



QUALITY MANAGEMENT CERTIFICATE

Competitive pressures, staff reductions and shrinking profit margins call for organizations to make essential process and quality improvements. Cal State East Bay is training the Bay Area's next-generation of leaders in quality management.

Program Overview

The emphasis of the graduate Quality Management Certificate program is to prepare participants to manage quality improvement projects. It includes Quality tools like SPC, SQC and Quality Function Deployment (QFD) and Design of Experiments. The certificate program will also enable students to initiate Six Sigma and supply chain management programs in their respective industry.

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

Ideal Student(s)

- Engineers or scientists who currently are or plan to take positions in quality management or are interested in six-sigma certification
- Current undergraduate or graduate students in engineering, science or business

Program Outcomes

Students who complete the certificate will:

- Possess the technical knowledge to supervise large scale quality-management projects
- Possess the theoretical knowledge required for six sigma quality improvement certification

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

STATISTICS AND PROBABILITY FOR SCIENCE AND ENGINEERING I (STAT 3601/ENG 5601/STAT 7801)

Basic probability rules (independence, Bayes' Theorem), distributions (binomial, Poisson, normal, exponential), reliability. Descriptive, inferential statistics (control charts, estimation, hypothesis testing: one, two samples), correlation, regression. Emphasizes: computer analysis, simulation; science, engineering applications. Prerequisite: MATH 1305

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. Prerequisite: STAT/ENGR 3601

QUALITY ENGINEERING (ENGR/STAT 5300 OR ENGR 7000)

Quality control, reliability, maintainability, and integrated logistic support. Statistical theory of process control and sampling inspection. Risks associated with decisions based on operating characteristics of control charts and sampling plans. Reliability and life testing methods. Economics of statistical QC and application of QC in Six Sigma programs. Prerequisite: STAT 3601

QUALITY MANAGEMENT (MGMT 6526 OR MGMT 7810)

Topics in modern quality, including planning, organizing, and controlling quality, implementing, and improving quality. Seminar format with case studies and projects. Prerequisite: STAT 3601