CIVL 2008 INTRODUCTION TO STRUCTURAL ENGINEERING (WSTC ASSOCD)

Credit Points 10

Legacy Code 700115

Coordinator Abbas Ranjbar (https://directory.westernsydney.edu.au/search/name/Abbas Ranjbar/)

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.Offerings of alternate subjects are dependent on there being sufficient student enrolment numbers. If enrolments are low, the College may cancel delivery of the alternate subject.

School Eng, Design & Built Env

Discipline Civil 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 2 subject

Pre-requisite(s) MECH 2004

Equivalent Subjects CIVL 2007 - Introduction to Structural Engineering

Restrictions

Students must be enrolled at Western Sydney University, The College in 7022 Associate Degree in Engineering

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. Recognise the effect of material properties on the behaviour of simple steel and concrete structures
6. Apply structural analysis in the design process
7. Design simple steel and reinforced concrete flexural elements and specify appropriate materials

Subject Content

1. Analysis of statically determinate beams and frames
2. Analyse of statically determinate trusses
3. Influence lines for beams and trusses
4. Deflections of trusses, beams and frames
5. Force method for statically indeterminate structures
6. Determine dead and live loads on steel and concrete structures
7. Determine sizes for simple steel beams under load
8. Determine 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
Online Quizzes x 5	20 minutes each	30	N	Individual
Mid-Quarter Test	2 hours	20	N	Individual
Final Exam	2 hours	50	N	Individual

Prescribed Texts

- Hibbeler R.C. (2009) Structural Analysis (7th edition in SI units), Prentice Hall.

Teaching Periods

Quarter 4 (2023)

Nirimba Education Precinct

Hybrid

Subject Contact Abbas Ranjbar (https://directory.westernsydney.edu.au/search/name/Abbas Ranjbar/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2008_23-Q4_BL_3#subjects)