



# Unit Outline (Higher Education)

**Institute / School:** Institute of Innovation, Science & Sustainability

**Unit Title:** ENGINEERING SURVEYING

**Unit ID:** ENGIN3204

**Credit Points:** 15.00

**Prerequisite(s):** Nil

**Co-requisite(s):** Nil

**Exclusion(s):** (ENCIV2010)

**ASCED:** 030907

**Description of the Unit:**

Surveying supports construction activity and infrastructure engineering and also helps to monitor natural environment covering. It covers services such as defining land boundaries, engineering and mining surveying, offshore surveys, digital mapping, precise positioning and property development.

**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	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■

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

### Learning Outcomes:

On successful completion of the unit the students are expected to be able to:

### Knowledge:

- K1.** Explain the fundamentals and theory of engineering surveying
- K2.** Display a coherent theoretical and technical knowledge of a range of surveying instruments, survey techniques, computational methods used in engineering surveying
- K3.** Describe the role of engineering surveying in the development and execution of engineering projects

### Skills:

- S1.** Use a range of modern surveying instruments
- S2.** Analyse and evaluate appropriate computational techniques to process survey data
- S3.** Produce maps, plans and digital data required for the design and construction of engineering projects
- S4.** Organise and conduct a small scale engineering survey project

### Application of knowledge and skills:

- A1.** Apply appropriate techniques to collect survey data
- A2.** Apply appropriate surveying techniques in carrying out projects

### Unit Content:

Topics may include:

- Basic surveying instrumentation for the measurement of length, angle and elevation
- The survey techniques used in the provision of survey control, engineering detail surveys and the layout of engineering projects
- The computation and processing methods used in engineering surveying, including coordinate systems, computer processing and the plotting and presentation of data.
- The management of the processes of engineering surveying, including equipment selection, management of surveying personnel and management of survey data and records.

### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, S2, S3	A selection of tutorial problems will be assessed in this unit	Written report(s)	15 - 25%

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1,K2, S1-S4, A1, A2	A practical survey task will be conducted as part of the unit	Written report(s)	15 - 25%
K1, K2, S1-S4, A1, A2	A team based surveying project will be undertaken as part of the unit	Written report	15 - 25%
K1, K2, K3, S2	Tests and/or examinations based on any or all of the material covered in the unit.	Test(s) and/or examination(s)	40 - 50%

**Adopted Reference Style:**

Other (IEEE: Refer to the library website for more information)

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)