

ENGR 4040 INDUSTRIAL DESIGN MAJOR PROJECT (IDEATION & STUDIO PRACTICE)

Credit Points 20

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

Description In this Industrial Design capstone subject, students will immerse themselves in a complex real-world design problem, with considerable social impact, which consolidates their industrial design knowledge and skills. Students will apply themselves in the areas of concept generation and iterative industrial design processes and problem solving. They will incorporate human factors and desirable consumer attributes to produce a creative and novel solution which meets manufactured quality standards and high-level sustainability principles. All learning activities are underpinned by Industrial Design professional practice, as well as research methods for user-centred design, health and wellbeing, digital futures, ergonomics, and sustainable design practice. During their design project, students will engage with industry experts and community groups reinforcing their role, upon graduation, as empathic innovators, and industrial design practitioners with a multidisciplinary viewpoint.

School Eng, Design & Built Env

Discipline Other Engineering And Related Technologies

Student Contribution Band HECS Band 2 20cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 4 subject

Pre-requisite(s) ENGR4022 Studio Design Synthesis Capstone OR ENGR4004 Design Studio 6

Restrictions

Must be enrolled in 3730 Bachelor of Industrial Design and have completed a minimum of 220 credit points.

Learning Outcomes

1. Evaluate secondary research and market available designs in relation to industrial design project brief requirements.
2. Generate a wide range of design concepts that respond to an industrial design project brief.
3. Present an evidence-based design solution that responds to user requirements, highlights differentiated innovation, manufactured outcomes including feasibility and integrates sustainability principles.
4. Generate engaging, professional graphic communication and physical modelling that explains design research findings to a wide audience
5. Contribute new and unique knowledge of advanced complexity to the industrial design field

Subject Content

Development of an industrial design brief addressing a complex problem.

- Project management technique
- Applied and continuous iterative industrial design process in a Design Studio environment
- 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 (Circularity), human centred design, innovative design practice.
- Exploratory specification report on materials, manufacturing, technical package
- Engineering drawing documentation
- Model making of exploratory models and prototypes
- Usability evaluation

Special Requirements

Essential equipment

Drawing, rendering equipment, visual process diary, partial model-making resources (dependent on project complexity), and access to industrial design computer software and related computer requirements are supplied by the university to complement personally held student devices.

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
Proposal	3000 words	20	N	Individual	Y
Portfolio	1 x Design Process Diary of 50 pages; 3 x summary proposals	25	N	Individual	Y
Applied Project	Draft AS1100 engineering drawings; 1 x exploratory physical model 1:1 scale; 10 x PowerPoint slides (5 - 10 minutes)	55	N	Individual	Y

Teaching Periods

Autumn (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=ENGR4040_25-AUT_PC_1#subjects)