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

Course Overview

Expected Implementation in Academic Year	AY2026-2027
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1
Course Author * Faculty proposing/revising the course	Lee-Chua Lee Hong
Course Author Email	clhlee@ntu.edu.sg
Course Title	Environmental Impact Assessment & Monitoring
Course Code	EN4001
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	Year 4 Standing
Co-requisites	
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

Course Aims

This course aims to provide you with an understanding of the basic principles of an environmental impact assessment (EIA), the causes of impacts and the use of a formal EIA. You will be exposed to EIA concepts and methodologies relating to social, engineering, and economic issues. You will also learn to understand the purpose of monitoring and developing follow-up procedures as well as options for designing these procedures. After successfully attending the course, you should be able to prepare a simplified version of an Environmental Impact Statement or EIS.

Course's Intended Learning Outcomes (ILOs)

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

ILO 1	The role of EIA in environmental management for sustainable development.
ILO 2	Identify the strengths and limitations of EIA.
ILO 3	Familiarise with various impact identification and analysis methods.
ILO 4	Undertake and prepare EIA studies and reports including monitoring and follow-up procedures.
ILO 5	Evaluate the technical and social economic impacts on the quality of the EIA reports.

Course Content

Environment systems; benefit and constraint of EIA, basic information on types and characteristics of impacts; EIA legislation, trends and application, EIA process including screening, scoping, preparation of EIA report, EIA review and follow-up, impact assessment and analysis; planning tools; assessment methodologies and indices; water, air, noise, social and economic impacts; management of impacts.

No	Topic	Lecture Hrs	Tutorial Hrs
1.	Background and introduction to Environmental Systems and the EIA process	3	
2.	EIA Legislation, Policy & Regulatory framework	2	
3.	Public Involvement	1	
4.	EIA Procedure: Screening & Scoping	3	
5.	EIA Methodologies & Impact Analysis	6	
6.	EIA Procedure: Mitigation & Impact Management including Monitoring & Auditing	4	
7.	EIA Procedure: Reporting & Review	2	
8.	EIA Procedure: Decision making, Implementation and Follow-up	2	
9.	Project Management	1	
10.	Introduction to Impact Assessment on environment component such as air, water and noise	10	
11.	Group Project Presentation: A simple attempt at an EIA project	5	
	Total	39	

Reading and References (if applicable)

1. Larry W. Canter, "Environmental Impact Assessment", 2nd edition, McGrawHill, 1996

2. Lohani, B., J.W. Evans, H. Ludwig, R.R. Everitt, Richard A. Carpenter, and S.L.Tu. "Environmental Impact Assessment for Developing Countries in Asia", Volume 1 – Overview, 1997

3. United Nation University, UNEP, RMIT on-line EIA course module

4. United Nation Environment Programme

5. US EPA Clean Energy Program: www.epa.gov/cleanenergy

6. Singapore National Environmental Agency: www.nea.gov.sg

Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
1	Background and introduction to Environmental systems and the EIA process	1, 2	Lecture and tutorial materials	In-person	Lectures
2	EIA Legislation, Policy & Regulatory framework. Public Involvement.	1, 2, 4, 5	Lecture and tutorial materials	In-person	Lectures
3	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
4	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
5	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
6	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
7	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
8	EIA Procedure: Screening & Scoping: EIA Methodologies & Impact Analysis; Mitigation & Impact Management; Reporting & Review; Decision making, implementation and follow-up.	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
9	Project Management. Introduction to EIA on water, air and noise environment	2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
10	Project Management. Introduction to EIA on water, air and noise environment	2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
11	Project Management. Introduction to EIA on water, air and noise environment	2, 3, 4, 5	Lecture and tutorial materials	In-person	Lectures
12	Group Project Presentation: A simple attempt at an EIA project	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Group Project Presentations
13	Group Project Presentation: A simple attempt at an EIA project	1, 2, 3, 4, 5	Lecture and tutorial materials	In-person	Group Project Presentations

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Lecture	Formal lectures on topics with in-class discussions
Group Presentation	This helps to achieve one or more of the outcomes as they need to do self-study and research as well as promote team works.

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	Summative Assessment (EXAM): Final exam(Examination)	1,2,3,4,5	EAB SLOs A, C, F, G, K	50	Exam will be conducted physically together with the university exam period	Individual	Holistic	Relational
2	Continuous Assessment (CA): Test/Quiz(Continuous Assessment 1 (CA1): Quiz)	1,2,3,4,5	EAB SLOs A, C, F, G, K	20	Quiz session will be conducted physically during one of the lecture session	Individual	Analytic	Multistructural
3	Continuous Assessment (CA): Presentation(CA2: Group Project Presentation)	1,2,3,4,5	EAB SLOs E, F, G, H, I, J, K, L	30	Details of the project and presentation will be shared by the tutor.	Team	Analytic	Relational

Description of Assessment Components (if applicable)

Notes *: The group project assessment for this course is also reliant on you working closely as a team to complete the project. Besides, it also aims to train you to review the quality of others' group projects and to encourage active group participation. Hence, Group Rating Factor (GF) and Modification Factor (MF) will be applied to account for both the group and individual contributions to the group project work. The GF is derived from group evaluation submission while MF is derived from panel judges' feedback, weekly discussion session and peer assessment. For more details on the GF and MF calculations, please see Appendix 2 and 3, respectively.

