



ANNUAL PROGRAM REPORT

College	Science
Department	Engineering
Program	9. #. Engineering Management
Reporting for Academic Year	2013-2015
Next Academic Year Review	2013
Next Academic Year Review	2014-2015
Department Chair	David Otavalli
Date Submitted	1/12/15

I. SELF-STUDY

A. Five-Year Review Planning Goals

- The external reviewer suggested that we should develop a common course for all graduate students that embeds the three prerequisite course materials. He believed that we could attract more students by reducing the number of courses in the program. We will discuss this and decide on how to proceed.
- One of the goals indicated in our previous report was to offer more elective courses. This goal has not been achieved as the number of faculty supporting this program has not changed since 2011. The semester curriculum is designed as such that the students are taking all the required courses in the School of Engineering. This change has alleviated the problems students previously faced in taking courses from the College of Business and Economics. Elective courses will be offered as the need arises.
- (Faculty) The faculty that support this program are also supporting the Industrial Engineering program. The faculty are: Helen Wong (Chair), David Otavalli and David Owen.
- (Research) The faculty are publishing regularly. One of the faculty- Dr. Owen spent 2014-2015 in Africa as a Fulbright scholar. He taught and conducted research with a University there.

- <. \$quipment) Through 62\$2 annual funding and the normal refresh cycle of computers by *T- w are "eeping the \$ngineering 9 anagement ;aboratories current.
- ? . \$nrollment) #tudent enrollment in \$ngineering 9 anagement program has been decreasing for the past couple of years. This could be the result in the difficulty of obtaining student visas to enter the 7.#.

\$. Progress !owar#s Five-Year Review Planning Goals

1. #uccessfully transformed the curriculum to a semester4based program.
2. 6cquired new %= % turning and milling center in @&T 2' 1.
- ' . The program requires ' semester hours of course wor" including a capstone prolect.
- !. 8urchased new robotic arm that is housed in @&T 2' 1 for research in mechatronics and 6*.

C. Progra C%anges an# Nee#s

Overview& The \$ngineering 9 anagement program started in the year 2 ' and was steadily growing until 2 1?. #ince then the international student enrollment has been falling. (rom 2 ! onwards- we have not hired any faculty for this program. The faculty of *ndustrial \$ngineering also serve the \$ngineering 9 anagement program.

C' rri" 'I' & The first year of semester curriculum concluded successfully. The students were properly advised during this transition period.

S! '#en!s& 1emand for \$ngineering 9 anagement graduates is relatively strong for domestic students.

Fa" 'I!(& #ince 2 !- we have had three faculty dedicated to the \$ngineering 9 anagement and the *ndustrial \$ngineering programs. The faculty include 1rs. Helen ,ong- 1avid &owen and (arna. /anlei .adeh.

S!a))& We have two full time staff for the #chool of \$ngineering- a #tudent #ervices 8rofessional 6dvisor- ;isa Holmstrom and a support tech- ;inh =guyen. 6 Iso- a part time 6#% supports the #chool of \$ngineering Office.

Reso' r"es& =ew equipment and software have been added to \$ngineering laboratories.

Assess en!& 6n extensive assessment process is in place for the \$ngineering 9 anagement program. #ample results are provided in the following section.

I. SUMMARY of ASSESSMENT

A. PROGRAM LEARNING OUTCOMES (PLOs)

Students graduating with a M.S. Engineering Management degree from Cal State East Bay will, upon completion of the program,

I.L.O
Alignment

a	Develop advanced analytical skills in optimization, planning and control and other quantitative management techniques.	1- ?
,	Effectively manage teams of multidisciplinary and multicultural professionals.	1- !
"	Understand the impact of engineering and management decisions in a global, economic, environmental, and societal context.	<
#	Have the ability to effectively and persuasively communicate	2
e	Recognize the need for and have an ability to engage in life-long learning.	2- ?

