



Department of Mechatronics Engineering

Course Title:	Strength of Material (640250+640252)	
Prerequisite:	Static	
Text Book:	Mechanics of Material “ Ferdinand P. Beer E. Russell Johnston, JR” 3 rd edition	
Instructor:		
Providing Dept.:	Mechatronics Engineering	
Level:	2 nd year	Credit Hours: 2 & 3
Hall:	6620	S, T and Th : 1:10-2:10

Course Goals:

Understand the basics of strength of material and design by calculating stresses and deformation under various loading condition.

Time Schedule:

Duration: 16 weeks

Lectures: 3 hours / week

Tutorial:

Laboratories:

Objectives:

Enables the students to execute original designs of machine elements and structures and integrate the elements into a system composed of several elements.

Course Contents

	<u>Weeks</u>
<input type="checkbox"/> Introduction – Concept of stress	2
<input type="checkbox"/> Stress and Strain – Axial loading	3
<input type="checkbox"/> Torsion	1
<input type="checkbox"/> Pure Bending	2
<input type="checkbox"/> Transverse Loading	1
<input type="checkbox"/> Transformation of Stress and Strain	2
<input type="checkbox"/> Deflection of Beams and Shafts for strength	2
<input type="checkbox"/> Deflection of Beams by moment – Area Method	2

Mode of Assessment

1. first Exam:	(20%)
2. second exam	(20%)
2. Reports, HW and Quizzes:	(10 %)
3. Final Exam:	(50 %)

Reference

Mechanical Engineering Design “Joseph Edward Shigley 5th edition”