COURSE DETAIL

STRUCTURAL ANALYSIS 3
Country United Kingdom - Scotland
Host Institution University of Edinburgh
Program(s) University of Edinburgh
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering Civil Engineering
UCEAP Course Number 138
UCEAP Course Suffix
UCEAP Official Title STRUCTURAL ANALYSIS 3
UCEAP Transcript Title STRUCTRL ANALYSIS 3
UCEAP Quarter Units 8.00
UCEAP Semester Units 5.30

Course Description

This course introduces the classical methods of analysis for statically indeterminate structures, especially structures comprising line elements, namely beam, truss, and frame structures. It firstly extends from earlier structural mechanics knowledge on deflection of beams to the general analysis of deflections in statically determinate structures, with an emphasis on the method of virtual work. This is followed by the analysis of indeterminate structures using the force method (flexibility method); analysis of indeterminate structures using the displacement method, including the slope-deflection method and moment distribution method. It then proceeds to the matrix stiffness method for structural analysis using the direct stiffness approach, and the general aspects of structural modelling and computer analysis. The course provides a comprehensive cover of the fundamental principles, analysis techniques and practical skills that are required in modern structural analysis applications.

Language(s) of Instruction
English

Host Institution Course Number
CIVE09036

Host Institution Course Title
STRUCTURAL ANALYSIS 3

Host Institution Course Details
http://www.drps.ed.ac.uk/24-25/dpt/cxcive09036.htm

Host Institution Campus
Edinburgh

Host Institution Faculty
School of Engineering

Host Institution Degree

Host Institution Department

Course Last Reviewed
2024-2025

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