Team fully supports this program as a full Department.
 - Current Status: See Program Review Action Items comment above.



Lyles College of Engineering
Construction Management Program

Course Assessment Report

Course Name: _____ Prefix and Number: _____
Semester: _____ Year: _____
Taught by: _____ First time teaching the course? Yes: ___ No: ___
Number of students in class: _____
Is this a required course? Yes: _____ No: _____
Assessment method: Direct: _____ Indirect: _____

Did the students meet the minimum standards for all of the course objectives?
Yes: ___ No: ___

Were there any action items from the previous semester?
Yes: ___ No: ___

Please answer the following questions if applicable in a separate sheet and in the order listed.
Use this page as a cover page.

- 1. If the minimum standards for some of the course objectives were not met, please list course objective, your comments, and action to be taken to improve the student performance.
2. If there were action items from the previous semester, please list the item(s) and briefly discuss the impact of these items on the student performance.

Observations and Recommendations:

- 3. Were students well prepared for this course? If not, in what area(s) did you notice weaknesses and what action item do you suggest?
4. Do you have any recommendations to improve the quality of the course including content and method of instruction?

Prepared by: _____ Date: _____

Reviewed by: _____ Date: _____

Results of action items, continued from page 1:

1) If the minimum standards for some of the course outcomes were not met, please list course objective, your comments, and action to be taken to improve the student performance.

2) If there were action items from the previous semester, please list the item(s) and briefly discuss the impact of these items on the student performance.

