

23570 Economics of the Environment

Course area UTS: Business

Delivery Spring 2023; City

Credit points 6cp

Requisite(s) (23115 Economics for Business OR 23000 Principles of Microeconomics) AND (26134 Business Statistics OR ((35151 Introduction to Statistics OR 33116 Design, Data, and Decisions OR 33230 Mathematics 2 OR 33290 Statistics and Mathematics for Science OR 37151 Introduction to Statistics OR 36200 Arguments, Evidence and Intuition))

These requisites may not apply to students in certain courses.

There are also course requisites for this subject. See [access conditions](#).

Result type Grade and marks

Subject coordinator

Dr Esther Mirjam Girsberger

Email: EstherMirjam.Girsberger@uts.edu.au

Office hours (by appointment): Fridays 3:30-4:30pm. In-person or via Zoom. Please email for Zoom link.

Note: All subject related questions should be posted on the Discussion Board. Alternatively, you can ask them during lectures or office hours. Please use email only to make appointments or where the matter is a personal or health issue. No other emails will be answered. Please include the subject code and your student number in your email.

Teaching staff

Tutors: Ali Vergili (tutorials 1 and 2), Liqing Chen (tutorial 3).

Emails: AliYasin.Vergili@uts.edu.au, Liqing.Chen@uts.edu.au

Consultation hours (upon appointment only): Thursdays 2:00-3:00 in person or via Zoom (Ali), Mondays 2:30-3:30pm via Zoom (Liqing).

Note: All tutorial-related questions should be posted on the Discussion Board. Or you can ask them during tutorials or office hours. Please use email only to make tutorial appointments with your tutor, or where the matter is a personal or health issue. Other emails will not be answered. Please include the subject code and your student number in your email.

Subject description

Economics of the Environment provides students with an understanding of the contribution economic analysis can make to the solution of environmental problems. This subject explores the current debate around the environment, resources and sustainability. An economic approach to this debate follows by examining externalities, ill-defined property rights and the management of natural resources. The subject focuses on the policy question of natural resource depletion, pollution control and climate change, applying various policy tools to contemporary examples. Lastly, the student studies how to satisfy the legitimate claims of future generations through so-called sustainable development.

Subject learning objectives (SLOs)

Upon successful completion of this subject students should be able to:

1. analyse specific environmental problems using the relevant economic model
2. explain the policy remedies when there are missing markets for environmental goods and services
3. analyse the agendas and goals of stakeholders in environmental problems
4. integrate other disciplines (science, ethics and politics) into the environmental discourse.

Contribution to the development of graduate attributes

Economics of the Environment uses and develops basic economic principles outlined in Economics for Business to examine the problem of natural resource extraction and environmental degradation which is an important issue from both social and business perspectives. It will develop the ability of students to analyse both the consumption and production sides of environmental problems and will enhance their ability to consider these problems from a multi-disciplinary perspective which includes identification of their ethical and sustainability dimension.

Successful completion of this subject will contribute to students' acquiring the following graduate attributes:

- Intellectual rigour and innovative problem solving
- Communication and collaboration
- Social responsibility and cultural awareness
- Professional and technical competence

Teaching and learning strategies

The subject is presented in a lecture and tutorial format. Essential principles are presented and analysed in lectures and students are led through practical application exercises in tutorials. Lectures also provide a platform to respectfully share our diverse opinions and discuss the topics in a constructive manner. Students are encouraged to reflect on the topics and read the relevant chapters of the textbook before coming to class. The required textbook is an excellent and readable source. The recommended texts complement it for those who desire further readings.

Some tutorial material will be posted before the tutorial sessions. This allows students to work collaboratively on the tutorial questions beforehand and share their own insights and answers during the sessions.

The group work assignment is an opportunity to deepen your insight into a particular aspect of the contemporary environmental discourse and share your informed opinion with your group.

Discussions during lectures will enable students to assess their understanding of key concepts. Students will also receive feedback on their contributions during the tutorial sessions that will provide some direction to their self-directed study. Feedback on assessment submissions will also be provided.

