UniSC

COURSE OUTLINE

ENG501 Engineering Management

School: School of Science, Technology and Engineering

2026 | Trimester 2

UniSC Moreton Bay	BLENDED LEARNING	You can do this course without coming onto campus, unless your program has specified a mandatory onsite requirement.
Online	ONLINE	You can do this course without coming onto campus.

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 will develop understanding of the tools and techniques used to manage projects, people and resources. In particular project management and scope; risk, resource & time management, estimation & cost management; communication, leadership, procurement, human resource management. Web-based project management tools. Systems engineering approach. The course will develop understanding of the different roles that an engineer undertakes as an engineering technologist and professional engineer.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Asynchronous weekly learning material	1hr	Week 1	12 times
Seminar – On campus seminar	1hr	Week 1	3 times
Tutorial/Workshop 1 – On campus workshop	2hrs	Week 1	10 times
ONLINE			
Learning materials – Asynchronous weekly learning material	1hr	Week 1	12 times
Seminar – Online seminar	1hr	Week 1	3 times
Tutorial/Workshop 1 – Online workshop	2hrs	Week 1	10 times

1.3. Course Topics

Topics may include:

- Appreciation of the role of sustainability in the formulation of engineering solutions to project management
- Project management tools & techniques
- Economics and accounting of engineering businesses and projects
- Human resources
- Introduction to the Australian legal system
- Work health and safety management systems
- Systems-based approaches to engineering management

2.   What level is this course?

500 Level (Advanced)

Engaging with new discipline knowledge and skills at an advanced level or deepening existing knowledge and skills within a discipline. Independent application of knowledge and skills in unfamiliar contexts.

3.   What is the unit value of this course?

12 units

4.   How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...	GRADUATE QUALITIES MAPPING Completing these tasks successfully will contribute to you becoming...	PROFESSIONAL STANDARD MAPPING * Competencies from multiple Professional Bodies (see below) *
1 Demonstrate knowledge of project management principles and techniques, including project scope, risk management, resource allocation, and time management.	Knowledgeable	1, 1, 1.5.a, 1.5.a, 1.5, 1.5
2 Employ a systems engineering approach to analyse complex engineering projects, identifying and integrating key components and subsystems to achieve desired outcomes.	Creative and critical thinker	2, 2, 2.1.e, 2.1.e, 2.1, 2.1
3 Apply effective estimation and cost management strategies to ensure the successful delivery of engineering projects within budget constraints.	Empowered	2, 2, 2.4.b, 2.4.b, 2.4, 2.4
4 Utilise web-based project management tools to facilitate efficient project planning, tracking, and reporting, while ensuring effective communication and collaboration among team members.	Empowered	2, 2, 2.4.d, 2.4.d, 2.4, 2.4
5 Appraise the ethical, legal, and social implications of engineering management decisions, demonstrating a high level of professional responsibility and integrity.	Ethical	3, 3, 3.1.c, 3.1.c, 3.1, 3.1
6 Develop strong communication and leadership skills to effectively collaborate with project teams, stakeholders, and clients in an engineering management context relevant to a professional engineer and technologist.	Engaged	3, 3, 3.5.f, 3.5.f, 3.5, 3.5
7 Synthesise and critically evaluate core course concepts and their interrelationships and effectively communicate a comprehensive understanding of the course's main ideas and their broader implications.	Knowledgeable Creative and critical thinker Empowered Communication Problem solving Applying technologies	1.6, 2.3, 3.2, 3.5

* Competencies by Professional Body

CODE	COMPETENCY
ENGINEERS AUSTRALIA STAGE 1 ENGINEERING TECHNOLOGIST COMPETENCY STANDARDS	
1	Elements of competency: Knowledge and Skill Base

CODE	COMPETENCY
1.5.a	Knowledge and Skill Base - Knowledge of engineering design practice and contextual factors impacting the technology domain: Identifies and applies systematic principles of engineering design relevant to the technology domain.
1.5	Knowledge and Skill Base: Knowledge of engineering design practice and contextual factors impacting the technology domain.
2	Elements of competency: Engineering Application Ability
2.1.e	Engineering Application Ability - Application of established engineering methods to broadly-defined problem solving within the technology domain: Manages conflicting issues associated with interfacing, integrating and adapting specialist technologies where complex problems, processes or systems that have been partitioned into manageable elements for the purposes of analysis, modelling, design, prototyping, commissioning or testing, are recombined.
2.4.b	Engineering Application Ability - Application of systematic approaches to the conduct and management of projects within the technology domain: Seeks out the requirements and associated resources and realistically assesses the scope, dimensions, scale of effort and indicative costs of a broadly-defined technological project.
2.4.d	Engineering Application Ability - Application of systematic approaches to the conduct and management of projects within the technology domain: Proficiently applies basic systems engineering and/or project management tools and processes to the planning and execution of project work, targeting the delivery of a significant outcome to a professional standard.
2.1	Engineering Application Ability: Application of established engineering methods to broadly-defined problem solving within the technology domain.
2.4	Engineering Application Ability: Application of systematic approaches to the conduct and management of projects within the technology domain.
3	Elements of competency: Professional and Personal Attributes
3.1.c	Professional and Personal Attributes - Ethical conduct and professional accountability: Understands the accountabilities of the engineering technologist and the broader engineering team for the safety of other people and for protection of the environment.
3.5.f	Professional and Personal Attributes - Orderly management of self, and professional conduct: Presents a professional image in all circumstances, including relations with clients, stakeholders, as well as with professional and technical colleagues across wide ranging disciplines.
3.1	Professional and Personal Attributes: Ethical conduct and professional accountability.
3.5	Professional and Personal Attributes: Orderly management of self, and professional conduct.
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.
1.5	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.
2	Elements of competency: Engineering Application Ability
2.1.e	Engineering Application Ability - Application of established engineering methods to complex engineering problem solving: Partitions problems, processes or systems into manageable elements for the purposes of analysis, modelling or design and then re-combines to form a whole, with the integrity and performance of the overall system as the paramount consideration.
2.4.b	Engineering Application Ability - Application of systematic approaches to the conduct and management of engineering projects: Seeks out the requirements and associated resources and realistically assesses the scope, dimensions, scale of effort and indicative costs of a complex engineering project.
2.4.d	Engineering Application Ability - Application of systematic approaches to the conduct and management of engineering projects: Proficiently applies basic systems engineering and/or project management tools and processes to the planning and execution of project work, targeting the delivery of a significant outcome to a professional standard.
2.1	Engineering Application Ability: Application of established engineering methods to complex engineering problem solving.

