

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 Campus

Edinburgh

Host Institution Faculty

School of Engineering

Host Institution Degree

Host Institution Department

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