1.	Title of the course	Advanced Structural Analysis
2.	Course number	CE310L
3.	Structure of credits	3-0-0-3
4.	Offered to	UG
5.	New course/modification to	Modification To CE3021/8
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 course introduces the concept of matrix method of structural analysis through the force and displacement based formulations, the latter being the stepping stone towards finite element modeling of structures. The course also has an introduction to plastic analysis which is fundamental to understanding collapse theories of structures.	
10.	**Course Content:** Review of Flexibility method of analysis – consistent deformation, matrix formulation, lack of fit, support settlement, effect of temperature; Displacement based approach – stiffness method, matrix formulation; Comparison between stiffness and flexibility based methods; Kani's method of analysis of framed structures; Cable structures; Introduction to plastic analysis of structures.	
11.	**Textbook(s):** 1. Wang C K,Intermediate Structural Analysis, Tata McGraw-Hill (2010). 2. Menon D, *Structural Analysis*, Narosa Publishing House Pvt. Ltd (2008).	
12.	**Reference(s):** 1. McKenzie W M C, *Examples in Structural Analysis*, CRC Press (2014). 2. Reddy C S, *Basic Structural Analysis*, Tata McGraw-Hill (2011).	