Content (topics)

- Current and future challenges around the environment, resources and sustainability
- Property rights, externalities and environmental problems
- Dynamic efficiency and sustainable development
- The allocation of depletable and renewable resources
- Energy and water
- Economics of pollution control
- Economic principles for efficient environmental regulation and policy

Program

Week/Session	Dates	Description
w1 lecture 1	8 August	Week 1 program: Part 1: What this subject is all about (Subject description and administration) Part 2: The Environment, the economy and you Notes: Assignment 1 and its preparatory material are released on Friday, August 11, 1pm. No tutorial this week!

w2 lecture 2	15 August	<p>Introduction: Environmental vs Resource Economics. Externalities</p> <p>Notes:</p> <p>Text: chapter 2</p> <p>Tutorial: This week has a special tutorial which is VERY IMPORTANT for your assignment. (Tutorials usually follow the week of lectures but this week has a special tutorial.)</p>
w3 lecture 3	22 August	<p>Today or Tomorrow? The choice of consuming now vs consuming tomorrow is a basic decision that individuals and societies have to make. We explore the key issues in a two period model</p> <p>Notes:</p> <p>Text: chapter 5, part of chapter 3</p> <p>Tutorial on "The Environment and the Economy" (chapter 2).</p>
w4 lecture 4	29 August	<p>The Future is a long time: We extend last week's analysis to multiple periods</p> <p>Notes:</p> <p>Text: chapter 6</p> <p>Tutorial on "Efficiency, fairness and sustainability" and a two-period resource model (chapter 5, part of chapter 3).</p> <p>Assignment 1 is due on Monday, August 28, 1pm (strict!).</p>
w5 lecture 5	5 September	<p>The Transition to Renewable Energy: Will the price mechanism be a sufficient safeguard for our future energy needs?</p> <p>Notes:</p> <p>Text: chapter 7</p> <p>Tutorial on "Optimal resource extraction over many periods" (chapter 6).</p>
w6 lecture 6	12 September	<p>Water: The ultimate renewable resource is under enormous strain around the world. Aquifers that replenish very slowly can be thought of as non-renewable resources that are being 'mined'.</p> <p>Notes:</p> <p>Text: chapter 9</p> <p>Tutorial on "Mining in Australia" (chapter 7 + additional material).</p> <p>Assignment 2 is released on Monday, September 11, 1pm.</p>

w7 lecture 7	19 September	<p>Overview of Pollution Control: The policy options for pollution control are outlined and discussed.</p> <p>Notes:</p> <p>Text: chapter 14, parts of chapter 18</p> <p>Tutorial on "Water markets: monopolies and privatisation" (chapter 9).</p>
w8 lecture 8	26 September	<p>StuVac</p> <p>Notes:</p> <p>No classes (lecture and tutorials).</p>
w9 break	3 October	<p>Climate Change: Let's talk about "Fridays for Future", Economics and Government interventions.</p> <p>Notes:</p> <p>Text: chapter 17 + additional material.</p> <p>Tutorial discusses solutions to Assignment 1.</p>
w10 lecture 9	10 October	<p>Land Usage: The challenge of urbanization in the world requires that we understand the economic forces that shape land usage, and degradation.</p> <p>Notes:</p> <p>Text: chapter 10</p> <p>Tutorial: You will play an interactive game to learn how tradeable permits work. Don't miss this session!</p> <p>Assignment 2 is due on Monday, October 9 at 1pm (strict!).</p>
w11 lecture 10	17 October	<p>The tragedy of commons: The example of fisheries</p> <p>Notes:</p> <p>Text: chapter 12</p> <p>Tutorial on "Land and Climate Change" (chapters 10 and 17).</p>
w12 lecture 11	24 October	<p>The Search for Sustainability: What does it mean to have a sustainable economy? Is such an economy practically achievable?</p> <p>Notes:</p> <p>Text: chapter 20</p> <p>Tutorial on "Fish" (chapter 12).</p>

Notes:

Tutorial on "Sustainability" (chapter 20), Q & A (tutorial material).

Additional information

Lecture slides and tutorial material are available on Canvas. Most weeks, we will cover one chapter per week in Tietenberg & Lewis, or use some material not in the textbook. The chapters contain a mixture of what is sometimes called Resource Economics and Environmental Economics, terms explained in the material of the first lecture.

Tutorials will operate from week 2. The tutorial in week 2 provides important material for assignment 1 (reviewing materials covered in Economics for Business I) and is not to be missed. The tutorials from week 3 onwards will cover the material from the previous week's lecture. Always attempt to solve the tutorial questions before coming to the tutorial so as to benefit a maximum from questions, and by contributing your own ideas and explaining your solutions to your peers.

