

Technology Innovation

PREPARED BY: Dr. Nourredine Boubekri Boubekri@unt.edu

940 565 2136

OFFICE : Department of Mechanical Engineering -Discovery Park

F-115

Office Hours Tuesday and Thursday by zoom appointment

COURSE NUMBER, TITLE, CREDIT HOURS:

MSET 5060, 3 credit hours

DESCRIPTION:

Innovation Technologies. Topics include: Understanding Innovation, Processes of Technology Innovation, Techniques of Technology Innovation, Planning for Innovation, Using Innovation Technology, Engineering Technologies Cases analyses.

COURSE LEARNING OBJECTIVES:

1-Demonstrate an understanding of processes, techniques, involved in generating, screening and bringing to fruition ideas when innovating

2-Demonstrate an understanding of planning, financial, organizational, legal, and

commercialization processes involved in technology innovation 3-Demonstrate an understanding of social impacts of Technology innovation 4-Demonstrate an understanding of product life cycle analysis

5-Demonstrate an understanding of project planning and operations management

principles

COURSE LEARNING OUTCOMES

The course demonstrates that graduates have:

- d. an ability to function on multidisciplinary teams.
- e. an ability to identify, formulate and solve engineering problems.
- f. an understanding of professional and ethical responsibility.
- g. an ability to communicate effectively.

i. a recognition of the need for, and an ability to engage in life-long learning. j. a knowledge of contemporary issues

PREREQUISITES: Graduate Standing

TEXTBOOKS:

-Reference reading: New Products Management by C. Merle Crawford/C. Anthony Di

Benedetto (Library Reference Section)

CASE STUDIES

Distributed in class

COURSE OUTLINE:

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

1. Introduction to Innovation and Innovation Technology-Strategic Planning
2. Processes of Technology Innovation-Ideas Generation and Screening
3. Planning and Organizing for Technology Innovation
4. Financial and capacity planning
5. Commercialization of innovation
6. Technology Innovation and Society- Societal and Legal Aspects
7. Product Life Cycle Analysis
8. Project Review

Semester projects are prepared and presented in class following professionally accepted standards.

LIBRARY USAGE:

Students are encouraged to use library resources to conduct their research semester projects.

GRADING ELEMENTS AND WEIGHTS:

Semester project 40% Semester Exam 30% Case Studies Analyses 30%

Project

Semester project will be distributed in class. It is to be performed in groups of 2 students. Each project requires a professional style report and presentation in class Due the last day of class.