

AU Course Outline – SPRING2025

College of Engineering
ENGI100 – Introduction to Engineering
CIVL02, ELEC02, MECH02, PETR02
Diploma of (Civil, Electrical and Electronics,
Mechanical, Petroleum) Engineering

- Prerequisites: None
- Co-Requisites: NA
- Credit Hours: 1
- Course Coordinator: Eng. Mufazzal S. Kabuli
- Instructor Information:

Name	Section	Office Location/Extension	Office Hours
Eng. Mufazzal Kabuli m.kabuli@au.edu.kw	1 - 6	B2-SF-S16 Extension: 4186	Wednesday 12:00 – 1:30 PM Thursday 11:00 – 12:30 PM

- Classroom Location and timings¹:

Section	Sunday	Monday	Tuesday	Wednesday	Thursday
1		9:00-10:00			9:00-10:00
2		15:30-16:30		15:30-16:30	
3		10:00-11:00		10:00-11:00	
4	9:00 – 10:00		9:00 – 10:00		
5	17:00-18:00		17:00-18:00		
6	18:00-19:00		18:00-19:00		

This course is part of the mentioned above program which is accredited by Engineers Australia.

Catalog Description

The Introduction to Engineering course at AU is specifically designed for multidisciplinary engineering students seeking a solid foundation in ethics and its application in engineering practice. The course delves into the ethical considerations and professional responsibilities that engineers encounter throughout their careers. Through the examination of real-world case studies, students develop critical thinking skills and gain an understanding of ethical dilemmas in

¹ Classroom timings and location are tentative, please refer to Edu-Learn for the up-to-date information.

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engineering. The course also introduces engineering practices, emphasizing project management, teamwork, communication, and problem-solving techniques within an ethical framework. Through interactive discussions and practical exercises, students cultivate a strong understanding of the ethical principles that guide engineering practice and acquire essential skills for ethical decision-making in their future engineering endeavors.

Course Objectives and Student Learning Outcomes

Upon completion of this course, students should be able to:

LO1	Understand the Foundations of Engineering Ethics and Analyze Ethics Dilemma
LO2	Develop Critical Thinking Skills and Recognize Professional Responsibilities
LO3	Foster Effective Communication and Multidisciplinary collaboration
LO4	Explore Engineering Disciplines and Promote Sustainable Engineering Practices
LO5	Apply project management principles to engineering projects, demonstrating the ability to plan, execute, and control projects within ethical guidelines.
LO6	Demonstrate a lifelong commitment to operational health and safety relevant to engineering.

Engineers Australia Stage 1 Competencies

Achieving the student learning outcomes of this course partially fulfills the following EA Stage 1 Competencies for engineering associate.

Knowledge and Skills	1.1 Descriptive, formula-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the practice area.
	1.2 Procedural-level understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the practice area.
	1.3 In-depth practical knowledge and skills within specialist sub-disciplines of the practice area.
	1.4 Discernment of engineering developments within the practice area.
	1.5 Knowledge of engineering design practice and contextual factors impacting the practice area.

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	1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the area of practice.
Engineering Application Ability	2.1 Application of established technical and practical methods to the solution of well-defined engineering problems.
	2.2 Application of technical and practical techniques, tools and resources to well-defined engineering problems.
	2.3 Application of systematic synthesis and design processes to well-defined engineering problems.
	2.4 Application of systematic project management processes.
Professional and Personal Attributes	3.1 Ethical conduct and professional accountability.
	3.2 Effective oral and written communication in professional and lay domains.
	3.3 Creative, innovative and pro-active demeanor.
	3.4 Professional use and management of information.
	3.5 Orderly management of self, and professional conduct.
	3.6 Effective team membership and team leadership.

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Course Content

Below are the topics that will be covered during this course². Please note that topics are tentative to change.

#	Topic	Resources required	Student Learning Outcome
1	Introduction to the course outline		
2	Introduction to Engineering & Ethics	PPT 1	LO1
3	Introduction to Engineering & Ethics	PPT 1	LO1
4	Ethical Theories	PPT 2	LO1
5	Engineering Code of Ethics	PPT 3	LO1, LO2
6-7	Ethical Dilemmas in Engineering (Problem Resolution)	PPT 4	LO1, LO2
8	Disciplines of Engineering overview	PPT 5	LO4
9	Civil / Mechanical engineering	PPT 6	LO4
10	Electrical / Petroleum Engineering	PPT 6	LO4
11	Communication, Teamwork and Collaboration	PPT 7	LO3
12	Sustainable Engineering Practices	PPT 8	LO4
13	Project Management in Engineering	PPT 9	LO5
14-15	Hazards and PPE	PPT 10	LO6

Methods of Delivery

This course will be delivered as a Classroom Based Delivery, Face to Face. Students are expected to attend the classroom sessions on campus. Any updates about the method of delivery will be communicated to the students via the official communication platforms.

Extent and Nature of Use of Technology

All the lectures' slides and other learning material for this course are available online on the ENGI100 webpage on Edu-Learn. Students are required to visit this page regularly to check for any updates.

Course-related announcements are sent by email. Students are required to check their email daily.

² For the Summer Sessions, number of lectures per week is doubled and number of weeks is halved.

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Textbook/s

For this course, the following textbook will can be referred to:

- M. W. Martin and R. Schinzinger, Introduction to Engineering Ethics, 2nd Ed. New York: McGraw-Hill, 1989. ISBN 978-0072483116
- Paul. H. Wright, Introduction to Engineering, 3rd Ed. John Wiley & Sons, Inc., 2002. ISBN 978-0-471-05920-2

Attendance

The student is required to attend designated live sessions on campus. A student who fails to do so will be marked as absent from that class.

Please refer to the AU Student Attendance Policy and Procedure on the [AU Portal](#).

As per AU Student Code of Conduct Policy, students should not engage in conduct that disrupts class. Late students are required to enter class quietly. The use of cell phones or other electronic devices for voice or text communication is not allowed. Failing to do so is considered as a violation of the AU student code of conduct and may lead to disciplinary actions.

Submission of Work

All assignments are to be presented and submitted in a professional manner on the nominated due dates. No late submission will be accepted.

Please refer to the AU Code of Academic Integrity on the [AU Portal](#).

Assessment Plan

The assessments dates are subjected to change according to the material coverage pace.

#	Assessment Title	Method of Assessment	Learning Outcomes Covered	Week	Weight
1	Midterm	Written Exam	LO 1-2	Midterm Exams Period	25%
2	Continuous Assessment*	Quizzes & Assignment	LO 1-4	4-12	25%
3	Attendance/Participation	In Class Participation/Attendance	LO 1-6	1-14	10%
4	Final Exam	Written Exam	LO 4-6	Final Exams Period	40%

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*A student who misses a quiz will not be eligible for a makeup quiz and will be awarded a zero mark for that quiz.

Students must refer to the AU Student Assessment Policy on the [AU Portal](#) with regard to assessments and re-assessment.

Grading Scale

Please refer to the AU Grading Policy on the [AU Portal](#).