

ENGR 4022 STUDIO: DESIGN SYNTHESIS CAPSTONE

Credit Points 10

Legacy Code 301402

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

Description This unit engages students in a significant project that synthesises creative thinking, design strategy and practical design skills in preparation to be 'work-ready' as a designer upon graduation. Students will apply the skills that they have acquired throughout their degree in core and specialised elective subjects toward their Design Capstone project. The amalgamation of multidisciplinary viewpoints with industry collaborators throughout the unit ensures a vibrant learning environment, culminating in well resolved design outcomes within a Work Integrated Learning (WIL) Framework with linkages to a real-world challenge.

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

Learning Outcomes

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

1. Critique existing global design trends (within the overarching project theme) in relation to manufacturing, sustainability and entrepreneurial opportunities
2. Develop methods for responding to an advanced design project brief.
3. Apply a range of 2D and 3D design communication skills to propose a design solution to a complex problem or issue
4. Synthesise and apply design process, skills and knowledge to create innovative design solutions in multidisciplinary teams.
5. Present an evidence-based design solution that addresses local, national or global requirements

Subject Content

1. Advanced Integrated Product Design Investigation
2. Applied local and international design standards
3. Advanced iterative design methods incorporating analogue and digital communication
4. Actionable Manufacturing Documentation
5. Sustainable Lifecycle Design
6. Industry and community-centred contextually responsive value proposition
7. Course-length Skills Synthesis
8. Managing creativity and innovation in teams

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
Proposal and Report	Design Brief 1500 words Research report 1000 words	30	N	Individual
Portfolio	Physical iterative 3D model (individual) 20% Presentation (6 minutes) (group) 5% Engineering drawings (individual) 15%	40	N	Both (Individual & Group)
Applied Project	Physical high resolution 3D model (group) 20% Presentation (10 minutes) (individual) 10%	30	N	Both (Individual & Group)

Teaching Periods

Spring

Parramatta - Victoria Rd

Day

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ENGR4022_22-SPR_PS_D#subjects)