



ENGINEERING MANAGEMENT CERTIFICATE

Business and engineering practices have merged into a unique professional discipline. Employers now require its engineering managers to possess both technical and business knowledge. Cal State East Bay is preparing the Bay Area's emerging leaders in engineering management.

Program Overview

The Engineering Management Certificate is designed to enable engineers and scientists to advance to management positions within technical and engineering industries. The program provides an understanding of technical and management skills in conjunction with qualitative and analytical tools required for strategic decision-making.

Ideal Student(s)

Engineers or scientists who currently are or planning to advance to management positions within technical functions or organizations

Certificate Requirements

- Complete all four required courses for a total of 16 quarter units
- Maintain an overall 2.5 GPA
- Receive a grade no lower than a "C" in any one course

Program Outcomes

Students who complete the certificate will:

- Posses a unique set of management skills not commonly possessed by traditional engineers or scientists
- Have expertise to improve and manage systems operations

Certificate Benefits

- Increased salary
- Career advancement
- Rewarding career

Contact Information

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Program Curriculum

Prerequisites

- Calculus background equivalent to MATH 1304 and 1305 or B.S. in engineering or science

Courses and Descriptions

Total Units: 16

PROJECT MANAGEMENT (ENGR/MGMT 6200 OR ENGR 7811)

Application of project management from both strategic and operational points of view. Quantitative methods such as project planning, budgeting, evaluation, selection, scheduling and control are demonstrated by using MS project via PERT /CPM. Early identification of potential problems, with implementation of alternative solutions and risk management.

PRODUCT-PROCESS DESIGN (ENGR 4180/5180 OR ENGR 7001)

Unification of design, process engineering, tool development, and product manufacturing, concurrent engineering. Manufacturability constraints in terms of prototyping, designing, testing, pre-production support, processing, quality, delivery, and customer satisfaction.

E-COMMERCE ENTERPRISE MANAGEMENT (MGMT 6115 OR MGMT 7815)

Methods and applications of managing material, labor, and finance resources in service and manufacturing organizations utilizing computer-mediated network and World Wide Web. Emphasis on developing practical skills and using modern computer software in enterprise resource planning and e-commerce.

APPLIED QUALITY ASSURANCE (ENGR/STAT 6300 OR ENGR 7805)

Application of quality engineering and management techniques during the design and improvement of processes and procedures. Topics include the application of statistical and optimization techniques used for process improvements. Design of Experiments (DOE), multivariate regression, and quality improvement techniques such as Six Sigma will be presented.