

# ELEC4122

Strategic Leadership and Ethics

Term 1, 2023



## Course Overview

### Staff Contact Details

#### Convenors

Name	Email	Availability	Location	Phone
Shaghik Atakaramians	<a href="mailto:s.atakaramians@unsw.edu.au">s.atakaramians@unsw.edu.au</a>			

### School Contact Information

**Consultations:** Lecturer consultation times will be advised during the first lecture. You are welcome to email the tutor or laboratory demonstrator, who can answer your questions on this course and can also provide you with consultation times. ALL email enquiries should be made from your student email address with ELEC/TELExxxx in the subject line; otherwise they will not be answered.

**Keeping Informed:** Announcements may be made during classes, via email (to your student email address) and/or via online learning and teaching platforms – in this course, we will use Moodle <https://moodle.telt.unsw.edu.au/login/index.php>. Please note that you will be deemed to have received this information, so you should take careful note of all announcements.

### Student Support Enquiries

[For enrolment and progression enquiries please contact Student Services](#)

### Web

[Electrical Engineering Homepage](#)

[Engineering Student Support Services](#)

[Engineering Industrial Training](#)

[UNSW Study Abroad and Exchange](#) (for inbound students)

[UNSW Future Students](#)

## Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

## Email

[Engineering Student Support Services](#) – current student enquiries

- e.g. enrolment, progression, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries

- e.g. admissions, fees, programs, credit transfer

## Course Details

### Units of Credit 6

### Summary of the Course

Theories of leadership; leadership of teams. Organisational behaviour. Strategic planning. Uncertainty and risk. The interaction of laws with engineering projects and innovations. The role of engineering in society; assessment of innovation in processes and products. Engineering ethics principles and practice: an introduction to ethical systems; the application of ethical frameworks to engineering practice with particular reference to electrical engineering and computing; codes of ethics in the professions; social, political, environmental and economic considerations.

### Course Aims

This course is primarily designed to enhance your ability to (i) analyse ethical problems, determine a plan of action, and articulate this resolution to others, and (ii) make decisions about technological innovations and to, thereby, engage productively in the leadership of various groups.

In both cases we are primarily interested in the context of engineering, but the skills apply equally to your wider life.

A further expectation is to provide you with an understanding of the complex, interlocking organisations that form the wider, non-technical context in which engineers practice, and with some practical guidance both for interacting professionally with other engineers, wherever they might be, and for behaving when practising as engineers, especially within large organisations under strong commercial pressures. Ethical analyses will be specifically informed by the formal guidance provided by the Engineers Australia (2010).

### Course Learning Outcomes

After successfully completing this course, you should be able to:

Learning Outcome	EA Stage 1 Competencies
1. Identify ethical problems in the context of engineering practice and identify ethical decision models	PE1.1, PE1.6, PE3.1, PE3.5
2. Apply the concepts embodied in codes of ethical conduct to professional situations	PE1.6, PE2.1, PE3.5

Learning Outcome	EA Stage 1 Competencies
3. Critically assess and discuss conflicting view and attitudes on ethical issues in respectful and inclusive dialogue	PE1.6, PE2.1, PE3.1, PE3.3, PE3.5
4. Explain effective leadership roles and strategies and apply them in a variety of workplace settings	PE1.6, PE2.1, PE3.1, PE3.3, PE3.5, PE3.6
5. Exhibit persuasive verbal communication skills, and effective teamwork evidenced by strong and sustained contributions from every member	PE1.6, PE3.2, PE3.5, PE3.6

## Teaching Strategies

Please refer to the information in Moodle

## Assessment

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Exam	30%	Not Applicable	1, 2, 4
2. Seminars and tutorials	45%	Not Applicable	1, 2, 3, 4, 5
3. Group work reflection report	10%	Not Applicable	1, 2, 4
4. Oral Exam	15%	Not Applicable	1, 2, 4

