

# CIVL 3012 STEEL STRUCTURES

**Credit Points** 10

**Legacy Code** 300730

**Coordinator** Fidelis Mashiri (<https://directory.westernsydney.edu.au/search/name/Fidelis Mashiri/>)

**Description** This subject covers the basic behaviour of steel members and structures, the appropriate methods to analyse them and the design criteria and methods used to proportion them.

**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 3 subject

**Pre-requisite(s)** CIVL 2007

**Co-requisite(s)** CIVL 3014

**Equivalent Subjects** CIVL 3013 - Steel Structures

## Learning Outcomes

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

1. Recognise different steel grades
2. Apply limit state design concepts to structural steel elements
3. Determine design actions for and analyse steel structures to obtain internal design action effects
4. Design structural steel elements based on evaluated design action effects
5. Apply relevant Australian Standards for steel structures and loading in the designing of structural steel elements
6. Analyse and interpret the behaviour of structural steel elements subjected to a variety of design loads
7. Use engineering software to determine internal design action effects
8. Work effectively as a team member to analyse and report on a structural steel design problem

## Subject Content

Plastic Analysis

Biaxial Bending

Shear and bearing beam webs

Bolted and Welded Connections

Frames

## 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 |
|-------------------|---|---------|-----------|------------------------|
| Applied Project   | Approximately 20 pages design report                                | 30      | N         | Group                  |
| Professional Task | Exam type assignment questions and 2 hour Mid Semester exam quizzes | 20      | N         | Individual             |
| Final Exam        | 2 hours   | 50      | N         | Individual             |

Teaching Periods

## Sydney City Campus - Term 1 (2024)

### Sydney City

**On-site**

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

[View timetable](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SC1_SC_1#subjects) ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3012\\_24-SC1\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SC1_SC_1#subjects))

## Spring (2024)

### Penrith (Kingswood)

**On-site**

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

[View timetable](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SPR_KW_1#subjects) ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3012\\_24-SPR\\_KW\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SPR_KW_1#subjects))

## Parramatta City - Macquarie St

**On-site**

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

[View timetable](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SPR_PC_1#subjects) ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3012\\_24-SPR\\_PC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SPR_PC_1#subjects))

## Sydney City Campus - Term 3 (2024)

### Sydney City

**On-site**

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

[View timetable](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SC3_SC_1#subjects) ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3012\\_24-SC3\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3012_24-SC3_SC_1#subjects))