

ENGR 4012 INDUSTRIAL DESIGN MAJOR PROJECT (IDEATION)

Credit Points 10

Legacy Code 301297

Coordinator Jean Payette ([https://directory.westernsydney.edu.au/search/name/Jean Payette/](https://directory.westernsydney.edu.au/search/name/Jean%20Payette/))

Description In this capstone unit students will immerse themselves in a complex real-world design problem and apply their expertise in conceptualisation, problem solving, human factors and aesthetics to create a novel solution. User-centred design, digital futures and sustainable design practice underpin all learning activities. A multidisciplinary approach is fostered, whereby students will engage with industry experts and community groups reinforcing the role of the graduate designer as an empathetic innovator.

School Eng, Design & Built Env

Discipline Other Engineering And Related Technologies

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 4 subject

Pre-requisite(s) ENGR 4020 OR ENGR 4004

Restrictions Must be enrolled in undergraduate program: Bachelor of Industrial Design (3730) and have completed a minimum of 220 credit points.

Learning Outcomes

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

1. Evaluate research and design in relation to design project brief requirements
2. Produce advanced design research.
3. Generate a wide range of design concepts that respond to an advanced design project brief.
4. Present an evidence-based design solution that responds to user requirements, highlights differentiated innovation, and integrates sustainability principles.
5. Generate engaging, professional graphic communication and physical modelling that explains design research findings to a wide audience.

Subject Content

- Development of a design brief addressing a complex problem.
- Project management technique
- Applied and continuous iterative design process
- Utilisation of research methods to undertake background investigation of the design problem
- Design conceptualisation through annotated visuals such as graphic layouts, process diary, and working drawings.
- Application of inclusive design principles, sustainable design practice, human centred design, innovative design practice.

- Exploratory specification report on materials, manufacturing, technical package
- Engineering drawing documentation
- Model making of exploratory models and prototypes

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.

Item	Length	Percent	Threshold	Individual/Group Task
Literature Review	3,000 words Research report 15%; Design brief 10%	25	N	Individual
Applied Project	3 X A3 portfolios Visual concept/ conceptual drawings 15%; Specification report 15%	30	N	Individual
Applied Project	1 X explanatory physical model 1:1 scale	45	N	Individual

Teaching Periods

Autumn

Parramatta - Victoria Rd

Day

Subject Contact Jean Payette ([https://directory.westernsydney.edu.au/search/name/Jean Payette/](https://directory.westernsydney.edu.au/search/name/Jean%20Payette/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ENGR4012_22-AUT_PS_D#subjects)