

ENGR 4021 STUDIO: INTERDISCIPLINARY GLOBAL

Credit Points 10

Legacy Code 301294

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

Description This subject engages students in a collaborative evidenced based project with local and international expert partners including NASA in the thematic area of Designing for Space Missions 2025 for astronaut health and space architecture for habitat design. Students are able to explore new concepts and integrate their skills within teams across unique research domains. The traditional linear thinking of creativity and innovation is challenged, giving way to a dynamic workspace for discussion, exploration, discovery, critical reflective practice, and maker-culture. This leads to new co-created interdisciplinary innovations which assist in the preparation of students for the Future of Work and decision-making across diverse teams. The focus on the physical and psychological aspects of space are also informing new viewpoints in designing with COVID19 in the Built Environment.

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

Equivalent Subjects ENGR 3009 - Design Studio 3 Product Realisation
ENGR 4003 - Design Studio 5 Symbol and Meaning Making

Restrictions

Student are required to have completed 120 credit points in any WSU degree.

Learning Outcomes

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

1. Evaluate literature in relevant area to reframe a complex project brief in teams.
2. Propose a development plan based on a contextual evaluation and interdisciplinary approach to problem solving
3. Use systematic and empathic design thinking processes to meet a design project brief from introductory to advanced conceptual proposals and from multi-disciplinary viewpoints to integrated proposals.
4. Apply lifecycle management principles in the development of products, services, behaviours and systems for people
5. Confidently present the team's iterative development processes for a product design using interdisciplinary perspectives.

Subject Content

1. Interdisciplinary teams engaging in a Project Based Learning themed real-world challenge

2. Reframing and advancing a project brief from interdisciplinary viewpoints using evidence-based research and collaborative team consensus approaches
3. Interdisciplinary discovery to systems lifecycle management observing select United Nations Sustainable Development Goals (UNSDGs) toward refined user-centred needs, and verifiable attributes central to system performance
4. Iterative conceptual and detailed development through prototyping as communication of intentions and proposal resolution
5. Work Integrated Learning (WIL) oriented professional practice with university and international external industry expert visitations and constructive feedback on team developments

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
Applied Project	1,000 words	25	N	Both (Individual & Group)
Report	1,000 words individual report 25% and 5 minute group presentation (10%)	35	N	Both (Individual & Group)
Report	1,250 words individual report 30% and 10 minute group presentation (10%)	40	Y	Both (Individual & Group)

Teaching Periods

Autumn (2022)

Parramatta - Victoria Rd

Day

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ENGR4021_22-AUT_PS_D#subjects)

Autumn (2023)

Parramatta City - Macquarie St

On-site

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ENGR4021_23-AUT_PC_1#subjects)