

ENGR 1006 DESIGN STUDIO 2: FORM AND PRODUCTION

Credit Points 10

Legacy Code 301075

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Description From Spring 2020, this unit will be replaced by 301286 - Designing for People: Applied Ergonomics. This unit equips students with the skills to use creative design and structured decision making to solve challenging problems. Students will develop their understanding of design process by creating experimental models using various methods, including 3D rapid prototyping. Students will also record their design process via multimodal media, in both digital and non-digital format. They will also reflect upon the design process through the CDIO framework (Conceive, Design, Implement, Operate) and CAD (Computer-Aided Design).

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 1 subject

Equivalent Subjects ENGR 1017 - Form and Production ENGR 1014 - Engineering and Design Concepts

Learning Outcomes

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

1. Conceive design solutions to meet a brief, taking into account mechanical, structural, human and contextual requirements.
2. Develop and justify a design solution through an iterative process involving peer feedback.
3. Implement and test a design using prototyping.
4. Critically reflect on and document the design process and suggest improvement opportunities successes (using the CDIO framework).
5. Produce a project report reflecting design and engineering content.

Subject Content

History of creativity in design and engineering
Design brief interpretation and reframing
Functional analysis
Project reporting for designers

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
Assessment 1: Object design in 3D in groups, evaluation report and visual process diary as e-portfolio.	Full scale physical model, e-portfolio. Consisting of 5 pages.	30	N	Group
Assessment 2: Object design - presentation of digital narrative and evaluation.	10 minutes presentation of design solution including evaluation of design outcome.	30	N	Individual
Assessment 3: Project report and demo presentation of operational model detailing abstract kinetic object design.	10 page e-portfolio and 10 minutes presentation and 1:1 scale kinetic model.	40	N	Individual

Prescribed Texts

- Dowling, DG, Carew, A & Hadgraft, RG 2013, Engineering your future : an Australasian guide, 2nd edn, John Wiley and Sons Australia, Milton, Qld.

Teaching Periods