

1.	Title of the course	Structural Engineering Laboratory
2.	Course number	CE206P
3.	Structure of credits	0-0-3-2
4.	Offered to	UG
5.	New course/modification to	Modification To CE2292/8
6.	To be offered by	Department of Civil and Environmental Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	Course Objective(s): This laboratory course explains the fundamental theoretical concepts in structural mechanics through experimental studies. This course also facilitates hands-on experience in performing experiments to evaluate the constitutive property of construction materials	
10.	Course Content: Introduction to tensile testing on steel flat coupons and rebars; Evaluation of elastic stiffness and modulus of rigidity of closed helical spring under compression; Study on deformation behaviour of beams with different boundary conditions; Verification of Maxwell-Betti's theorem; Torsion test on solid circular steel; Stress analysis in thin-walled cylinders; Buckling of struts; Bending stresses in beams; Study on unsymmetrical bending behaviour of singly/doubly symmetric thin walled sections; Static analysis of three hinged arch, cables and propped cantilever beam	
11.	Textbook(s): 1. Timoshenko S and Young D M, Element of Strength of Materials, Affiliated East West Private Limited (1968).	
12.	Reference(s): 1. Popov E P, <i>Mechanics of Materials</i> , Prentice Hall of India Private Limited (1976). 2. Daniel L S and Bechthold M, <i>Structures</i> , Pearson Publications (2014).	