



UNSW Course Outline

IEST7500 Environmental Technologies: Challenges & Opportunities - 2024

Published on the 11 Jan 2024

General Course Information

Course Code : IEST7500

Year : 2024

Term : Summer

Teaching Period : U1

Is a multi-term course? : No

Faculty : Faculty of Arts, Design and Architecture

Academic Unit : School of Humanities and Languages

Delivery Mode : In Person

Delivery Format : Non Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Postgraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

This course is centred on the fundamentals of environmental technologies and their

practicalities, implications, opportunities, and challenges for environmental professionals and leaders. Building on understandings of the mechanisms through which society shapes technology (and technology shapes society), this course introduces real-world case studies of the application of technical fixes designed to reduce humanity's ecological impact. In exploring the diverse relationships and socio-economic contexts across cities, rural, and regional areas in the Global North and South in which environmental technologies are deployed, you will develop an advanced understanding of tensions between various forms of technical knowledges and their application within and across societies and cultures.

Course Learning Outcomes

| Course Learning Outcomes |
|--|
| CL01 : Investigate the interaction between technology and society, and its influence on the role of environmental professionals and leaders |
| CL02 : Demonstrate an understanding of the importance of socio-economic contexts for the development and delivery of environmental technical fixes |
| CL03 : Assess common approaches to environmental technologies and design, and how these address real-world and complex challenges |
| CL04 : Discuss the importance of cultural context on technical knowledges and their application |
| CL05 : Communicate the opportunities and challenges of environmental technologies to a range of stakeholders in both academic and practical settings |

| Course Learning Outcomes | Assessment Item |
|--|--|
| CL01 : Investigate the interaction between technology and society, and its influence on the role of environmental professionals and leaders | <ul style="list-style-type: none"> • Writing task |
| CL02 : Demonstrate an understanding of the importance of socio-economic contexts for the development and delivery of environmental technical fixes | <ul style="list-style-type: none"> • Group presentation • Writing task |
| CL03 : Assess common approaches to environmental technologies and design, and how these address real-world and complex challenges | <ul style="list-style-type: none"> • Final report • Group presentation • Writing task |
| CL04 : Discuss the importance of cultural context on technical knowledges and their application | <ul style="list-style-type: none"> • Final report • Writing task |
| CL05 : Communicate the opportunities and challenges of environmental technologies to a range of stakeholders in both academic and practical settings | <ul style="list-style-type: none"> • Group presentation • Final report |

Learning and Teaching Technologies

Moodle - Learning Management System

Assessments

Assessment Structure

| Assessment Item | Weight | Relevant Dates |
|--|--------|--|
| Group presentation Assessment Format: Group | 30% | Start Date: Not Applicable Due Date: Not Applicable |
| Writing task Assessment Format: Individual | 35% | Due Date: 14/01/2024 11:59 PM |
| Final report Assessment Format: Individual | 35% | Due Date: 04/02/2024 11:59 PM |

Assessment Details

Group presentation

Assessment Overview

Presentation (approximately 20 minutes) on an applied environmental technology. Written and verbal group feedback provided.

Course Learning Outcomes

- CLO2 : Demonstrate an understanding of the importance of socio-economic contexts for the development and delivery of environmental technical fixes
- CLO3 : Assess common approaches to environmental technologies and design, and how these address real-world and complex challenges
- CLO5 : Communicate the opportunities and challenges of environmental technologies to a range of stakeholders in both academic and practical settings

Detailed Assessment Description

See Moodle for further details.

Submission notes

To be performed in class as per schedule to be posted

Writing task

Assessment Overview

Written task of 2,000 words with individual feedback provided.

Course Learning Outcomes

- CL01 : Investigate the interaction between technology and society, and its influence on the role of environmental professionals and leaders
- CL02 : Demonstrate an understanding of the importance of socio-economic contexts for the development and delivery of environmental technical fixes
- CL03 : Assess common approaches to environmental technologies and design, and how these address real-world and complex challenges
- CL04 : Discuss the importance of cultural context on technical knowledges and their application

Detailed Assessment Description

See Moodle for further details.

Assessment Length

Word length = 1,000 (not 2,000 as stated in description)

Final report

Assessment Overview

Research report on topics to be allocated, 2,000 words. Individual written feedback provided.

Course Learning Outcomes

- CL03 : Assess common approaches to environmental technologies and design, and how these address real-world and complex challenges
- CL04 : Discuss the importance of cultural context on technical knowledges and their application
- CL05 : Communicate the opportunities and challenges of environmental technologies to a range of stakeholders in both academic and practical settings

Detailed Assessment Description

See Moodle for further details.

