

# 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/](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 | Mandatory |
|---------------------------|----------|---------|-----------|------------------------|-----------|
| Quiz                      | 1 hour   | 30      | N         | Individual             | N         |
| Numerical Problem Solving | 13 hours | 10      | N         | Individual             | N         |
| Final Exam                | 2 hours  | 60      | N         | Individual             | Y         |

Teaching Periods

## Sydney City Campus - Term 1 (2025)

### Sydney City

**On-site**

**Subject Contact** Eileen An (<https://directory.westernsydney.edu.au/search/name/Eileen An/>)

[View timetable \(\[https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\\_code=CIVL2007\\\_25-SC1\\\_SC\\\_1#subjects\]\(https://classregistration.westernsydney.edu.au/odd/timetable/?subject\_code=CIVL2007\_25-SC1\_SC\_1#subjects\)\)](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2007_25-SC1_SC_1#subjects)

## Spring (2025)

### Penrith (Kingswood)

**Hybrid**

**Subject Contact** Won Hee Kang (<https://directory.westernsydney.edu.au/search/name/Won Hee Kang/>)

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## Parramatta City - Macquarie St

**Hybrid**

**Subject Contact** Won Hee Kang (<https://directory.westernsydney.edu.au/search/name/Won Hee Kang/>)

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## Sydney City Campus - Term 3 (2025)

### Sydney City

**On-site**

**Subject Contact** Eileen An (<https://directory.westernsydney.edu.au/search/name/Eileen An/>)

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