Formative Feedback

The quiz questions will be discussed, and you will be able to view your quiz grade individually through Blackboard Grade Centre.

Comment on each group presentation will be given and each group will also submit comment with respect to other groups' presentations to the course instructor by email. The group presentation grade will be released through Blackboard Grade Centre.

NTU Graduate Attributes/Competency Mapping

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

Attributes/Competency	Level
Care for Environment	Advanced
Care for Society	Advanced
Collaboration	Advanced
Global Perspective	Advanced
Transdisciplinarity	Advanced

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)

Students are expected to take all scheduled assignments and tests by due dates. Students are expected to take responsibility to follow up with course notes, assignments and course related announcements. Students are expected to participate in all group project discussions and activities.

Policy (Absenteeism)

Group work requires each member to contribute to team-work. 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)

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Last Updated By: YANG En-Hua

Rubrics of EN4001 Environmental Impact Assessment & Monitoring

Appendix 1: Assessment Criteria for Group Project and Presentation

The assessment of the group project presentation will be based on assessment by the tutor, group peer evaluation and peer review evaluation.

Assessment Rubric by Tutor (weightage = 30%)

Criteria	Good (8-10)	Ave (6-7)	Fair (4-5)	Poor (1-3)	Remarks
Introduction/Project Background (20%)					Well defined project; clear background and objectives.
Impact Analysis (25%)					Selection and application of impact Identification methods
Mitigation Measures (25%)					Application of impact mitigation measures (avoid, minimize and compensate)
Presentation format and layout (10%)					Clear and concise; good grammar and spelling with appropriate Tables/graphs/Figures;
Clarity of expression / Style of presentation (10%)					Slides are presented well with logical sequence
Ability to answer questions (10%)					Able to defend ideas or rebut criticism
TOTAL					

Appendix 2: Assessment Rubric for Group Evaluation

Each group will evaluate the presentation of the rest of the groups and rate them in numerical order with one (1) being the best presentation. For example, if there are 8 groups in total, then each group will rate the rest of the 7 groups from 1 to 7. The group members are encouraged to discuss among themselves first before deciding to rank the rest of the 7 groups. The purpose of this group evaluation is to encourage participation and team-work and review training i.e. training to review the quality of project presentations.

The criteria used to evaluate the group presentation are:
1. Content of the presentation: background and objective, impact analysis and management.
2. Presentation format & Skills: clear and concise presentation; captivating, lively and engaging; smooth delivery within the time allocated as well as the ability to answer questions.

Average Group Assessment Score	GF
1	**1.050**
2	**1.035**
3	**1.020**
4	**1.005**
5	**0.990**
6	**0.975**
7	**0.960**
8	**0.945**

Note: GF will drop by 0.015 (1.5%) with decreasing group rating score.

Group evaluation assessment exercise will be done after the group presentation and it will be submitted by end of the semester by each group, hence the score will be applied to all members within the group.

In addition to group evaluation assessment, GF might be moderated by course coordinator.

Appendix 3: Criteria for Peer Assessment

Criteria	Outstanding: 4	Good: 3	Average, meet expectation: 2	Below expectations: 1
Collaborative behaviour	Cooperative and always delivered assigned tasks on time. Take initiative to help other to ensure success of team project.	Cooperative and always delivered assigned tasks on time. Willing to assist others upon request.	Stop short at delivering assigned tasks, sometimes after reminder(s).	Uncooperative, non-committed, always miss deadlines.
Quality of works	Quality of works higher than overall group quality, or go extra miles to assist teammate to enhance the quality of group works.	Good quality of deliverables under individual responsibility.	Acceptable quality of deliverables under individual responsibility.	Quality of works not acceptable.
Ideas & participations	Active participation and initiatives, good ideas & suggestions in enhancing the quality of group works.	Contributed suggestions and ideas to enhance the quality of group works.	Somewhat contributed in enhancing the quality of group works.	Did not participate in group works.

Average Peer Assessment Score	MF
3.51 to 4.00	1.05*
3.01 to 3.50	1.00
2.51 to 3.00	0.95
2.00 – 2.50	0.9
Below 2.0	Separate Assessment

Note: * - to cap the max moderated score at 100%

Peer assessment exercise will be anonymous and done towards the end of the semester.

For student who has average peer assessment score below 2.0, Course coordinator might contact/call up the student as well as the other team member(s) to further assess the appropriate MF.

In addition to peer assessment, MF might be moderated by course coordinator and panel judges from the interaction during consultation, feedbacks from the team members.