College	Science
Department	Engineering
Program	M.S. Engineering Management
Reporting for Academic Year	2016-2017
Last 5-Year Review	2012
Next 5-Year Review	2018-19
Department Chair	Saeid Motavalli
Date Submitted	10/14/2017

ANNUAL PROGRAM REPORT

SELF-STUDY *(suggested length of 1-3 pages)*

A. Five-Year Review Planning Goals

1. *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 2004. The number of students however is much higher. In the transformed curriculum for the semester offering we are proposing several changes including offering all program requirements in engineering. This will alleviate the need for courses from the College of Business and Economics. Also as part of the program transformation, we anticipate offering more elective courses.*

2. *Faculty: The faculty that support this program are also supporting the industrial engineering program. The faculty are; Helen Zong, Farnaz Ganjeizadeh and David Bowen.*

3. *Research: The Engineering Management faculty are active in research and are being successful in securing funds for their research. The faculty plan is to aggressively pursue funding opportunities, specifically in areas related to the advancement of engineering education. We already have on-going funding through MESA Schools Program and Chevron Co.*

4. *Equipment: Through A2E2 annual funding and the normal refresh cycle of computers by IT we are keeping the Engineering Management Laboratories current.*

5. *Enrollment: Student enrollment in Engineering Management program has been stabilizing at around 100 students.*

B. Progress Toward Five-Year Review Planning Goals

1. Successfully transformed the curriculum to a semester-based program.

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3. The remodeling of materials lab SSC 247 has been completed and it is used as lab/active learning classroom.

4. Enrollment in Engineering Management is over 100 students and considered a large MS program as compared to other graduate programs on-campus.

5. The transformed program credit requirement is in line with the quarter system requirements and is being finalized during the catalog review.

B. Program Changes and Needs

Overview: The Engineering Management program started in the year 2003 and has been steadily growing with the enrollment stabilizing at over 100 students. Since 2004 we have not hired any faculty for this program. The faculty of Industrial Engineering also serve the Engineering Management program.

Curriculum: The transformed curriculum is design to include more active learning exercises and includes courses and material that are in line with the employment trends in engineering management.
Students: Demand for Engineering Management graduates is relatively strong, especially for domestic students.

Faculty: Since 2004 we have had 3 faculty dedicated to the Engineering Management and Industrial Engineering programs. These include Drs. Helen Zong, David Bowen and Farnaz Ganjeizadeh.

Staff: We have two full time staff for the School of Engineering, Mrs. Paula Trujillo and a laboratory technician, Mr. Brandon Xia. Also a part time assistant supports the School of Engineering Office.

Resources: Upgrade software at the engineering computer laboratory (VBT 223)

Assessment: An extensive assessment process is in place for the Engineering Management program. Sample results are provided in the following section.

SUMMARY OF ASSESSMENT   *(suggested length of 1-2 pages)*

Program Learning Outcomes (PLOs) and their relation to ILOs

Students graduating with a M.S. Engineering Management degree from Cal State East Bay will be able to:	I.L.O Alignment

a	Develop advanced analytical skills in optimization, planning and control, and other quantitative management techniques	1, 6
b	Effectively manage teams of multi-disciplinary and multi-cultural professionals .	3, 4
c	Understand the impact of engineering and management decisions in a global, economic, environmental, and societal context	5
d	Have the ability to effectively and persuasively communicate	2
e	Recognize the need for, and have an ability to engage in, life-long learning	6

Program Learning Outcome(S) Assessed

	(1) Year 4: 2016-2017	(2)
1. Which SLO(s) to assess	SLO d - Have the ability to effectively and persuasively communicate	
2. Assessment indicators	Team project	
3. Sample (courses/# of students)	ENGR 6200	
4. Time (which quarter(s))	Winter 2017	
5. Responsible person(s)	Prof Ganjeizadeh	
6. Ways of reporting (how, to who)	Oral presentation scores results will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.	
7. Ways of closing the loop	Interaction between chair, faculty and industry advisory board	

Summary: This course involves hands on lab activities related to application of theory in solving engineering problems.   Alumni have evaluated the course material as valuable in their professional career. The performance indicators for assessment of this outcome and the rubric used are as follows. The rubric used for assessing communications skills is as follows:

Project topic originality   5%
Methodology   8%
Application   5%
Written report   20%
Team Presentation   20%
Team member evaluation   5%

Peer evaluation	2%
Clarity of Presentation	10%
Presentation material	10%
Team transactions	5%
Individual presentation ability	10%

According to this rubric 70% of the grade is based on students' communication skills. For the 25 students participating in this evaluation the average grade was 85% with the lowest grade of 70% and the highest of 95%. Majority of students achieved the communications skill outcome.

Assessment Plans for Next Year

1. Which SLO(s) to assess	SLO e - Recognize the need for, and have an ability to engage in, life-long learning
2. Assessment indicators	Capstone project
3. Sample (courses/# of students)	ENGR 6899
4. Time (which quarter(s))	Spring 2018
5. Responsible person(s)	All faculty supervising a Master's Project during 2017-2018
6. Ways of reporting (how, to who)	The results will be reported by faculty to the department chair.
7. Ways of closing the loop	Interaction between chair, faculty and industrial advisory board

DISCUSSION OF PROGRAM DATA & RESOURCE REQUESTS

Discussion of Trends & Reflections

The data provided by CAPR appear not to reflect the correct enrollment numbers for the Industrial Engineering an Engineering Management programs. I have extracted data from the Pioneer Data Warehouse as shown below:

Term	College	Department	Gender	Ethnicity	Bachelor	Master	Total	Minor
Fall Quarter 2012	Total				18	36	54	0
Fall Quarter 2013	Total				54	49	103	0
Fall Quarter 2014	Total				78	98	176	0
Fall Quarter 2015	Total				109	103	212	0
Fall Quarter 2016	Total				119	89	208	0

The enrolment in the two programs combined have stabilized at around 210, with an equal proportion of undergraduate and graduate students. The sizes of the two programs are around

national average for an industrial engineering program. With three faculty members serving both programs, we are at a minimum requirement for an accredited program.

Notable Trends:
1. Stabilization of the enrollment

2. Strong industry demand for the graduates

3. Active Advisory Board Council

Reflections on Trends and Program Statistics:
We are preparing a proposal to add an undergraduate Civil Engineering program. The addition of this program will improve the School of Engineering statistics and lower FTES costs.

Request for Resources   *(suggested length of 1 page)*

Upkeep of the laboratory software and hardware, access to large computer lab/classes for some of the courses.

Request for Tenure-Track Hires:

We have not hired any faculty since 2004. The program has grown substantially requiring the addition of new tenure-track faculty to keep the program current.

Request for Other Resources