Product Reliability and Quality

PREPARED BY: Dr. Nourredine Boubekri Boubekri@unt.edu
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OFFICE HOURS: Department of Mechanical Engineering - Discovery Park
F115P: M,W from 1:30pm-2:30 pm by Appointment

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

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 (3) 25 % each; September 28, October 31, December 07
Research paper and presentations (15%) November 28,30,December 05
Homework. (10%)