

Product Reliability and Quality

Fall 2020

PREPARED BY: Dr. Nourredine Boubekri

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OFFICE : Department of Mechanical Engineering -Discovery Park

F115P : Tuesday and Thursday Remote (By appointment only). From 3:00pm to 4pm

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:

University of North Texas Engineering Technology

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) 30% each

Case Analyses (4) 5% each

Semester Project 20%

NOTE: Synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.