



School of Civil and Environmental Engineering

Term1, 2020

## CVEN3701 ENVIRONMENTAL FRAMEWORKS, LAW AND ECONOMICS

### COURSE DETAILS

Units of Credit	6
Contact hours	6 hours per week (2 x 3 hours)
Class	Tuesday, 9am ±12pm (lecture and workshop combined), Wednesday, 10am ±1pm (lecture and workshop combined). Please see table below for rooms
Additional Lecturers	Dr Gerry Bates (GB) teaches environmental law, email: <a href="mailto:gerrybates@bigpond.com">gerrybates@bigpond.com</a>  Amy Cheung (AC) teaches environmental economics, email: <a href="mailto:CVEN3701.AC@gmail.com">CVEN3701.AC@gmail.com</a>

### INFORMATION ABOUT THE COURSE

This course builds on the broad multidisciplinary introduction to sustainability provided in the ENGG1000 Engineering Design and Innovation projects, and the range of environmental material accounting, environmental risk assessment, and sustainability assessment tools introduced in CVEN1701 Environmental Principles and Systems. The course will introduce Environmental Impact Statements (EISs), Environmental Management Systems (EMSs) and corporate and regional environmental reporting, each of which uses the tools covered in CVEN1701. The course then goes on to cover environmental law and economics, which can be used to implement sustainable strategies for corporations and regions. The course provides background material for application in the following courses in Year 3 and 4:

- x CVEN3502 Water and wastewater engineering
- x CVEN3702 Solid wastes and contaminant transport
- x CVEN4104 Sustainability in construction
- x CVEN4701 Planning sustainable infrastructure

### HANDBOOK DESCRIPTION

This course builds on the introduction to environmental management in CVEN1701 and provides details of methods for Environmental Impact Statements (EIS) methods and the ISO14001 Environmental Management System (EMS) framework. It then provides an introduction for Engineers on environmental law in Australia and NSW, focusing on planning law, and pollution laws. Environmental economics methods to account for environmental impacts in monetary terms, and the use of market mechanisms to achieve preferred environmental outcomes is covered at a level suitable for engineers.

The URL of your course online handbook is:

<http://www.handbook.unsw.edu.au/undergraduate/courses/2020/CVEN3701.html>

## OBJECTIVES

The aim of this course is to enable students to undertake the preparation of EISs, EMSs and environmental reports, and to be able to have sufficient understanding of environmental law and economics to be able to work with professionals in these areas in order to implement sustainable strategies at corporate and regional levels.

The objectives of the course are to:

- x know the standard formats for EISs, EMSs and environmental reports, and to be able to use environmental analytical tools to critically analyse these documents, and be able to manage their preparation.
- x acquaint you with the fundamental principles of Australian environmental law; and to explain how these principles are applied to important areas of environmental management and regulation relevant to you in your studies and future career. The course assumes that participants have little or no background in the law, and so the course also provides some basic instruction about important concepts and principles that are discussed are referable to all jurisdictions throughout Australia.
- x introduce students in Engineering to the economic way of thinking about environmental issues. This section will begin with some elementary economic tools, and proceed to apply these tools to examine environmental issues. There is no attempt here to justify any particular economic method. If you like, it is a course in how to communicate with economists.

## TEACHING STRATEGIES

Lectures will provide an explanation of procedures to follow to prepare EISs and EMSs and to implement sustainability strategies in these documents by way of environmental law and economics. Examples will be given in these lectures. Students the.04 Tf o( )-4(3 11.04 Tf 1 0 0 1 42.6 379.37 Tm 0 g 0 G [(sustai)3(na)3(



Weeks &  
Dates

Tuesdays lecture / w

Weeks & Dates	Tuesdays lecture / workshop Room CivEng G1 , 9am-12pm	Wednesdays lecture / workshop Room CivEng G1 , 10am-1pm
Week 9 Tue 14 Apr Wed 15 Apr	ECONOMICS (Amy Cheung) Global externalities and mitigation techniques 2	ECONOMICS (Amy Cheung) Cost Benefit Analysis 1
Week 10 Tue 21 Apr Wed 22 Apr	ECONOMICS (Amy Cheung) Cost Benefit Analysis 2	ECONOMICS (Amy Cheung) Cost Benefit Analysis 3, examination revision
Examination period: Sat 2 May ± Fri 15 May	<b>Final exam (30%) (date to be announced)</b>	

## ASSESSMENTS

Details of each assessment component, the marks assigned to it, the criteria by which marks will be assigned, and the dates of submission are set out below.

Assignment	Assignment Details (length)	Weighting	Learning Outcomes	Due Date (Deadline for absolute fail)
Assignment 1 (group)	Critique of an EIS (8 pages)	20%	LO1, LO2	<b>8pm Thu</b>



There will be workshop

## DATES TO NOTE

Refer to MyUNSW for Important Dates available at:

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

## ACADEMIC ADVICE

For information about:

- x Notes on assessments and plagiarism,
- x School policy on Supplementary exams,
- x Special Considerations,
- x Solutions to Problems,
- x Year Managers and Grievance Officer of Teaching and Learning Committee, and
- x CEVSOC.

Refer to Academic Advice on the School website available at:

<http://www.engineering.unsw.edu.au/civil-engineering/resources/academic-advice>

## DETAILS OF COURSE PROGRAM

Environmental frameworks component:

- x Course overview and briefing on frameworks assignment; a comprehensive review of environmental material accounting tools undertaken in CVEN1701; students who have not taken this first-year elective will be offered additional assistance.



- x Economic instrument of pollution control - <sup>3</sup>, Q W H U Q D O L V L Q R o l e i n W h i t e P a n e l W L H V regulation.
- x Application of Cost-Benefit Analysis into environmental policy decisions.
- x Global externalities: ozone, climate change. Concept of carbon trading.

## RELEVANT RESOURCES

### Moodle Discussion forum

Discussion and intra-group coordination can be done via a Discussions/HELP forum topic in Moodle for this course. The email discussion lists available in previous years are no longer accessible by students.

### Textbook

There is no required textbook. The following are recommendations:

#### Environmental Law:

The text recommended for this course is Bates, G *Environment Law in Australia*. (2016), 9th. Ed. LexisNexis. You can get regular updates to the content of this book on-line. Go to <https://campus.lexisnexis.com.au> select Register, and create an account.

Accessing the Law [www.austlii.edu.au](http://www.austlii.edu.au)

#### Environmental Economics:

There is no required textbook. Students might wish to consult the following textbook in the library for further reading:

Perman, R., Yue, M., Common, M., Maddison, D., and McGilvray, J., 2012, *Natural Resource and Environmental Economics*, 4th edition, Pearson Education Limited, Essex.

An earlier edition of this textbook is available from the open reserve section at the UNSW library (S 333.7/381).

Additional Readings, standards and guideline documents will be provided throughout the lecture series on UNSW Moodle with each lecture.

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UNSW Moodle

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## APPENDIX A: Engineers Australia (EA) Competencies