UTS Learning Futures is committed to 'flipped learning', that means increased engagement within lectures and increased student preparation out of lectures. You are encouraged to read the textbook and prepare the tutorials before coming to class. Moreover, the fact that the first assignment falls due so early is a hint to you that you ought to take responsibility for getting into the material from the first week onwards. There will be a link to Youtube clips to help you with this. You will gain a lot of new knowledge from watching it. I've tried to make the introductory material in week 2 and the tutorial fit together, so it makes a lot of sense to look at both as soon as you can. Definitely aim to do questions 1 to 3 of assignment 1 before we meet in week 2.

Good luck - if you have any questions or concerns about the subject, please feel free to contact me.

Assessment**Assessment task 1: Assignment (Individual)**

Objective(s): This addresses subject learning objective(s):

1 and 2

Weight: 25%

Task: Assignment 1 is an individual assignment and carries a weight of 25 percent. Assignment 1 consists of several analytical and numerical questions. It requires students to gain new knowledge through Youtube tutorials and apply the principles and methods studied in the subject (and its prerequisites). To facilitate clarity in the assessment criteria, the questions will typically be sub-divided into smaller parts. Unless otherwise stated, students should show concise working out to support their answer. For general analytical/conceptual questions, students should demonstrate an ability to express their arguments in a succinct and logical manner.

Due: Please see the Program subsection for the due date of Assignment 1. Assignment 1 can be downloaded from Canvas two and a half weeks prior to the due date. Assignment 1 should be submitted electronically via TurnItIn in Canvas. Late submissions fall under the "late submission penalty" policy. In our experience, neater assignments receive higher marks, conditional on content. As such, you are strongly encouraged to type your assignment. Mathematical symbols, formulas and graphs/diagrams can remain hand-written but must be included into your typed assignment.

Assessment task 2: Assignment (Group)

Objective(s): This addresses subject learning objective(s):

3 and 4

Weight: 25%

Task: Assignment 2 is a group assignment and carries a weight of 25%. You will read several high-quality texts from different disciplines or watch a documentary which contribute to the contemporary debate around the environment and its challenges. As a group you will critically analyse, reflect on and discuss different aspects of these texts/the documentary. You will also do some independent research to supplement the suggested readings and provide up to date statistics. Finally, you will write up a report which summarises your critical analysis and own research. Students should demonstrate an ability to express their arguments in a succinct and logical manner.

For assignment 2 you may form groups of **up to five people**. Individual assignments (a 'group' of one) are also acceptable (but not recommended).

Length: Assignment 2 must be no more than six (6) A4 sheets, not less than 12 point font. The six-page limit excludes references and appendices.

Due: Please see the Program subsection for the due date of Assignment 2. Assignment 2 can be downloaded from Canvas four weeks prior to the due date. Assignment 2 has to be typed, hand-written assignments will not be accepted. Assignment 2 should be submitted electronically via TurnItIn in Canvas. The Business School's late submission policy applies.

Assessment task 3: Final Exam (Individual)

Objective(s): This addresses subject learning objective(s):

1, 2, 3 and 4

Weight: 50%

Moderation of marks

In the event of a very unusual distribution of marks occurring in this subject, the coordinator may opt to moderate the marks. However, if it happens it would be using the principle of 'no disadvantage' to students. That is, no student would receive a lower mark, or a lower grade (P, C, D etc).

Minimum requirements

Students must achieve at least 50% of the subject's total marks.

Required texts

Tietenberg T and L Lewis (2018), Environmental and Natural Resource Economics, Routledge, 11th edition.

(An earlier edition is available in UTS library. The 11th edition has updated content and some new/updated chapters.)

Recommended texts

Kolstad Ch (2010), Environmental Economics, Oxford University Press, 2nd edition.

Keohane N and S Olmstead (2016), Markets and the Environment, Island Press, 2nd edition.

Assessment: faculty procedures and advice

Extensions and late assessment protocol

Any assessment task (excluding take home final exams, frequent assessment tasks that must be submitted on a regular basis prior to or during a synchronous class such as weekly homework preparation, pre-class or in-class quizzes or single assessments that are performed and assessed during class time such as presentations) submitted after the due date and time, will be either:

- penalised by way of loss of marks where 10 per cent (10%) of the marks for the assessment task will be deducted per day for assessment tasks submitted after the due date. A day is defined as a 24-hour period or part thereof following the published due date and time of the assignment, and

- will be rejected and not marked if the assessment is submitted more than 5 calendar days after the stated submission date, unless a formal extension of time has been granted by the Subject Coordinator, or
- rejected without marking (where the subject outline states that this will be the consequence of an assessment task being submitted after the due time on the due date without an approved extension)

The maximum penalty that can be applied is 50% of the assessment marks (as submissions over 5 days late are not accepted). Students cannot receive a negative score for the assessment task after a penalty is levied.