General Assessment Information

Grading Basis

Standard

Course Schedule

| Teaching Week/Module | Activity Type | Content |
|----------------------|---------------|--|
| Monday Week 2 | Topic | Topic 1. Course Introduction & Overview: Environmental Professionals and Society In our first seminar, we look at the big picture context and challenges for environmental professionals in contemporary society. Our aim here is to explore and develop an understanding of shifts and changes in recent times, and provide a foundation for engagement over the weeks to come. It is important to note the implicit and explicit role of social-community expectations, including the socio-political (which the profession cannot exist outside of). |
| Wednesday Week 2 | Topic | Topic 2. Extractive industries and their Impacts What we label as 'natural resources' play a significant role in our everyday lives. In this seminar, we look at specific examples of their extraction, associated environmental impacts (from relative small to catastrophic) and socio-economic contexts. Our aim here is to explore the relationship between 'natural resources', extractive technologies, and concepts such as 'sustainable development' and 'nature positive'. Our focus will be the ongoing and significant challenges for environmental professionals and society more broadly. |
| Saturday Week 2 | Topic | Topic 3. Remediation, Restoration, & Urban Renewal Projects 1 For today's topic we will explore urban renewal through a desktop study and self-guided field trip. This will replace face-to-face classes to provide you with equivalent time 'in the field' to explore a site of your your choosing. You can choose the Sydney Olympic Park site, or an urban renewal projects of your choosing. It will be a site you are able to (safely) visit and access resources similar those for the Sydney Olympic Site such as Sate of the Environment Reports, planning and project documents, and other research papers. Note: There will be an optional drop-in session (online only) for further discussion of field study sites and associated questions. |
| Monday Week 3 | Topic | Topic 4. Product Design, Lifecycle and Disposal Consumer goods are part of our lives. We use them everyday. Some more indispensable than others. Some more disposable. Their design and lifespans directly shape their impacts. Developing our understanding of assumptions built into design and use will assist us in identifying challenges and opportunities for environmental professionals (and society more broadly). |
| Saturday Week 3 | Topic | Topic 5. Technology Assessment Technology Assessment (TA) is a toolkit for considering the potential of environmental technologies, including their social, socio-economic and cultural influences and impacts. We will explore the development of TA and different approaches, providing a foundation for working towards your final reports. |
| Monday Week 4 | Topic | Topic 6. Remediation, Restoration, & Urban Renewal Projects 2 Projects with claimed social and environmental benefits are increasingly common. These can be small scale, such as in your local urban environments, through to large multi-stage projects such as those undertaken at the Sydney Olympic Park site. The 2000 Sydney Olympic Games were referred to as the 'green games,' with environmental remediation a key aspect of the area's renewal project. The notion of sustainability was central. And the project was not without controversy. We will discuss a number of such projects, and directly reflect on your experiences undertaken your respective field studies. |
| Wednesday Week 4 | Topic | Topic 7. Technology, Sustainable Development & Nature Positive This week we look at deeper look at notions such as 'sustainable development' and 'nature positive', the role new and emerging technologies are situated to play, and associated environmental goals. We will explore a number of 'aid' projects to reflect on key challenges, situated in their respective contexts. |
| Saturday Week 4 | Topic | Topic 8. First Nations Perspectives "Australia's engineering history has contributed enormously to vast physical impacts on Country - Aboriginal peoples' most sacred entity. Meanwhile, Australian Engineering education is one of the last disciplines to adopt any form of instruction on matters pertaining to the land's original Custodians"—Kennedy et al (2016, 3-4). Across the course we laid foundations to consider the specific context of environmental projects. We focus here on contemporary settler-colonial Australia and reflect on some key challenges and the ongoing implications for the environmental professionals and society more broadly. We utilise the situation in Australia as an analogy for challenges across many other cultures and countries as First Nations and other voices are gaining increasing attention. |
| | Topic | Topic 9. Review We reflect back on what we have covered across the course. Embracing the challenges we have considered, we also look at the potential for the profession and the opportunities moving forwards. |

Attendance Requirements

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

Course 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.

Staff Details

| Position | Name | Email | Location | Phone | Availability | Equitable Learning Services Contact | Primary Contact |
|----------|--------------|-------|----------|-------|-----------------|-------------------------------------|-----------------|
| Convenor | Colin Salter | | | | via appointment | No | Yes |

Other Useful Information

Academic Information

Due to evolving advice by NSW Health, students must check for updated information regarding online learning for all Arts, Design and Architecture courses this term (via Moodle or course information provided).

Please see: <https://www.unsw.edu.au/arts-design-architecture/student-life/resources-support/protocols-guidelines> for essential student information relating to:

- UNSW and Faculty policies and procedures;
- Student Support Services;
- Dean's List;
- review of results;
- credit transfer;
- cross-institutional study and exchange;
- examination information;
- enrolment information;
- Special Consideration in the event of illness or misadventure;

- student equity and disability;

And other essential academic information.

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 includes copying materials, ideas or concepts from a book, article, report or other written document, presentation, composition, artwork, design, drawing, circuitry, computer program or software, website, internet, other electronic resource, or another person's assignment without appropriate acknowledgement.
- Inappropriate paraphrasing: Changing a few words and phrases while mostly retaining the original information, structure and/or progression of ideas of the original 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 for the purpose of them plagiarising, 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.

The UNSW Academic Skills support offers resources and individual consultations. Students are also reminded that careful time management is an important part of study. 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 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

Use of AI for assessments

As AI applications continue to develop, and technology rapidly progresses around us, we remain committed to our values around academic integrity at UNSW. Where the use of AI tools, such as ChatGPT, has been permitted by your course convener, they must be properly credited and your submissions must be substantially your own work.

In cases where the use of AI has been prohibited, please respect this and be aware that where unauthorised use is detected, penalties will apply.

[Use of AI for assessments | UNSW Current Students](#)

Submission of Assessment Tasks

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, alternative submission details will be stated on your course's Moodle site. For information on how to submit assignments online via Moodle: <https://student.unsw.edu.au/how-submit-assignment-moodle>

Late Submission Penalty

UNSW has a standard late submission penalty of:

- 5% per calendar day,
- for all assessments where a penalty applies,
- capped at five calendar days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Students are expected to manage their time to meet deadlines and to request [Special Consideration](#) as early as possible before the deadline. Support with [Time Management is available here](#).

School Contact Information

School of Humanities & Languages

Email: hal@unsw.edu.au

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

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