School of Civil and Environmental Engineering

Trimester 1, 2020

CVEN3303 STEEL STRUCTURES

6 hours per week
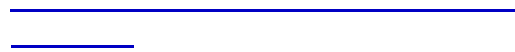
Mon,	16:00 – 18:00	Sir John Clancy Auditorium (K-C24-G17)
Thurs,	11:00 – 12:00	Mathews Theatre A (K-D23-201)

Fri, 13:00 – 15:00 _____

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Scientia Professor Mark A. Bradford
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https://www.handbook.unsw.edu.au/undergraduate/courses/2019/CVEN3303/?q=cven3303&ct=all

A course on design concepts and specific design of structural elements subject to bending, shear and combined bending and axial compression. Topics include: introduction to limit states design and codes of practice (design objectives; strength and serviceability limit states); loads and load combinations (permanent/dead, imposed/live and wind loads); design of structural steel tension members; Euler column buckling; design of stocky and slender compression members; design of laterally supported steel beams, laterally unsupported steel beams (lateral!torsional buckling in bending and shear strength); steel beam! columns (in!plane and out!of!plane failure); steel members subjected to biaxial bending; design of steel frames, steel connections and detailing (force and moment connections).

The objectives of this course are:

- To become familiar with the different types of structural steel components in the context of the Australian standard for steel structures AS4100.

- To develop an in-depth understanding of the philosophies and principles of structural loading and design.

- To develop the ability to proportion and check the adequacy of steel members subjected to tension, compression, flexure or a combination of flexure and compression.

- To use gained knowledge of solid mechanics to assess the loading capacity of steel members and connections with respect to the material properties of steel and the modes of structural failure.

- To nurture abilities in creative and critical thinking through the opportunity to develop and design new types of structural systems.

	- Review lecture material and textbook
	- Do set problems and assignments
	- Join Moodle discussions of problems
	- Reflect on class problems and assignments
	- Download materials from Moodle
	- Keep up with notices and find out marks via Moodle
	- Find out what you must learn
	- See methods that are not in the textbook
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