CIVL 3014 STRUCTURAL ANALYSIS

Credit Points 10

Legacy Code 300732

Coordinator Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

Description This subject introduces students to the aspects of structural analysis of trusses, beams and frames. It covers the first-order elastic analysis of statically determinate and indeterminate structures. This course aims to teach students to master basic skills in structural analysis as well as skills in using computer software to analyse complex structures.

School Eng, Design & Built Env

Discipline Structural Engineering

Student Contribution Band HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) CIVL 2007

Equivalent Subjects CIVL 3015 - Structural Analysis

Learning Outcomes

On successful completion of this subject, students should be able to:

1. analyse statically indeterminate structures using force and displacement methods (including slope deflection and moment distribution methods)
2. analyse trusses, beams and frames to obtain internal forces and displacements using the matrix method
3. operate current structural analysis software packages

Subject Content

Slope-deflection method for beam and frame analysis
Moment distribution method for beam and frame analysis
Matrix method for truss analysis
Matrix method for beam analysis
Matrix method for frame analysis
Introduction to second-order analysis of structures

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task
Quiz	30 mins for tutorial quiz and 50 mins for practical quiz	30	N	Individual
Numerical Problem Solving	Tutorial and Practical Solutions	10	N	Individual
Final Exam	2 hours, closed book	60	N	Individual

Teaching Periods

Autumn (2022)

Penrith (Kingswood)

Day

Subject Contact Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3014_22-AUT_KW_D#subjects)

Parramatta - Victoria Rd

Day

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Sydney City Campus - Term 2 (2022)

Sydney City

Day

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Autumn (2023)

Penrith (Kingswood)

On-site

Subject Contact Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3014_23-AUT_KW_1#subjects)

Parramatta City - Macquarie St

On-site

Subject Contact Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3014_23-AUT_PC_1#subjects)

Sydney City Campus - Term 1 (2023)

Sydney City

On-site

Subject Contact Peter Lendrum (https://directory.westernsydney.edu.au/search/name/Peter Lendrum/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3014_23-SC1_SC_1#subjects)

Sydney City Campus - Term 3 (2023)

Sydney City

On-site

Subject Contact Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3014_23-SC3_SC_1#subjects)