

ENG401 Engineering Project 1

School: School of Science, Technology and Engineering

2024 | Semester 2

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

The final year project represents the capstone and culmination of your four-year engineering degree. It allows you to demonstrate that you can put engineering theory into practice and operate at a professional level. The overall aim of this course is to provide you with the opportunity to demonstrate proficiency in engineering research and design. This will be done through an approved research or design project and the production of a report that clearly presents the results in such a way as to allow repetition of the work by others.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Tutorial/Workshop 1 – Online workshop	2hrs	Week 1	4 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. Students need to complete tasks on campus or in the field as required by their projects. Students will regularly meet with their supervisors on campus.	10hrs	Week 1	13 times

1.3. Course Topics

- Planning and execution of final year engineering project
- Conducting of research relevant to the engineering discipline
- Roles and responsibilities in an engineering project
- Collaborative work with an Advisor and project team
- Communication of project information in various forms

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?

12 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 Apply the Engineering Process to conduct an engineering project.	Empowered	1, 2
2 Challenge engineering practice and contribute to new developments in your engineering discipline.	Empowered Engaged	1, 2
3 Define a problem and formulate a problem statement.	Empowered	1, 2, 3
4 Review, engage and challenge the (research) literature in a specialist domain / an engineering discipline.	Ethical Engaged	1, 2, 3
5 Develop and design concepts, solutions and procedures in your engineering discipline.	Creative and critical thinker Engaged	1, 2
6 Test and evaluate your concepts, solutions and procedures to reach informed decisions.	Empowered Sustainability-focussed	1, 2
7 Reflect on and evaluate the project impacts for the community (e.g. engineering discipline) and environment.	Ethical Sustainability-focussed	2, 3
8 Manage your project incl. planning, organising and managing resources and prioritising competing demands.	Empowered Engaged	2, 3
9 Communicate about your project, its development and outcomes to a professional audience in several media.	Engaged	3
10 Work collaboratively in a project team.	Engaged	3

* Competencies by Professional Body

CODE	COMPETENCY
ENGINEERS AUSTRALIA STAGE 1 PROFESSIONAL ENGINEER COMPETENCY STANDARDS	
1	Elements of competency: Knowledge and Skill Base
2	Elements of competency: Engineering Application Ability
3	Elements of competency: Professional and Personal Attributes

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

MEC221 or ELC200, and 228 units completed and enrolled in Programs SC404, SC405, SC410, SC411 or SC425

5.2. Co-requisites

ENG302 and, ENG403 or ENG304

5.3. Anti-requisites

Not applicable

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

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Limited Grading (PNP)

Pass (PU), Fail (UF). All assessment tasks are required to be passed for successful completion of the course.

6.2. Details of early feedback on progress

You will receive feedback on your Project proposal (due in Week 2) from your Advisor(s).

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Written Piece	Individual or Group	Up to 100 words.	Week 1	To be Negotiated
All	2	Activity Participation	Individual or Group	15 to 30 minutes meeting (face to face or online).	Refer to Format	Online Assignment Submission with plagiarism check
All	4	Report	Individual or Group	5000 words.	Week 13	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Project Registration

GOAL:	The purpose of your registration is to formalise your project topic and your Academic Advisor with the Course Coordinator.	
PRODUCT:	Written Piece	
FORMAT:	You email your Project registration to the Course Coordinator accurately and clearly stating your project title, Academic Advisor(s) and, if applicable, Industry Advisor(s). Note your Academic Advisor must be copied in your email.	
CRITERIA:	No.	Learning Outcome assessed
	1	Registration compliant with ENG401 requirements 9

All - Assessment Task 2: Checkpoints

GOAL:	The purpose of the Checkpoints are to keep record and review your progress (to your Research plan), and to give you critical and timely feedback about the execution of your project.	
PRODUCT:	Activity Participation	
FORMAT:	You will meet with your Advisor (face to face or online) to present and review your progress. You will receive feedback about your progress and the execution of your project. You will also plan the subsequent phase/activities of your project incl. your submissions. Your Advisor signs off your logbook at the end of each meeting. These reviews are supported by the records of your logbook, noting you are required to maintain a logbook for the entire duration of your project (ENG406 and ENG407). You will record the minutes of your meeting in your logbook. You will complete checkpoints in Weeks 1, 3, 5, 8, 11 and 15 (subject to changes). Check the LMS for details of each checkpoints.	
CRITERIA:	No.	Learning Outcome assessed
	1	Quality of written piece pertinent to the engineering discipline, 8 9
	2	Accuracy, reliability, and authenticity of information, 9
	3	Appropriateness of project proposal, objectives, and methodology 3 4

All - Assessment Task 4: Intermediate report

GOAL:	The purpose of your Intermediate report is to give you critical feedback about the execution of your project at the end of ENG401 and assess your progress.	
PRODUCT:	Report	
FORMAT:	You prepare an intermediate report to a professional engineering standard that reflects your progress at the end of ENG401. You report will be concisely worded, well-organised, and understandable to any engineers in the relevant field. The word count reflects and includes any previous documents of ENG401. Check the LMS for details about your Intermediate report.	
CRITERIA:	No.	Learning Outcome assessed
	1	Application of advanced knowledge and skills 1
	2	Evaluation and consolidation of knowledge through literature review practices about a complex engineering problem and with intellectual independence. 2 3 4 5 6
	3	Identification of factors likely to influence engineering project outcomes 7
	4	Preparation of high quality written documents pertinent to the engineering discipline 8 9
	5	Organisation, presentation, and communication of project information 8 9
	6	Appropriate format and use of report structure, grammar and syntax, referencing 9
	7	If you are in a group, you are awarded an individual grade for this task. Your grade may be determined by an algorithm that uses the reviewers' marks, and/or peer ratings from your group. Furthermore, a benchmarking approach may be used and an inte 10

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

Limited Graded Course:

This course will be graded as Pass in a Limited Grade Course (PU) or Fail in a Limited Grade Course (UF) as per clause 4.1.3 and 4.1.4 of the Grades and Grade Point Average (GPA) - Institutional Operating Policy of the USC.

In a course eligible to use Limited Grades, all assessment items in that course are marked on a Pass/Fail basis and all assessment tasks are required to be passed for a student to successfully complete the course. Supplementary assessment is not available in courses using Limited Grades.

10.3. Assessment: Submission penalties

You must contact your Course Coordinator and provide the required documentation if you require an extension.

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