### Assessment 1: Exam

At the end of the course, there will be a written final exam (open book exam) of **two-hour** duration. This will cover all content from Weeks 1 to 10, and it will test critical thinking and general understanding of the topics, application of key ethics & leadership ideas, and the detail and correctness of case study analyses. **You must pass (50% or greater) this written exam to pass the course.**

### Assessment 2: Seminars and tutorials

Seminars present opportunities to:

- Explore topics in more depth
- Share ideas in a way that will advance your thinking
- Learn from other people's experiences and background knowledge
- Gain perspectives and points of view that you might not have otherwise considered
- Provide a platform to practice key skills, such as teamwork, which requires active engagement and inclusion with other people.

#### 1(a) Individual Seminar Presentation (15%)

The ethical issues for the individual presentation will be provided a week prior to the presentation. Students should choose one issue and prepare a 10-minute presentation which presents their answer to the ethical dilemma. The class will have the opportunity to ask questions and the presenting student must demonstrate their ability to handle these questions and criticisms of their argument. The seminar activities should occur with intensive peer interaction. The mentor will moderate the seminar discussions and keep track of the answers to ensure they are correct and complete.

During week 1, students will be notified of when their individual assessment will be conducted. It will be in one of week 3, 4, 7, 8 or 9. Marks are given based on the quality of the ideas and quality of the presentation. Regular feedback will be provided by the mentors.

#### 1(b) Active Contribution to Seminars (15%)

Every week (Weeks 1 to 10), your active contributions (presentation, discussions/debates and team leadership) to the seminars will be noted by the mentor. This means working on the activities, and actively listening and appropriately contributing to discussions; not simply being physically present. Mentors will give feedback as you progress through the term, and then at the end of the term, your

mentor will assign a mark for your active contribution to all seminars and active participation throughout the term. **Marks are assigned based on the quality of the content that you contribute.**

There will be no participation marks given for just **attending** the seminar. **You must pass the active contribution assessment to pass the course.**

### **1(c) Group Seminar Presentations (15%)**

Students should individually prepare the seminar assignment as homework. The answers on seminar assignments should be discussed in small groups of ideally five students in the first part of the seminar. The seminar activities should occur with intensive peer interaction. Students should compare and discuss their answers until consensus is reached.

During the second part of the seminar, each group should present their answer to the whole group of approximately 25 students. Their answer should be reviewed and supplemented by other groups in the discussion. The mentor will moderate the seminar discussions and keep track of the answers to ensure they are correct and complete.

Seminars provide structured reflection opportunities on some of the ideas explored during the course and will provide you the opportunity to share your understandings and experiences with each other, facilitated by a tutor. Two of the seminars (Weeks 5 & 10) will be led by students.

Marks are given based on the quality of the ideas and quality of the presentation. Regular feedback will be provided by the mentors.

### **Assessment 3: Group work reflection report**

This will be an opportunity for students to reflect on how they personally respond to group work situations during the seminars (Weeks 1 to 10) and how they have developed skills (e.g. characteristics of team excellence, understanding of team effectiveness, creativity etc) over the term.

### **Assessment 4: Oral Exam**

**Assessment length:** 15 minutes

Students will be given a prompt on leadership, which they will have a week to dissect and study. They will then be interviewed for 15 minutes via MS Teams, in which they will be asked questions about the leadership prompt. Students will be assessed on how well they apply course concepts. This will be in week 11, Monday and Wednesday. **The students who are unavailable during Week 11, should contact the head tutor to organise their oral exam for Week 10.**

## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## Course Schedule

### Indicative Course Schedule

Week	Lecture (PART A: <a href="#">Fundamentals of Ethics</a> )
1	Ethical Dilemmas and Codes of Ethics
2	<a href="#">Ethical Theories and Ethical Problem Solving Techniques</a>
3	The Rights and Responsibilities of Engineers; Risk and Safety
4	Global Issues; Case Studies in a Workplace
Week	Lecture (PART B: Fundamentals of Leadership)
5	Technical Leadership Fundamentals: Components of Leadership, Building Trust and Credibility, <a href="#">Risk-taking</a> , <a href="#">Creativity</a> .
6	<b>Revision Week – No new material taught</b>
7	<a href="#">Leadership Theories and Styles: Transformational, Adaptive, Authentic, Autocratic etc</a>
8	Putting Leadership Principles into Practice: Creating a Vision, Team building, Decision-making, Conflict Management and Resolution, Time management
9	Ethical and Inclusive leadership: <a href="#">Ethical culture</a> , <a href="#">Organisational and Individual requirements, inclusive leadership</a>
10	<b>Industry lecture: Ethics and Leadership</b>



## Resources

### Prescribed Resources

#### Reference books

- Q. Zhu, M.W. Martin and R. [Schinzinger](#), Ethics in Engineering, McGraw Hill, 2022.
- D. W. Hess, Leadership by Engineers and Scientists, Wiley, 2018

### Recommended Resources

#### Additional Resources

- [Engineering Ethics in Practice: A guide for Engineers](#) - Royal Academy of Engineering UK
- [Code of Ethics and Guidelines on Professional Conduct](#) - IEAust
- [Engineering Ethics: Concepts and Cases \(Electrical Engineering Cases\)](#) - NSF Workshop Cases
- [Markkula Centre for Applied Ethics: Technology Ethics Cases](#) - Santa Clara University
- M. W. Martin, R. Schinzinger, Introduction to Engineering Ethics, McGraw Hill, 2010
- P. G. Northouse, Leadership Theory and Practice, Sage Publications, 2016
- E Gundling & C Williams, Inclusive Leadership: From Awareness to Action, Aperian Global, 2019
- Quick Guide to Unconscious Bias – <http://tiny.cc/UBQuickGuide>

### Course Evaluation and Development

1. Previously offered seminar (3hr) have now been divided into seminar (1.5hr). The first part will be allocated to general discussion and the second part to individual student seminars each week, thus enabling students to show case their ability to discuss the seminar topic.
2. Individual student seminars have also been introduced instead of 2 homework assignments. Each student will have two rounds of 10 minutes presentation to represent the ethical thinking and apply ethical judgement and discuss leadership capability with an engineering mindset.

### Laboratory Workshop Information

<a href="#">ELEC4122</a>	Day	Time	Mode of delivery / Location/Mentor
Lectures	Tuesday	12pm - 2pm (1A)	Hybrid (Burrows Th) / Dr Shaghik Atakaramians
Seminars	Thursday	10am – 1pm (H10A)	Ainswth202 / Mr Aryan Sharma
		10am – 1pm (H10B)	ElecEngG23 / Dr Deepak Mishra
		10am – 1pm (H10D)	BUS 205 / Mr Scott Watts
		10am – 1pm (H10E)	Online /
	Thursday	2pm – 5pm (H14A)	SEB G07 / Mr Aryan Sharma
		2pm – 5pm (H14B)	Ainswth102 / Dr Hassan Habibi

	2pm – 5pm (H14C)	SEB G02 / Mr Scott Watts
	2pm – 5pm (H14D)	ElecEngG22 / Prof Francois Ladouceur

## **Academic Honesty and Plagiarism**

### **Academic Honesty and Plagiarism**

Plagiarism is the unacknowledged use of other people's work, including the copying of assignment works and laboratory results from other students. Plagiarism is considered a form of academic misconduct, and the University has very strict rules that include some severe penalties. For UNSW policies, penalties and information to help you avoid plagiarism, see <https://student.unsw.edu.au/plagiarism>. To find out if you understand plagiarism correctly, try this short quiz: <https://student.unsw.edu.au/plagiarism-quiz>.

### **General Conduct and Behaviour**

Consideration and respect for the needs of your fellow students and teaching staff is an expectation. Conduct which unduly disrupts or interferes with a class is not acceptable and students may be asked to leave the class.