B. Program Learning Outcome Assessment

1. Assess student learning	PLO #1- Recognize the need for and have an ability to engage in life-long learning.
2. Sample questions	Capstone projects
6. Title	Spring 2015
8. Responsible Person	Prof. (name) / (email)
9. Assessment Methodology	Peer evaluation of group/team projects are used as a means to assess the quality of projects and reporting. In addition, faculty in charge of the course and other faculty attending project presentations are completing rubrics for evaluation of the project reports and presentations.
10. Assessment Reporting	The results will be reported by faculty to the department chair via completion of the course (faculty self-assessment form). Decisions on program improvement are made at the annual advisory board meeting.

C. S' ar(o) Assess en! Res' !s& #students wor" on research pro0ects. 9 a0ority of the pro0ects are based on real data from industry. 6s part of this research- they perform a comprehensive literature review and identify a research problem. 6Iso a comprehensive report and presentation of research wor" are required. 6lumni have evaluated the course material as valuable in their professional career. We evaluated the 8 ; O using the quality of the research that the students conducted. #pecifically the thoroughness of their literature search and identification of the problem. The average score for these activities was 3 A with a low of B A and a high grade of 5<. Ten out of the twelve achieved this 8 ; O. We have an ongoing discussion of how to improve the quality of research pro0ects. %hanges such as requiring more independent research will be implemented.

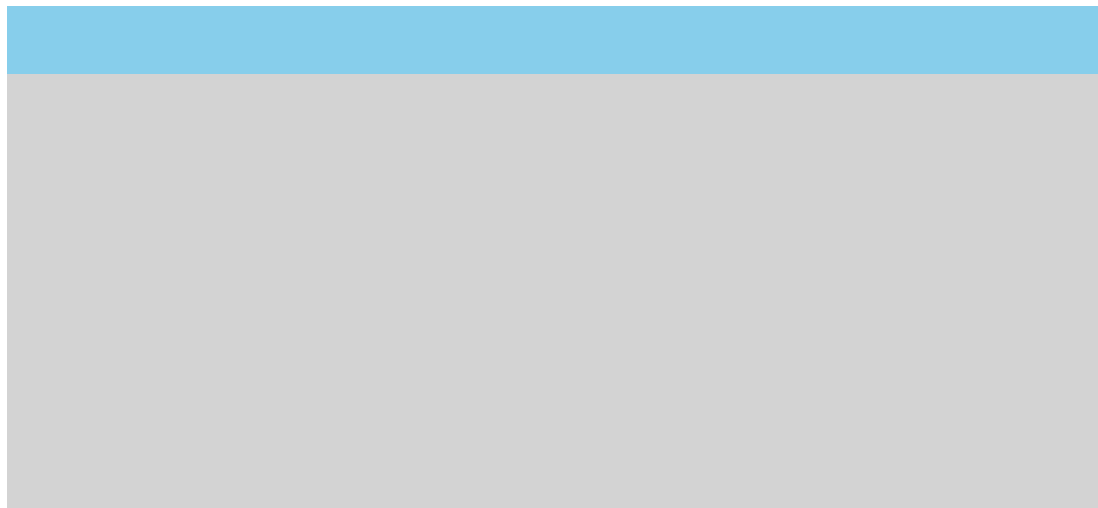
The communication * ; O was evaluated using the presentations- written proposals- and final reports.

6ccording to this rubric- (or the 12 students who completed the course- the average communication score was 3' A C? on rubricD) with the lowest grade of B A C! on rubricD) and the highest of 5<A CB on rubricD) . The ma0ority of students achieved this outcome.

Have the ability to effectively and persuasively				

D. Assess en! Plans)or Ne;! Year

Year 1& 1<--1<1<	Year 1& 1<--1<1<
	# ; O b 4 \$ffectively manage teams of multi4disciplinary and multi4cultural professionals. ▪
▪	



1. Lower enrollment

2. Industry demand for the graduates

3. Active Advisory Board Council

Recommendations on Trends and Program Status

We believe the enrollment in the program will increase to about ? in a couple of years. The application trend is up.

Recommendation for Resources

1. Recommendation for Tenure-Track at AIRES

We have not hired any faculty in Industrial Engineering or Engineering Management since 2010.

All faculty are full time professors. These programs require the addition of a new tenure-track faculty to stay current.

1. Recommendation for Other Resources

7. Keep of the laboratory software and hardware- access to large computer lab classes for some of the courses.