



COURSE OUTLINE

ENG407 Engineering Project 2

School: School of Science, Technology and Engineering

2024 | Semester 1

UniSC Sunshine Coast
UniSC Moreton Bay

**BLENDED
LEARNING**

Most of your course is on campus but you may be able to do some components of this course online.

Please go to usc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course builds on the first half of the engineering project and will culminate with the writing of the final report in an appropriate area of practice.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Information session – Online sessions (catch-up).	2hrs	Week 1	Once Only
Information session – Online sessions to be held in Weeks 5 and 9	1hr	Week 5	2 times
Independent Study/Research – Independent work is expected every week. Hours/duration will depend on the individual project. Minimum expected hours is 10 hours per week.	10hrs	Week 1	13 times

1.3. Course Topics

Topics may include:

- Completing of the project work.
- Structuring and drafting of the final report which could be in a variety of forms such as a research paper, industry report, design report, for example.
- Final viva voce.

2. What level is this course?

400 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth full-time study year of an undergraduate program.

3. What is the unit value of this course?

24 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES MAPPING	PROFESSIONAL STANDARD MAPPING *
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	Engineers Australia Stage 1 Professional Engineer Competency Standards
1 Identify and select the appropriate approach to undertake an engineering research project.	Knowledgeable	1, 1.5.a, 1.5
2 Critically analyse and evaluate engineering problems and develop innovative and sustainable solutions that meet client needs	Creative and critical thinker	3, 3.3.a, 3.3
3 Apply developed analytical skills to assess and infer engineering data	Empowered	2, 2.2.b, 2.2
4 Apply project management tools and concepts to plan and execute engineering projects to deliver a desired engineering outcome.	Empowered	2, 2.2.b, 2.2
5 Apply ethical and professional standards in engineering practice and adhere to relevant codes of conduct and regulatory requirements, including WHS frameworks, legislation, standards, procedures and guidance.	Ethical	1, 1.6.b, 1.6, 3, 3.1.a, 3.1
6 Demonstrate effective communication skills, both written and oral, to clearly articulate engineering ideas and concepts to a range of stakeholders.	Engaged	1, 1.4.b, 1.4

* Competencies by Professional Body

CODE	COMPETENCY
ENGINEERS AUSTRALIA STAGE 1 PROFESSIONAL ENGINEER COMPETENCY STANDARDS	
1	Elements of competency: Knowledge and Skill Base
1.5.a	Knowledge and Skill Base - Knowledge of engineering design practice and contextual factors impacting the engineering discipline: Identifies and applies systematic principles of engineering design relevant to the engineering discipline.
1.6.b	Knowledge and Skill Base - Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline: Appreciates the principles of safety engineering, risk management and the health and safety responsibilities of the professional engineer, including legislative requirements applicable to the engineering discipline.
1.4.b	Knowledge and Skill Base - Discernment of knowledge development and research directions within the engineering discipline: Interprets and applies selected research literature to inform engineering application in at least one specialist domain of the engineering discipline.
1.4	Knowledge and Skill Base: Discernment of knowledge development and research directions within the engineering discipline.
1.5	Knowledge and Skill Base: Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
1.6	Knowledge and Skill Base: Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

CODE	COMPETENCY
2	Elements of competency: Engineering Application Ability
2.2.b	Engineering Application Ability - Fluent application of engineering techniques, tools and resources: Constructs or selects and applies from a qualitative description of a phenomenon, process, system, component or device a mathematical, physical or computational model based on fundamental scientific principles and justifiable simplifying assumptions.
2.2	Engineering Application Ability: Fluent application of engineering techniques, tools and resources.
3	Elements of competency: Professional and Personal Attributes
3.3.a	Professional and Personal Attributes - Creative, innovative and pro-active demeanour: Applies creative approaches to identify and develop alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical viewpoints; identifies new technological opportunities.
3.1.a	Professional and Personal Attributes - Ethical conduct and professional accountability: Demonstrates commitment to uphold the Engineers Australia - Code of Ethics, and established norms of professional conduct pertinent to the engineering discipline.
3.1	Professional and Personal Attributes: Ethical conduct and professional accountability.
3.3	Professional and Personal Attributes: Creative, innovative and pro-active demeanour.

5. Am I eligible to enrol in this course?

Refer to the [UniSC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

ENG406 and enrolled in SC404, SC405, SC410, SC411 or SC425.

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

ENG402

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

You will meet with your Academic Advisor(s) for your Project Preview in Week 1, when you will receive advice and guidelines to complete your project. You will have consistent contact with your Academic Advisor(s) during the whole semester.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Thesis	Individual	85%	between 10,000 and 20,000 words) The size of the dissertation must be representative of the unit value and be consistent with the discipline standards (or norms) for length in words, pages or other content.	Exam Period	Online Assignment Submission with plagiarism check
All	2	Oral	Individual	15%	10 - 15 mins	Exam Period	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Dissertation

GOAL:	Write a dissertation.					
PRODUCT:	Thesis					
FORMAT:	Write a dissertation to a standard acceptable for the panel of examiners.					
CRITERIA:	No.					Learning Outcome assessed
	1	Identification and selection of the appropriate approach to undertake an engineering research project.				1
	2	Critical analysis and evaluation of engineering problems and development of innovative and sustainable solutions that meet client needs.				2
	3	Application of developed analytical skills to assess and infer engineering data				3
	4	Apply project management tools and concepts to plan and execute engineering projects to deliver a desired engineering outcome.				4
	5	Application of ethical and professional standards in engineering practice and adhere to relevant codes of conduct and regulatory requirements, including WHS frameworks, legislation, standards, procedures and guidance.				5
	6	Demonstration of effective communication skills, both written and oral, to clearly articulate engineering ideas and concepts to a range of stakeholders.				6

All - Assessment Task 2: Oral Viva Voce

GOAL:	Communicate thesis via oral presentation					
PRODUCT:	Oral					
FORMAT:	A thesis oral presentation.					

CRITERIA:	No.	Learning Outcome assessed
	1	Critical analysis and evaluation of engineering problems and development of innovative and sustainable solutions that meet client needs. 2
	2	Application of developed analytical skills to assess and infer engineering data. 3
	3	Application of project management tools and concepts to plan and execute engineering projects to deliver a desired engineering outcome. 4
	4	Application of ethical and professional standards in engineering practice and adherence to relevant codes of conduct and regulatory requirements, including WHS frameworks, legislation, standards, procedures and guidance. 5
	5	Demonstration of effective communication skills, both written and oral, to clearly articulate engineering ideas and concepts to a range of stakeholders. 6

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

There are no required/recommended resources for this course.

8.2. Specific requirements

You will be required to discuss with your Advisor(s) any specific requirements and needs, e.g. laboratory equipment, software, that you believe your project may have.

9. How are risks managed in this course?

Risk assessments have been performed for all studio and laboratory classes and a low level of health and safety risk exists. Some risk concerns may include equipment, instruments, and tools; as well as manual handling items within the laboratory. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training for students](#), and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

No eligibility for Supplementary Assessment.

10.3. Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate (the rates are cumulative):

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task
- A result of zero is awarded for an assessment task submitted seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension, you must contact your Course Coordinator and supply the required documentation to negotiate an outcome.

Refer to the Assessment: Courses and Coursework Programs – Procedures

10.4. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The [Student Charter](#) sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.10.General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au