

# ENGR 4016 DESIGN PRACTICE: SUSTAINABLE COMPONENTS

**Credit Points** 10

**Legacy Code** 301309

**Coordinator** Michael Chapman ([https://directory.westernsydney.edu.au/search/name/Michael Chapman/](https://directory.westernsydney.edu.au/search/name/Michael%20Chapman/))

**Description** New Product development in architecture and construction industries draws upon construction knowledge, applied materials specification, design for durable systems, component interfaces supporting assembly and robust design principles with aesthetic considerations, functional and desirable product attributes. This subject forms part of the Design Practice specialisation and builds upon the principles of sustainable manufacturing and product life cycle in response to an emergent construction theme. In this subject, entrepreneurship and product detailing assist decisions that drive future advancements in construction component design.

**School** Eng, Design & Built Env

**Discipline** Other Engineering And Related Technologies

**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 4 subject

**Assumed Knowledge**

The ability to communicate a design proposal using 2D or 3D computer software with annotations, and application of Australian Standards AS 1100 or related construction standards are desirable.

## Learning Outcomes

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

1. Evaluate market opportunities in architectural and construction product industries
2. Employ design methods that enhance the design of component assemblies
3. Apply engineering and material specification knowledge to new product development
4. Improve connected interfaces between building materials through functional, efficient and aesthetic design considerations to a high quality and relevant manufactured standard

## Subject Content

1. Connector design discovery for architectural and construction industries
2. Applied modular component design processes
3. Engineered material specification and detailing
4. Design for assembly, installation, and maintenance
5. Design for efficiency and elegance in resolution of functional and aesthetic requirements

## 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
Applied Project	1500 words (design brief) (10%) and 3 x A2 Concept Rendering (20%)	30	N	Individual	N
Applied Project	CAD Assembly (15%) Full set of Engineering Drawings (30%)	45	N	Individual	N
Poster	A1 Contextual Poster	25	N	Individual	N

Teaching Periods

### Spring (2024)

#### Parramatta City - Macquarie St

**On-site**

**Subject Contact** Michael Chapman ([https://directory.westernsydney.edu.au/search/name/Michael Chapman/](https://directory.westernsydney.edu.au/search/name/Michael%20Chapman/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=ENGR4016\\_24-SPR\\_PC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ENGR4016_24-SPR_PC_1#subjects))

### Spring (2025)

#### Parramatta City - Macquarie St

**On-site**

**Subject Contact** Michael Chapman ([https://directory.westernsydney.edu.au/search/name/Michael Chapman/](https://directory.westernsydney.edu.au/search/name/Michael%20Chapman/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=ENGR4016\\_25-SPR\\_PC\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ENGR4016_25-SPR_PC_1#subjects))