

Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

Expected Implementation in Academic Year (New format)	AY2026-2027
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1
Course Author * Faculty proposing/revising the course	Dr Natasha Bhatia
Course Author Email	nbhatia@ntu.edu.sg
Course Title	Environmental Management and Valuation
Course Code	ES4201
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	ES2203 Global Environmental Politics and Governance; OR ES4905 Environmental Science and Policy
Co-requisites	N/A
Pre-requisite to	N/A
Mutually exclusive to	N/A
Replacement course to	N/A
Remarks (if any)	

Course Aims

To provide in depth knowledge on techniques that can be used to quantify and value environmental resources, and the management strategies that can be implemented for different systems. Students will spend a one hour lecture learning a concept theory or technique, then a 2 hour tutorial will be spent applying the theory or concept to a real world scenario.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Communicate the importance of managing natural resources both orally and in writing
ILO 2	Compare and contrast key strategies for environmental management, and identify appropriate situations for their use
ILO 3	Demonstrate how different management plans might be implemented for different situations
ILO 4	Engage critically with the issues and limitations surrounding management and valuation of natural resources
ILO 5	Use logical and critical thinking to apply this knowledge to real-world situations

Course Content

Content will include natural resource management, valuation techniques, natural capital, ecosystem services, assessment of ecosystem services, and management for decision making.

Reading and References (if applicable)

Course textbooks:

- Environmental and Natural Resource Economics. 12th edition. 2023. Tom Teitenber and Lynne Lewis. *Routledge*

Relevant academic papers will be provided weekly to support the topic

Planned Schedule

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
1	Introduction to the Course & Mainstreaming Natural Capital into Decisions	1	In-person	Lecture and Tutorial	Varies
2	Quantifying ecosystem services	1, 4	In-person	Lecture and Tutorial	Varies
3	Valuation Lab	1, 4	In-person	Lecture and Tutorial	Varies
4	Structured Decision Making	1, 4	In-person	Lecture and Tutorial	Varies
5	The DPSIR Management Framework	1, 2, 3	In-person	Lecture and Tutorial	Varies
6	Environmental Impact Assessment	1, 2, 3	In-person	Lecture and Tutorial	Varies
7	Working with Stakeholders	1, 2, 3	In-person	Lecture and Tutorial	Varies
8	Communication and Advocacy	1, 2, 5	In-person	Lecture and Tutorial	Varies
9	Resource management -> Fisheries	1, 3, 4, 5	In-person	Lecture and Tutorial	Varies
10	Resource management -> Forests	1, 3, 4, 5	In-person	Lecture and Tutorial	Varies
11	Protected Areas: Selection, Design & Operation	1, 4, 5	In-person	Lecture and Tutorial	Varies
12	Moving Forward with Decision Making	1, 4, 5	In-person	Lecture and Tutorial	Varies
13	Presentations	1, 5	In-person	Lecture and Tutorial	Varies

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Active learning	You will engage in active learning techniques periodically throughout lectures, and during tutorial sessions.
Independent learning	This is an upper level course and therefore you are required to show self motivation and initiative in your learning process.

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Description of Assessment Component	Team/Individual	Rubrics	Level of Understanding
1	Continuous Assessment (CA): Report/Case study(Written management plan)	1,2,3,5	1,2,5,6	30		Team	Holistic	Relational
2	Continuous Assessment (CA): Presentation(Presentation based on your report)	1,2,3,4,5	1,2,5,6	30		Team	Holistic	Extended Abstract
3	Continuous Assessment (CA): Others(Valuation Lab)	2,3,5	1,2,4,5	30		Individual	Holistic	Extended Abstract
4	Continuous Assessment (CA): Class Participation(Participation-digital engagement and assessment by the teaching team)	1,2,4,5	1,2,4,5	10		Individual	Holistic	Relational

Description of Assessment Components (if applicable)

- Written Management Plan- You will choose one of the management strategies described in class, and apply it to an area of your choice, writing a report on how your chosen area would be managed in this framework. This is a team assessment and peer evaluation will be included
- Presentation- You will present your management plan to a specified audience. This is a team assessment and peer evaluation will be included
- Valuation Lab- You will be given data to analyse based on a survey designed to value the ecosystem services of a particular area. We will go through the analysis together in class, and then you will interpret the results in a written report individually

Formative Feedback

You will receive informal feedback continuously throughout the course where appropriate, and formal feedback following every assignment. In addition, I will have weekly office hours, and will be available to answer questions regarding your research or assignments throughout this course.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level
Decision Making	Intermediate
Global Perspective	Intermediate
Learning Agility	Intermediate
Critical Thinking	Intermediate

Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

Policy (Absenteeism)

In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Policy (Others, if applicable)

Diversity and inclusion policy

Integrating a diverse set of experiences is important for a more comprehensive understanding of science.

It is our goal at ASE to create an inclusive and collaborative learning environment that supports a diversity of perspectives and learning experiences, and that honours your identities; including ethnicity, gender, socioeconomic status, sexual orientation, religion or ability.

To help accomplish this:

- If you are neuroatypical or neurodiverse, have dyslexia or ADHD (for example), or have a social anxiety disorder or social phobia;
- If you feel like your performance in the class is being impacted by your experiences outside of class;
- If something was said in class (by anyone, including the instructor) that made you feel uncomfortable;

Please speak to your teaching team, a peer or senior, Janelle or Michel (either in-person or via email) about how we can help facilitate your learning experience.

As a participant in course discussions, you should also strive to honour the diversity of your classmates. You can do this by: using preferred pronouns and names; being respectful of others opinions and actively making sure all voices are being heard; and refraining from the use of derogatory or demeaning speech or actions.

All members of the class are expected to adhere to the NTU anti-harassment policy. if you witness something that goes against this or have any other concerns, please speak to your instructors or an ASE faculty member.

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Last Updated By: Michel Ang Yan Xia