



# Unit Outline (Higher Education)

<b>Institute / School:</b>	Institute of Innovation, Science & Sustainability
<b>Unit Title:</b>	Construction Engineering 2
<b>Unit ID:</b>	ENGRG4102
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	ENGRG2101
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	ENGIN4203
<b>ASCED:</b>	030999

## Description of the Unit:

This unit prepares students for the role of construction engineer. It offers a comprehensive exploration of key aspects crucial to the construction industry. Students will engage with topics such as equipment, methods, contracts, economics, quality assurance, and occupational health and safety. Moreover, the unit provides an introductory overview of sustainable construction practices and evolving trends and technologies in the industry. Upon completion of the unit, students will possess a foundation in construction engineering, enabling them to navigate diverse construction environments.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

## Work Experience:

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

## Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Intermediate	■	■	■	✓	■	■
Advanced	■	■	■	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Justify the use of different construction equipment and methods.
- K2.** Explain the concepts and benefits of sustainable and intelligent construction practices.
- K3.** Evaluate the different types of contracts used in construction projects.

#### Skills:

- S1.** Create and use relevant quality management documents, procedures, and systems in construction projects.
- S2.** Differentiate the tasks involved in a construction project and prepare a construction project schedule.
- S3.** Analyse relevant safety hazards, risks and controls in construction projects.

#### Application of knowledge and skills:

- A1.** Apply the principles of economics to construction equipment.
- A2.** Communicate engineering construction concepts and issues.

#### Unit Content:

Topics may include:

- An overview of the construction industry
- Occupational Health and Safety (OH&S) in the construction industry
- Quality assurance (QA) in construction projects
- Construction equipment and methods
- Construction economics
- Procurement and contracts in construction
- Basics of construction project management
- Introduction to intelligent construction
- Sustainability in the construction industry

#### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1 - K3, S3, A1, A2	Participate in all learning activities including attendance and participation in classes, exercises, recommended and supplementary readings or other activities.  Undertake problem solving of engineering problems relevant to construction engineering in both invigilated and non-invigilated settings.	Q&A discussion forum, Quizzes and Tests	30 - 50%
K1, K2, S1, S3, A2	Develop a plan and accompanying documentation aimed at ensuring safety and maintaining quality standards in construction projects.	Report and Presentation	20 - 40%

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
S2, A1, A2	Undertake construction planning and scheduling activities for a chosen project.	Report	20 - 40%

**Adopted Reference Style:**

IEEE

Refer to the [library website](#) for more informationFed Cite - [referencing tool](#)