## Academic Information

### COVID19 - Important Health Related Notice

Your health and the health of those in your class is critically important. You must stay at home if you are sick or have been advised to self-isolate by [NSW health](#) or government authorities. **You will not be penalised for missing a face-to-face activity due to illness or a requirement to self-isolate.** We will work with you to ensure continuity of learning during your isolation and have plans in place for you to catch up on any content or learning activities you may miss. Where this might not be possible, an application for fee remission may be discussed.

If you are required to self-isolate and/or need emotional or financial support, please contact the [Nucleus: Student Hub](#). If you are unable to complete an assessment, or attend a class with an attendance or participation requirement, please let your teacher know and apply for [special consideration](#) through the [Special Consideration portal](#). To advise the University of a positive COVID-19 test result or if you suspect you have COVID-19 and are being tested, please fill in this [form](#).

UNSW requires all staff and students to follow NSW Health advice. Any failure to act in accordance with that advice may amount to a breach of the Student Code of Conduct. Please refer to the [Safe Return to Campus](#) guide for students for more information on safe practices.

### Dates to note

Important Dates available at: <https://student.unsw.edu.au/dates>

## Student Responsibilities and Conduct

Students are expected to be familiar with and adhere to all UNSW policies (see <https://student.unsw.edu.au/policy>), and particular attention is drawn to the following:

### Workload

It is expected that you will spend at least **15 hours per week** studying a 6 UoC course, from Week 1 until the final assessment, including both formal classes and *independent, self-directed study*. In periods where you need to complete assignments or prepare for examinations, the workload may be greater. Over-commitment has been a common source of failure for many students. You should take the required workload into account when planning how to balance study with employment and other activities.

### Attendance

Regular and punctual attendance at all classes is expected. UNSW regulations state that if students attend less than 80% of scheduled classes they may be refused final assessment.

### Work Health and Safety

UNSW policy requires each person to work safely and responsibly, in order to avoid personal injury and to protect the safety of others.

## Special Consideration and Supplementary Examinations

You must submit all assignments and attend all examinations scheduled for your course. You can apply for special consideration when illness or other circumstances beyond your control interfere with an assessment performance. If you need to submit an application for special consideration for an exam or assessment, you must submit the application **prior to the start** of the exam or before the assessment is submitted, except where illness or misadventure prevent you from doing so. Be aware of the “fit to sit/submit” rule which means that if you sit an exam or submit an assignment, you are declaring yourself well enough to do so and cannot later apply for Special Consideration. For more information and how to apply, see <https://student.unsw.edu.au/special-consideration>.

## Administrative Matters

On issues and procedures regarding such matters as special needs, equity and diversity, occupational health and safety, enrolment, rights, and general expectations of students, please refer to the School and UNSW policies:

<https://student.unsw.edu.au/guide>

<https://www.unsw.edu.au/engineering/our-schools/electrical-engineering-telecommunications/student-life/resources>

## Disclaimer

This Course Outline sets out description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline (as updated in Moodle), the description in the Course Outline/Moodle applies.

## Image Credit

Synergies in Sound 2016

## CRICOS

CRICOS Provider Code: 00098G

## Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.

## Appendix: Engineers Australia (EA) Professional Engineer Competency Standard

Program Intended Learning Outcomes	
Knowledge and skill base	
PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	✓
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline	
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	
PE1.4 Discernment of knowledge development and research directions within the engineering discipline	
PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline	
PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline	✓
Engineering application ability	
PE2.1 Application of established engineering methods to complex engineering problem solving	✓
PE2.2 Fluent application of engineering techniques, tools and resources	
PE2.3 Application of systematic engineering synthesis and design processes	
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	
Professional and personal attributes	
PE3.1 Ethical conduct and professional accountability	✓
PE3.2 Effective oral and written communication in professional and lay domains	✓
PE3.3 Creative, innovative and pro-active demeanour	✓
PE3.4 Professional use and management of information	
PE3.5 Orderly management of self, and professional conduct	✓
PE3.6 Effective team membership and team leadership	✓