CODE	COMPETENCY
2.3	Engineering Application Ability: Application of systematic engineering synthesis and design processes.
2.4	Engineering Application Ability: Application of systematic approaches to the conduct and management of engineering projects.
3	Elements of competency: Professional and Personal Attributes
3.1.c	Professional and Personal Attributes - Ethical conduct and professional accountability: Understands the accountabilities of the professional engineer and the broader engineering team for the safety of other people and for protection of the environment.
3.5.f	Professional and Personal Attributes - Orderly management of self, and professional conduct: Presents a professional image in all circumstances, including relations with clients, stakeholders, as well as with professional and technical colleagues across wide ranging disciplines.
3.1	Professional and Personal Attributes: Ethical conduct and professional accountability.
3.2	Professional and Personal Attributes: Effective oral and written communication in professional and lay domains.
3.5	Professional and Personal Attributes: Orderly management of self, and professional conduct.

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

Enrolled in MC006

5.2. Co-requisites

Not applicable

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

Standard Grading (GRD)

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

6.2. Details of early feedback on progress

Early feedback will be provided through completion of weekly activities in workshops. Furthermore, feedback on each assessment will be provided which will be used to help with the following assessment.

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	Oral and Written Piece	Group	40%	2500 words	Week 6	Online Assignment Submission with plagiarism check
All	2	Written Piece	Individual	40%	2500 words	Week 12	Online Assignment Submission with plagiarism check
All	3	Oral	Individual	20%	A 10-12 minute presentation which may be followed by approximately 5-10 minutes of questions.	Week 12	Online Submission

All - Assessment Task 1: Oral and Written Piece

GOAL:	Group presentation and report investigating a topical engineering project (e.g. design to cost)
PRODUCT:	Oral and Written Piece
FORMAT:	Group presentation and report

CRITERIA:	No.		Learning Outcome assessed
	1	Demonstration of knowledge of project management principles and techniques, including project scope, risk management, resource allocation, and time management.	1
	2	Employs a systems engineering approach to analyse complex engineering projects, identification and integration of key components and subsystems to achieve desired outcomes.	2
	3	Application of effective estimation and cost management strategies to ensure the successful delivery of engineering projects within budget constraints.	3
	4	Utilisation of web-based project management tools to facilitate efficient project planning, tracking, and reporting, while ensuring effective communication and collaboration among team members.	4
	5	Appraisal of ethical, legal, and social implications of engineering management decisions, demonstration of high level of professional responsibility and integrity.	5
	6	Development of strong communication and leadership skills to effectively collaborate with project teams, stakeholders, and clients in an engineering management context relevant to a professional engineer and technologist..	6
GENERIC SKILLS:	Communication, Collaboration, Organisation, Information literacy		

All - Assessment Task 2: Written Piece

GOAL:	Individual reflection critiquing a topical project management technique recorded in their portfolio
PRODUCT:	Written Piece
FORMAT:	Written piece

CRITERIA:	No.		Learning Outcome assessed
	1	Demonstration of knowledge of project management principles and techniques, including project scope, risk management, resource allocation, and time management.	1
	2	Employs a systems engineering approach to analyse complex engineering projects, identification and integration of key components and subsystems to achieve desired outcomes.	2
	3	Appraisal of ethical, legal, and social implications of engineering management decisions, demonstration of high level of professional responsibility and integrity.	5
	4	Development of strong communication and leadership skills to effectively collaborate with project teams, stakeholders, and clients in an engineering management context.	6
GENERIC SKILLS:	Communication, Organisation, Information literacy		

All - Assessment Task 3: Course summary and critical evaluation

GOAL:	To assess your ability to synthesise and critically evaluate the course's core concepts, demonstrating a sophisticated and integrated understanding of its main ideas, their interrelationships, and broader implications.
PRODUCT:	Oral
FORMAT:	Presentation

CRITERIA:	No.		Learning Outcome assessed
	1	Synthesis & Critical Evaluation: Integrated and insightful critiques of core course concepts and their interrelationships.	7
	2	Clarity & Communication: Well-organised, engaging, and clear presentation, effectively using visuals to enhance understanding.	7
	3	Engagement & Understanding: Accurate and thoughtful responses to questions, demonstrating deep understanding and critical thinking.	7
GENERIC SKILLS:	Communication, Problem solving		

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

> Not applicable

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety 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

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

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 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 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 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