Technology Innovation
Spring 2024

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OFFICE: Department of Mechanical Engineering-Discovery Park
         F-115

Office Hours: Monday and Wednesday from 12:00pm to 1pm by appointment

COURSE NUMBER, TITLE, CREDIT HOURS:

MSET 5060, 3 credit hours

DESCRIPTION:

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 od social impacts of Technology innovation
4- Demonstrate an understanding of project planning

COURSE LEARNING OUTCOMES
The course demonstrates that graduates have:
   an ability to function on multidisciplinary teams.
   an ability to identify, formulate and solve engineering problems.
   an understanding of professional and ethical responsibility
   an ability to communicate effectively.
   a knowledge of contemporary issues

PREREQUISITES: Graduate Standing

TEXTBOOKS:
- Notes provided on canvas including case studies
- Reference materials (Technical articles from the web)
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-Concept Generation
3. Processes of Technology Innovation -Concepts Screening
4. Planning and Organizing for Technology Innovation
5. Financial planning
6. Capacity planning
7. Commercialization of innovation
8. Technology Innovation and Society- Societal and Legal Aspects
9. Product Life Cycle Analysis
10. Project Review

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

GRADING ELEMENTS AND WEIGHTS:

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<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Semester project</td>
<td>35%</td>
</tr>
<tr>
<td>Refer to Project Description on Canvas</td>
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<tr>
<td>Semester Exam</td>
<td>30%</td>
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<tr>
<td>Exam date May 02 ,2024</td>
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<tr>
<td>Case Studies Analyses by team</td>
<td>35%</td>
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<tr>
<td>Cases assigned on Canvas</td>
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