

Branch Name:	CIVIL ENGINEERING
Program Code:	ET106
Course Title:	Mechanics of Solid Practical
Course Code:	2ET1060301P
Pre-requisite Course:	Basic knowledge of Physics and Mathematics

Course Objectives:

- To acquire Basic knowledge of Rigid and Deformable body
- To know the system of units and Laws of motion
- To study the Basic idea of force and concept of centroid
- To understand the fundamentals of stress, strain and their relationships

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	-	-	-	-	10	25	10	25	50

List of Practical's:

1. Equilibrium of coplanar concurrent forces.
2. Equilibrium of coplanar non-concurrent forces.
3. Equilibrium of coplanar parallel forces: Determination of reactions of simply supported beam.
4. Determination of coefficient of static friction using inclined plane.
5. Determine the centroid of plane lamina.
6. Determination of compression test on Concrete.
7. Determination of compression test on Brick.
8. Determination of tensile strength on steel.
9. Determination of flexure strength of Beam.

Reference Books:

1. Engineering Mechanics by Beer & Johnston
2. Applied Mechanics by S.B.Junarkar & H. J. Shah
3. Mechanics of Structure Vol. I by S.B.Junarkar & H. J. Shah
4. Engineering Mechanics by P.J.Shah
5. Engineering Mechanics by Dr. R. K. Bansal
6. Strength of Materials by Dr. R. K. Bansal
7. Engineering Mechanics by S. Ramamrutham
8. Strength of Materials by S. Ramamrutham
9. Engineering Mechanics by Kumar
10. Strength of Materials by Timo Shenko

Course Learning Outcomes (CLO):

1. Apply fundamental principles of mechanics & principles of equilibrium to real practical problems of engineering.
2. Determine reactions & internal forces in statically determinate beams by applying principles of statics.
3. Find center of gravity and moment of inertia of different geometrical shapes.
4. Know basics of friction and its importance through simple applications.
5. Understand the types of stresses and strains developed in the member subjected to axial, bending and shear.
6. To get information of behavior & properties of engineering materials.

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Apply fundamental principles of mechanics & principles of equilibrium to real practical problems of engineering	L-3
CLO2	Determine reactions & internal forces in statically determinate beams by applying principles of statics.	L-5
CLO3	Find center of gravity and moment of inertia of different geometrical shapes.	L-2
CLO4	Know basics of friction and its importance through simple applications.	L-2
CLO5	Understand the types of stresses and strains developed in the member subjected to axial, bending and shear	L-2
CLO6	To get information of behavior & properties of engineering materials	L-1

L1- Remember, **L2-** Understand, **L3-** Apply, **L4-** Analyze, **L5-** Evaluate, **L6-** Create

Mapping of CLOs with POs & PSOs

	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
Course Learning Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CLO1	M	M		M									M	H	
CLO2	H	H			H					H			M	H	
CLO3	H	H	H										M	H	
CLO4	H												M	H	
CLO5	H	H	H	H	H								M	H	
CL06	H	H											M	H	

H: High, **M:** Medium, **L:** Low