

CIVL 3004 CONSTRUCTION TECHNOLOGY 3 (CONCRETE CONSTRUCTION)

Credit Points 10

Legacy Code 200502

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Description The aim of this subject is to introduce students to the concept of structures, loads and the effect of loads on structures in relation to concrete construction. Students will have an in-depth understanding of concrete as a construction material. It covers the construction technology aspects of concrete structural components and systems, including beams, columns, slabs and frames. Emphasis will be given to formwork design and construction. Students will be introduced to the relevant Australian Standards for concrete construction. The subject also aims at developing students' ability to deal professionally with other building professionals, including architects and structural engineers.

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

Assumed Knowledge

Awareness of standard construction systems for residential and commercial construction.

Learning Outcomes

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

1. Identify and define the different loads that a concrete structure carries.
2. Recognise and explain the different effects and actions caused by loads on concrete structures.
3. Identify and evaluate the different structural systems available for use in concrete construction.
4. Perform simple load evaluation for basic loading situations, including dead and live loads.
5. Determine the structural behaviour of simple concrete elements through analysis and design.
6. Explain how to design and construct form work for concrete construction.
7. Explain how to manage broader issues related to concrete construction including site safety and material handling.
8. Comply with Australian Standards relevant to concrete construction.

Subject Content

Dead load and live loads in concrete construction;
Load calculation, loading codes;
Properties of concrete;
Concrete handling and pour;

Steel reinforcement;
Basic components and their behaviour in concrete construction;
Components of concrete formwork;
Formwork design, falsework and site safety;
Concrete frames and methods and sequence of construction;
Pre-stressed concrete;
AS3600 Concrete Structures Code;
Innovative concrete construction;

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
Lab Quiz	3 x 1hr lab quizzes	25	N	Individual
Assignment 1 - individual	5000 Word	5	N	Individual
Assignment 1 - Group	5000 Word	25	N	Group
Final Exam	2 hr vUWS based and non-proctored	45	N	Individual

Teaching Periods