



Australia's
Global
University



IEST7500

Environmental Management: Engineering Fundamentals

Term Two // 2019

Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
Colin Salter	c.salter@unsw.edu.au	appointments via email		

School Contact Information

School of Humanities and Languages

Location: School Office, Morven Brown Building, Level 2, 258

Opening Hours: Monday - Friday, 9am - 5pm

Phone: +61 2 9385 1681

Fax: +61 2 9385 8705

Email: hal@unsw.edu.au

Course Details

Credit Points 6

Summary of the Course

This fundamental knowledge (FK) course is intended primarily for Masters of Environmental Management students who do not have an engineering background. It introduces general engineering approaches and studies their relation to ecological sustainability. In the course you analyse this relationship in different socio-economic contexts, including cities, rural and regional areas, and developing countries. You will address the tension between various forms of technical knowledge, the role of technology in the global economy, the relation between engineering and sustainable development and the role of engineering in environmental management. You will be taken through various case studies of real environmental problems and will be encouraged to identify where technological solutions are appropriate and where they are inappropriate or inadequate. Exclusions: This course is intended for non-engineering environmental masters programs. Engineering majors are excluded. The School of Humanities and Languages controls enrolments in the course, so please contact HAL if you would like to enrol.

Course Learning Outcomes

1. Explain the interactions between engineering and the environment, and the role of engineering and technology in society
2. Explain how engineering can be used to assist with sustainable development in both developed and developing countries
3. Assess the most common approaches in engineering and how these approaches fit into multidisciplinary approaches to addressing environmental problems
4. Discuss the values and beliefs that underlie traditional engineering approaches as well as alternative engineering paradigms
5. Communicate key engineering principles and approaches to a range of stakeholders in both academic and practical settings

Teaching Strategies

Each week a lecture is followed by a tutorial. Lectures will provide core information, whilst tutorials, assignments and group projects will apply core knowledge to real world situations and contexts.

Assessment

See Moodle for detailed information about assessment tasks.

Assessment Tasks

Assessment task	Weight	Due Date	Student Learning Outcomes Assessed
Participation	10%	22/07/2019 04:00 PM	1,5
Review of Readings	30%	Not Applicable	1,2,3
Group project presentation	30%	Not Applicable	1,2,3,4
Research Report	30%	16/08/2019 04:00 PM	2,3,5

Assessment Details

Assessment 1: Participation

Start date:

Length: 1000 words

Details: 1 or 2 class exercises (max 500 words) and participation (on-campus) OR online discussion posts (distance students) of max 500 words per week for prescribed weeks

Additional details:

Field trip report. See Moodle for further details.

Turnitin setting: This is not a Turnitin assignment

Assessment 2: Review of Readings

Start date:

Length: 500 words each

Details: Short weekly reviews of readings, max 500 words each for 3 weeks as selected by students
Written feedback

Additional details:

Short Weekly reviews are due at 4pm on Tuesday in Weeks 2, 4 and 6. (i.e. June 11, June 25, and July 9). See Moodle for further details.

Turnitin setting: This is not a Turnitin assignment

Assessment 3: Group project presentation

Start date: Not Applicable

Length: 35 minutes

Details: Group project presentation on an engineering solution for an environmental problem. Max 35 minutes including question time. Written and Verbal feedback

Additional details:

Presentations will be in class during Weeks 9 and 10. See Moodle for further details.

Turnitin setting: This is not a Turnitin assignment

Assessment 4: Research Report

Start date: Not Applicable

Length: 3000 words (max)

Details: Technology assessment report, 2500 to 3000 words maximum written feedback provided

Additional details:

See Moodle for further details.

Turnitin setting: This is not a Turnitin assignment

Attendance Requirements

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

Course Schedule

[View class timetable](#)

Timetable

Date	Type	Content
Week 1: 3 June - 7 June	Blended	Introduction: Engineers and Society. For all students, both face to face and distance, online activities will be integrated throughout the term. Distance students will engage via forums and virtual attendance in classes. Case study and project based learning will introduce key concepts, further explored through competency based tasks and small group activities. On-line work will also support field activities – see Weeks 5 and 6 below. Further details on the integration of on-line tuition will be provided via your Moodle site.
Week 2: 10 June - 14 June	Blended	Natural Resources.
Week 3: 17 June - 21 June	Blended	Consumer Goods.
Week 4: 24 June - 28 June	Blended	Guest lecture: Closing the Loop.
Week 5: 1 July - 5 July	Online Activity	Urban Infrastructure. The on-line work includes preparation for next week's field activity.
Week 6: 8 July - 12 July	Fieldwork	Urban Infrastructure.
Week 7: 15 July - 19 July	Blended	Guest Lecture (tbc): Household 'waste.'
Week 8: 22 July - 26 July	Blended	Engineering and Development.
Week 9: 29 July - 2 August	Blended	Guest lecture (tbc): Aboriginal Perspectives.
Week 10: 5 August - 9 August	Blended	Review.