A penalty for late work will not apply in cases of approved extensions by the Subject Coordinator. Approved extensions cannot be made without a request for extension sent directly to the coordinator (or nominated approving tutor as designated by the subject coordinator) (for extensions of one week or less) or via an [application for special consideration](#) (for extensions of more than one week, within the UTS time frames for submission). Any direct requests must be received by the Subject Coordinator at least 24 hours prior to the due date and time.

A penalty may not apply after due consideration of any submission (request for extension or application for special consideration) by the [Academic Liaison Officer](#) (ALO), on behalf of students registered with [Accessibility Services](#).

Academic liaison officer

- A/Prof [Helen Spiropoulos](#), Accounting Discipline Group
- Dr [Mario Fiorini](#), Economics Discipline Group
- Associate Lecturer [Linda Styles](#), Finance Discipline Group
- Dr [Adam Cohen](#), Management Discipline Group
- Dr [Kyuseop Kwak](#), Marketing Discipline Group
- Dr [Deborah Cotton](#), Indigenous student liaison

Any arrangements should be negotiated within the first six weeks of the session.

Support

Student Services Unit/Counselling: Student Services provides a range of free and confidential professional services to support different aspects of your life and learning at UTS. These services include [counselling](#) for personal and learning problems or issues. If you are experiencing difficulties with your overall study program, for whatever reason, telephone +61 2 9514 1177 (City campus).

The Accessibility and Financial Assistance Service: [The Accessibility Service](#) can support students with disabilities, medical or mental health conditions, including temporary injuries (e.g., broken limbs). The Accessibility Service works with [Academic Liaison Officers](#) in each Faculty to provide 'reasonable adjustments' such as exam provisions, assistive technology, requests and strategies for managing your studies alongside your health condition. If you are unsure whether you need assistance, we recommend getting in touch early and we can provide advice on how our service can assist you. Make an appointment with an Accessibility Consultant (AC) on +61 2 9514 1177 or Accessibility@uts.edu.au.

[The Financial Assistance Service](#) can assist you with financial aspects of life at university, including Centrelink information, tax returns and budgeting, interest-free student loans and grants to assist with course-related costs. Check eligibility and apply online and make an appointment on +61 2 9514 1177 or Financial.Assistance@uts.edu.au.

Parents/carers: The [Academic Liaison Officers](#) (ALOs) should be your first point of contact as you navigate time and other pressures as a result of your [caring responsibilities](#). ALOs will be able to advise you and liaise with other staff on your behalf in relation to assessment arrangements.

Improve your academic and English language skills: Marks for all assessment tasks such as assignments and examinations are given not only for what you write but also for how you write. If you would like the opportunity to improve your academic and English language skills, make an appointment with the [HELPS](#) (Higher Education Language and Presentation Support) service in Student Services.

HELPS (Higher Education Language and Presentation Support): [HELPS](#) provides assistance with English language proficiency and academic language. Students who need to develop their written and/or spoken English should make use of the free services offered by HELPS, including academic language workshops, vacation intensive courses, drop-in consultations, individual appointments and [Conversations@UTS](#). HELPS is located in Student Services, Building 1, Level 5, Room 25 (CB01.05.25).

Study skills/learning support: If you are experiencing difficulty with your studies or need to develop the necessary

study skills you require for your course, there is a host of useful information and websites to help you on the UTS Business School, [Study and Assessment Resource](#) website. Links on how to write better, study more effectively, available support services/staff to help, how to complete assignments; as well as tips for successful study and online study skills resources can all be accessed. In addition, HELPS provides [self-help resources](#).

Special consideration: [Special consideration](#) consists of the exercise of academic discretion to provide equitable treatment to students whose performance in an assessment item is affected by illness, misadventure or work-related circumstances. You should only apply for special consideration when your performance in an assessment item, including examinations, has been affected by extenuating or special circumstances beyond your control. These circumstances include:

- Serious illness or psychological condition: such as hospital admission, serious injury or illness, severe anxiety or depression
- Loss or bereavement: such as death of a close family member, family relationship breakdown
- Hardship or trauma: such as being a victim of a crime, sudden loss of income or employment, severe disruption to domestic arrangements
- Exceptional employment demands: such as active service (e.g. ADF Reserves, bushfire and SES services).

Special consideration is not automatically guaranteed and may not result in a mark adjustment.

