

**Annual Report to the Provost  
Clarifications and Suggested Format for the Assessment Section  
CM Program**

**1. What Learning Outcomes did you assess?**

The CM Program has begun the process of implementing an updated SOAP. This includes significant revisions in the program mission and program outcomes. As described in the updated SOAP, four program outcomes will be directly assessed each year. The following outcomes were assessed this academic year:

Outcome 9 – Legal & Ethical Responsibilities

Outcome 10 – Integrated Project Practices

Outcome 11 – Sustainability

Outcome 12 – Safety

**2. What instruments did you use to assess them?**

Direct measures:

- 1) Senior Projects
- 2) Course Assessment Forms
- 3) AIC Level I Exam

Indirect measures:

- 1) Alumni Survey
- 2) Student Exit Interviews
- 3) Associated Schools of Construction Student Competition

**3. What did you discover from the findings?**

Direct measures:

1) Senior Projects – The senior projects in the Spring 2011 CONST 144 were used to assess the students attainment of program outcomes 9 (Legal & Ethical Responsibilities) and 10 (Integrated Project Practices) this year. Teams of students were challenged with planning, designing, and creating construction plans for a new “green sports park” for the City of Clovis. Presentation rubrics were used by the instructor and an industry member to assess the students’ work in these categories. Overall the students performed well in understanding the legal and ethical responsibilities (averaging 4.2 on a scale of 5.0). Additionally, students performed extremely well in the application of integrated project practices (averaging 4.6 on a scale of 5.0).

2) Course Assessment Forms were also used in CONST 144 to assess individual students attainment of program outcomes 11 (Sustainability) this year. Students scored an average of 89% in the course learning objectives related to sustainability. As another indicator, on an extra credit survey given to 75 students in three separate classes at the completion of Fall 2011, overall 84% were able to identify the correct definition for LEED, which is the predominant sustainable design and construction rating system in the United State.

In addition to these assessment forms, students in CONST 50 were required to complete the OSHA 30-hour safety training in the course. This training is required for all students as they

**Annual Report to the Provost  
Clarifications and Suggested Format for the Assessment Section  
CM Program**

begin to work in the construction industry. The pass rate for this training was 46% for all students enrolled in this course.

3) AIC Level I Exam – This exam is administered to graduating seniors of construction management programs throughout the United States. Approximately 15% of our graduating seniors (8 of 57) took the exam this year. Three-quarters (6 of 8) passed the exam this year. Our students scored higher than the national average and the minimum acceptable score in six of the ten exam categories. Here is a summary of the four areas in which our students scored lower than the national average or minimum passing score:

- a) Engineering Concepts – Min. Passing Score 19 – National Average 18.8 – CSUF Average 17.6 – ***Below passing and national average***
- b) Management Concepts – Min. Passing Score 9 – National Average 9.5 – CSUF Average 9.4 – *Passing, but below national average*
- c) Materials, Methods, and Plan Reading – Min. Passing Score 22 – National Average 22.8 – CSUF Average 21.1 – ***Below passing and national average***
- d) Planning, Scheduling, and Control – Min. Passing Score 34 – National Average 35.4 – CSUF Average 34.5– *Passing, but below national average*

Indirect measures:

1) Alumni Survey – The alumni survey was emailed to over 50 alumni and the web-link was also placed on Facebook in order to encourage maximum participation. Currently, there were 14 respondents to this survey. All respondents are currently employed, with 12 of the 14 working in the construction industry. Most of the respondents (9 of 14) graduated within the last 5 years. Moving this survey to an online format greatly increased the overall response in a short amount of time.

Additionally, respondents listed that they were least proficient in the following program outcomes: Business Management (5 “Neutral”), Leadership (3 “Neutral”), and Sustainability (3 “Neutral”).

The most notable finds were that the responses to the following questions:

How would you rate your overall satisfaction with the CM Program?

Only 8 of 14 were “Satisfied” (2-“Neutral”; 3-“Dissatisfied”; 2-“Very”)

How would you rate your satisfaction with your overall education at Fresno State?

Only 7 of 14 were “Satisfied” (5-“Neutral”; 2-“Very Dissatisfied”)

The Fresno State CM Program adequately prepared me for my current profession.

Only 3 of 14 “Agree” (5-“Neutral”; 3-“Disagree”; 3-“Strongly Disagree”)

2) Student Exit Interviews – A total of nine (9) students completed the exit interview survey form. This constitutes a response rate of 45% of the graduating class (20 students) for the semester. The students provided many constructive comments about the courses that they thought need to be revised and/or removed. The only program outcomes that the students highlighted as weaker than other were “Design Theory” (3.89 out of 5.00) and “Computer Software” (3.44 out of 5.00). Perhaps the most notable finding was the overall weakness in advising in the program (averaging less than 3.5 out of 5.0 in all categories).

3) Associated Schools of Construction Student Competition – Twenty-nine (29) students competed in four separate student competition this year. Here is a brief summary of each competition:

Commercial Construction – Teams were tasked with creating a construction bid and plan for a healthcare facility in a state prison. Overall the Fresno State team

**Annual Report to the Provost  
Clarifications and Suggested Format for the Assessment Section  
CM Program**

improved in many of the “soft skill” areas this year. Particularly, the judges noted that this was the best presentation by the team in over 5 years. However, many of the construction related skills (estimating, scheduling, etc) continued to be much weaker than other schools.

Design/Build Solution – The team was tasked with designing and creating a construction plan for a science building at another CSU campus. This team struggled with the challenging content and performed poorly compared to other teams.

Heavy Civil Construction – The problem in this competition was to create a bid and construction plan for 7-miles of rework along I-80 in California. The team completed all work and was second closest to the actual bid price, but missed many of the key aspects of the project. Overall, the team greatly improved over previous years, but was still not close to the top teams.

Leadership in Energy & Environment Design (LEED) – This team was tasked with calculating various design and construction “credits” for the LEED rating system. This team finished in 3<sup>rd</sup> place overall behind University of Washington and Weber State University. (This team beat out teams from Cal Poly, Sac. State, Chico State, Virginia Tech, and other national schools.)

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

The results of these assessments have been addressed throughout the year primarily through the implementation of a revised curriculum that will go into effect next academic year (2011/2012). The following issues identified above will be addressed in the following ways:

- The OSHA 30-hour training certificate will be more closely monitored in the new CM 7'S' course, which will be offered for the first time next fall. It is critical that students complete this training since the 'S' designation of this course will require students to complete construction related service learning opportunities as part of the course.
- Several methods identified a weakness in engineering and design concepts. The new curriculum will require students to take civil engineering design related courses (20, 121, and 127) in order to strengthen this knowledge throughout the curriculum.
- Business management was also identified as weakness for our students. The revised curriculum includes three additional business courses for all students.
- Sustainability was identified as a weak area for recently graduated students. This has been addressed by the inclusion of this content in many courses in the curriculum (CM 144 being one example). It is anticipated that this will change in future years.
- Finally, the advising process has been addressed by keeping the advisors more consistent throughout the student's career. Faculty advisors are now assigned and maintained within the “My Fresno State” system so that students and advisors can easily see the assignment.