Resources

Prescribed Resources

See Moodle for details.

Recommended Resources

See Moodle for details.

Course Evaluation and Development

Courses are periodically reviewed and students' feedback is used to improve them. Feedback is gathered from students using myExperience. Students are encouraged to complete their surveys by accessing the personalised web link via the Moodle course site.

Submission of Assessment Tasks

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Turnitin Submission

If you encounter a problem when attempting to submit your assignment through Turnitin, please telephone External Support on 9385 3331 or email them on externalteltsupport@unsw.edu.au . Support hours are 8:00am – 10:00pm on weekdays and 9:00am – 5:00pm on weekends (365 days a year). If you are unable to submit your assignment due to a fault with Turnitin you may apply for an extension, but you must retain your ticket number from External Support (along with any other relevant documents) to include as evidence to support your extension application. If you email External Support you will automatically receive a ticket number, but if you telephone you will need to specifically ask for one. Turnitin also provides updates on their system status on Twitter.

Generally, assessment tasks must be submitted electronically via either Turnitin or a Moodle assignment. In instances where this is not possible, it will be stated on your course's Moodle site with alternative submission details.

For information on how to submit assignments online via Moodle: <https://student.unsw.edu.au/how-submit-assignment-moodle>

Academic Honesty and Plagiarism

Plagiarism is using the words or ideas of others and presenting them as your own. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

UNSW groups plagiarism into the following categories:

Copying: using the same or very similar words to the original text or idea without acknowledging the source or using quotation marks. This also applies to images, art and design projects, as well as presentations where someone presents another's ideas or words without credit.

Inappropriate paraphrasing: Changing a few words and phrases while mostly retaining the original structure and/or progression of ideas of the original, and information without acknowledgement. This also applies in presentations where someone paraphrases another's ideas or words without credit and to piecing together quotes and paraphrases into a new whole, without appropriate referencing.

Collusion: working with others but passing off the work as a person's individual work. Collusion also includes providing your work to another student before the due date, or for the purpose of them plagiarising at any time, paying another person to perform an academic task, stealing or acquiring another person's academic work and copying it, offering to complete another person's work or seeking payment for completing academic work.

Inappropriate citation: Citing sources which have not been read, without acknowledging the "secondary" source from which knowledge of them has been obtained.

Duplication ("self-plagiarism"): submitting your own work, in whole or in part, where it has previously been prepared or submitted for another assessment or course at UNSW or another university.

Correct referencing practices:

- Paraphrasing, summarising, essay writing and time management
- Appropriate use of and attribution for a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre (<http://www.lc.unsw.edu.au/>). Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and proper referencing of sources in preparing all assessment items.

UNSW Library also has the ELISE tool available to assist you with your study at UNSW. ELISE is designed to introduce new students to studying at UNSW but it can also be a great refresher during your study.

Completing the ELISE tutorial and quiz will enable you to:

- analyse topics, plan responses and organise research for academic writing and other assessment tasks
- effectively and efficiently find appropriate information sources and evaluate relevance to your needs
- use and manage information effectively to accomplish a specific purpose
- better manage your time

- understand your rights and responsibilities as a student at UNSW
- be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy
- be aware of the standards of behaviour expected of everyone in the UNSW community
- locate services and information about UNSW and UNSW Library

Some of these areas will be familiar to you, others will be new. Gaining a solid understanding of all the related aspects of ELISE will help you make the most of your studies at UNSW.

<http://subjectguides.library.unsw.edu.au/elise/aboutelise>

Academic Information

For essential student information relating to:

- requests for extension;
- late submissions guidelines;
- review of marks;
- UNSW Health and Safety policies;
- examination procedures;
- special consideration in the event of illness or misadventure;
- student equity and disability;
- and other essential academic information, see

<https://www.arts.unsw.edu.au/current-students/academic-information/protocols-guidelines/>

Image Credit

Rice farming and aquaculture. Engineering at the local scale. Vembanad Lake, Kerala in southern India. Photograph by James Arvanitakis.

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