Careers Service: The [UTS Careers Service](#) aims to actively support the career development needs of all UTS students.

Statement about assessment procedures and advice

Assessment of coursework subjects

All staff and students involved in the assessment of coursework subjects at UTS are subject to the Policy for the Assessment of Coursework Subjects. The policy is applicable to the assessment of all coursework subjects. This policy does not apply to thesis subjects that are taken by students enrolled in research degrees, but does apply to any coursework subjects undertaken by research degree students. It does not describe policy that relates to academic progression through a course of study.

The policy should be read in conjunction with the Procedures for the [Assessment of Coursework Subjects](#).

Statement on copyright

Australian copyright law allows you as a student or researcher to copy and use limited amounts of other people's material in your study or research without their permission and free of charge.

This applies to any sort of published or unpublished work and includes written material, tables and compilations, designs, drawings (including maps and plans), paintings, photographs, sculpture, craftwork, films (such as feature films, television programs, commercials and computer video games), software (such as computer programs and databases), sound recordings, performances and broadcasts (including podcasts and vodcasts of these) and text, including books, journals, websites, emails and other electronic messages.

It is important to remember that **you can only use a limited amount for your study or research purposes** and that **you need to correctly acknowledge the author and reference their material** when you use it in your work.

Incorrect or improper use of copyright protected material could result in breaking Australian copyright law, for which significant penalties apply. Incorrect or improper use of copyright protected material at UTS would result in consideration under the UTS Student Misconduct rules.

UTS Rules and the UTS Student Charter require that students familiarise themselves and comply with UTS student policies and procedures. Students should also see the [copyright statement](#) advising what you can copy and how much you can use.

Copyright notice concerning teaching materials

Please remember that teaching materials and resources provided to you at UTS are protected by [copyright](#). You are not permitted to re-use those for any purposes (including commercial purposes, in kind benefit or gain) without permission of the copyright owner. Breaching copyright in relation to teaching materials and resources could lead to a legal action being brought against you.

Statement on plagiarism

At UTS, plagiarism is defined in rule [16.2.1\(4\)](#) as: 'taking and using someone else's ideas or manner of expressing them and passing them off as his or her own by failing to give appropriate acknowledgement of the source to seek to gain an advantage by unfair means'.

The definition infers that if a source is appropriately referenced, the student's work will meet the required academic standard.

Plagiarism is a literary or an intellectual theft and is unacceptable both academically and professionally. It can take a number of forms including but not limited to:

- copying any section, no matter how brief, from a book, journal, article or other written source or generative AI tools without duly acknowledging the source
- copying any map, diagram or table of figures without duly acknowledging the source
- [paraphrasing](#) or otherwise using the ideas of another author without duly acknowledging the source.

Students are encouraged to participate in the [Avoiding Plagiarism Quiz](#).

Other breaches of academic integrity that constitute cheating include but are not limited to:

- copying from another student, recycling another student's work, recycling previously submitted work, and working with another student in the same cohort in a manner that exceeds the boundaries of legitimate cooperation
- purchasing an assignment from a website and submitting it as original work
- a student requesting or paying someone else to write original work for them, such as an assignment, essay or computer program, and submitting it as their own work
- using generative AI tools, unless permitted use is specified for that assessment.

Students who condone plagiarism and other breaches of academic integrity by allowing their work to be copied are also subjected to severe disciplinary action.

Where proven, plagiarism and other breaches of academic integrity are penalised in accordance with UTS Student Rules [Section 16 – Student misconduct and appeals](#).

Avoiding plagiarism is one of the main reasons why the UTS Business School is insistent on the thorough and appropriate referencing of all written work. Students may seek assistance regarding appropriate referencing through [UTS HELPS](#).

Academic integrity

Academic integrity involves a good measure of trust between students, and between students and academic staff and thesis examiners. Cheating, whether in the form of plagiarism, bringing unauthorised material into exams, submitting false requests for alternative exams or special consideration, or any other form, is a breach of this trust. Cheating also subverts the aims and value of students' studies.

Refer to [Good Academic Practice](#) for further information. These principles apply to:

- all written reports, assignments, projects, journals and related papers
- any examinations, and
- any other assessable items required to complete a subject or course.

Statement on UTS email account

Email from the University to a student will only be sent to the student's UTS email address in accordance with UTS Student Rule [2.3 Communication](#). Email sent from a student to the University must be sent from the student's UTS email address. University staff will not respond to emails from any other email accounts for currently enrolled students.