CIVL 2007 INTRODUCTION TO STRUCTURAL ENGINEERING

Credit Points 10

Legacy Code 300733

Coordinator Won Hee Kang (https://directory.westernsydney.edu.au/search/name/Won Hee Kang/)

Description This subject covers the basic concepts in analysing and designing simple structural members. It consists of the fundamentals of structural analysis, concrete structures and steel structures

School Eng, Design & Built Env

Discipline Structural Engineering

Student Contribution Band HECS Band 2 10cp

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

Level Undergraduate Level 2 subject

Pre-requisite(s) MECH 2003

Equivalent Subjects CIVL 2006 - Introduction to Structural Engineering CIVL 2008 - Introduction to Structural Engineering (WSTC Assoc Deg)

Learning Outcomes

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

1. Analyse the reactions and internal forces in statically determinate structures under a variety of loading conditions.
2. Determine the influence lines for statically determinate beams.
3. Determine the deflections of statically determinate beams, trusses and frames.
4. Use force methods to analyse statically indeterminate beams.
5. Recognize the effect of material properties on the behaviour of simple steel and concrete structures.
6. Apply structural analysis in the design process.
7. Identify what the appropriate materials are used, and design simple steel and reinforced concrete flexural elements.

Subject Content

Analysis of statically determinate beams and frames.
Analysis of statically determinate trusses.
Influence lines for beams and trusses.
Deflections of trusses, beams and frames.
Force method for statically indeterminate structures.
Determination of dead and live loads on steel and concrete structures.
Determination of sizes for simple steel beams under load.
Determination of dimensions and reinforcement for reinforced concrete beams under load.

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	1 hour	30	N	Individual
Numerical Problem Solving	13 hours	10	N	Individual
Final Exam	2 hours	60	N	Individual

Teaching Periods

Sydney City Campus - Term 1 (2024)
Sydney City
On-site
Subject Contact Peter Lendrum (https://directory.westernsydney.edu.au/search/name/Peter Lendrum/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL2007_24-SC1_SC_1#subjects)

Sydney City Campus - Term 2 (2024)
Sydney City
On-site
Subject Contact Ankit Agarwal (https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL2007_24-SC2_SC_1#subjects)

Spring (2024)
Penrith (Kingswood)
On-site
Subject Contact Xinqun Zhu (https://directory.westernsydney.edu.au/search/name/Xinqun Zhu/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL2007_24-SPR_KW_1#subjects)

Parramatta City - Macquarie St
On-site
Subject Contact Won Hee Kang (https://directory.westernsydney.edu.au/search/name/Won Hee Kang/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL2007_24-SPR_PC_1#subjects)