

Master Course Syllabus

Department: Engineering Technology **Course Prefix/Number:** MET 3863

Official Course Title: Quality Management

Master Syllabus Approved by Department on: 08 / 11 / 04
month date year

- I. **Catalog Description:** A study of the application of various methods used by manufacturing to quantify product quality. This will include a review of the ASTM, ANSI, and ISO tests as they apply to metallic, polymeric, ceramic, and composite materials. Statistical Quality Control, Statistical Process Control, Total Quality Management, and ISO 9000 will also be investigated. Laboratory assignments will acquaint the student with the variety of instrumentation that is used in quality control and their use.

- II. **Prerequisites:** Three hours of statistics or concurrent enrollment.

- III. **Expanded Course Description:** An appreciation for the guru's of quality and their definitions of quality is given. There is an expanded explanation of the history of quality as it relates to the events of World War II and the philosophical differences in quality from the US and the Japanese perspectives. Through effective management, companies can significantly improve their levels of quality, productivity, efficiency, and both customer and employee satisfaction. The seven techniques for quality improvement are defined. A quick review of the statistics that relates to quality is presented. Considerable time is used to describe both variables and attributes control charts; how they are developed, where they are used, and their analysis. Process capability is defined and problems are worked by the student. Some time is spent on miscellaneous items as reliability, quality costs, product liability issues, ISO 9000, benchmarking, auditing, and the Malcolm Baldrige National Quality Award.

- IV. **Knowledge Outcomes:** Students are expected to have knowledge of the importance of the following topics. To understand the complexities of defining quality. To establish a definition of quality in their minds. To become familiar with the contributions of Dr. Deming, Dr. Juran, Philip Crosby, and Armand Feigenbaum. To gain insight into the evolution of total quality management concepts. To become familiar with the definitions of specifications, tolerance limits, inspection, prevention, quality, quality control, statistical quality control, statistical process control, total quality management, process capability, and process improvement. To somewhat proficient in the development and use of various control chart methods and their analysis. To understand the ISO 9000 standards and the concepts of the Malcolm Baldrige Award

- V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:
 - a) Course Requirements? (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)

 - b) Required Text(s)?

b) Bibliography?

- VI. Academic Honesty: Cheating, plagiarism (submitting another person's materials or ideas as one's own), or doing work for another person who will receive academic credit are all-impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.
- VII. Students With Disabilities Policy: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act (ADA) and other federal, state, and local laws relative to the provision of disability services. Students with disabilities attending Tarleton State University may contact the Office of Disability Services at (254) 968-9478 to request appropriate accommodation. Furthermore, formal accommodation requests cannot be made until the student has been officially admitted to Tarleton State University.

Department Head Signature/Date:

Signature

_____/_____/_____
Date