

Product Reliability and Quality

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OFFICE HOURS: Department of Mechanical Engineering -Discovery Park

F115P: by Appointment through zoom

COURSE NUMBER, TITLE, CREDIT HOURS:

MSET 5130, 3 credit hours

DESCRIPTION:

Processes and techniques of assuring the quality of industrial products; reliability and maintainability, sampling probability and statistical process control; quality control management

COURSE LEARNING OBJECTIVES:

1-Demonstrate an understanding of processes, techniques, involved in documenting, stabilizing and improving a process

2-Demonstrate an understanding of Reliability and Quality Management principles and relationships

COURSE LEARNING OUTCOMES

The course demonstrates that graduates have:

e. an ability to identify, formulate and solve engineering problems. g. an ability to communicate effectively.

j. a knowledge of contemporary issues

PREREQUISITES:

MFET 4190 (or equivalent) or consent of department

TEXTBOOKS:

Quality Management; by Howard Gitlow, Rosa Oppenheim, Alan Oppenheim, and David Levine.Hercherpublishing.com

COURSE OUTLINE:

This course outline is the core of what is covered in the course. Research Material added as appropriate by the course instructor.

1 Fundamentals of Quality

2 W. Edwards Deming's Theory of Management

3 Defining and Documenting a Process

4 Stabilizing and Improving a Process with Control Charts

5 Application of Attribute and Variable Control Charts

6 Process Capability and Improvement Studies

7 A Business Example of Policy Management

8 Reliability Analyses

9 Reliability and Quality

GRADING ELEMENTS AND WEIGHTS:

Semester Exams (2) 25% each

Research paper (25%)

Semester Project 25%