NANYANG TECHNOLOGICAL UNIVERSITY

COURSE CONTENT

Academic Year	2017-2018	**Semester**	2
Course Coordinator	Tuti Mariana Lim		
Course Code	EM5106		
Course Title	Environmental Impact Assessment (EIA)		
Pre-requisites	Year 3 Standing		
No of AUs	3		
Contact Hours	Lecture: 33 hrs; Tutorial: 3 hr; Lab: 0 hr; Learning Activities (LAMS): 3 hours		
Proposal Date	15 Dec 2017		

Course Aims

This course aims to provide you with an understanding of the basic principles of an 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. After successfully attending the course, you should be able to attempt a simplified version of an Environmental Impact Statement or EIS.

Intended Learning Outcomes (ILO)

By the end of this course, you (as a student) would be able to:

1. Explain the role of EIA in environmental management for sustainable development;
2. Undertake and prepare EIA studies and reports;
3. Identify the strengths and limitations of EIA;
4. 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.

S/N	Topic	Lecture Hrs	LAMS & Tutorial Hrs
1.	Background and introduction to Environmental systems and the EIA process.	2	1
2.	Basic information on impacts, types and characteristics. Direct and indirect impacts. Some examples: atmospheric; water; and other environments. Constraints and benefits of an EIA.	3	2
3.	EIA legislations, trends and application.	2	
4.	Screening and Scoping methods for an EIA. Use of checklists and matrices. Networks, overlay mapping and other methodologies.	4	1

5.	Essential features of an EIA report. Preparing and evaluating an EIS.	2	
6.	EIA Review, Decision making, implementation and follow-up	2	
7.	Introduction to methods for assessment of socio-economic impacts and other important systems such as air, water and noise environment.	12	2
8.	Group Project Presentation: A simple attempt at an EIA project	6	
	Total	33	6

Assessment (includes both continuous and summative assessment)

Component	Course LO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	Assessment rubrics
1. Final Examination	1, 2, 3, 4	EAB SLOs e, f, g, j, k, l	60%	Individual	
2. Continuous Assessment 1 (CA1): Quiz	1, 2, 3,4	EAB SLOs e, f, g, j, k, l	15%	Individual	
3. CA2: Learning Activities Management System (LAMS)	1,3	EAB SLOs e, f, g, h, j, l	5%	Individual	
4. CA3: Group Project and Presentation	1, 2, 3, 4	EAB SLOs e, f, g, l, j, k, l	20%	Team	Appendix 1
Total			100%		

Part A - Continual Assessment (40%) consists of,

(1) Once Quiz (15%), will be conducted during the Teaching Week to evaluate learning outcomes. Questions are designed to test students' understanding of basic concepts and principles as well as their ability in applying them in real application scenarios.

(2) LAMS (5%), to encourage students to participate in the learning activity and appreciate the importance of EIA in environmental management for sustainable development.

(3) Group and Presentation Project (20%) to promote environmental impact assessment awareness and learn how to apply environmental impact assessment knowledge as well as to develop team work and communication skills.

Part B - Examination (60%)

- A final Examination covers topics taught in all 13 Teaching Weeks. Questions are designed to test students' ability in understanding EIA background, basic concepts and methodologies as well as being able to carry out simple impact assessment.

- It will be a 2.5 hours closed book written examination.

Formative feedback

The quiz questions will be discussed one week after and you will be able to view your quiz results individually through Blackboard Grade Centre.

Your answers on LAMS will be summarised, compiled and discussed in class.

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

Learning and Teaching approach

Class meets once per week over 3 hours in lecture and tutorials format

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

Reading and References

Larry W. Canter, "Environmental Impact Assessment", 2nd edition, McGrawHill, 1996
United Nation University, UNEP, RMIT on line EIA course module:
http://eia.unu.edu/course/?page_id=173
United Nation Environment Programme:www.unep.ch/etb/publications/enviImpAsse.php;
US EPA Clean Energy Program: www.epa.gov/cleanenergy
Singapore National Environmental Agency: www.nea.gov.sg

Course Policies and Student Responsibilities

(1) 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.

(2) 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.

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. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Course Instructors

Instructor	Office Location	Phone	Email
Tuti Lim	N1-1b-39	6790-5269	tmlim@ntu.edu.sg

Planned Weekly Schedule

S/N	Topic	Course LO	Readings/ Activities
1.	Background and introduction to Environmental systems and the EIA process.	1 & 3	Read ppt slides Video Lecture Watch video clips via LAMS and do case study online.
2.	Basic information on impacts, types and characteristics. Direct and indirect impacts. Some examples: atmospheric; water; and other environments. Constraints and benefits of an EIA.	1, 3 & 4	Read ppt slides Video Lecture Grouping on Group Project. Do literature review on environmental issues via LAMS and summarise online.
3.	EIA legislations, trends and application.	1	Read ppt slides Video Lecture
4.	Screening and Scoping methods for an EIA. Use of checklists and matrices. Networks, overlay mapping and other methodologies.	4	Read ppt slides Video Lecture Group Project Topic Selection
5.	Essential features of an EIA report. Preparing and evaluating an EIS.	2, 3 & 4	Read ppt slides Video Lecture Group Project Topic Allocation
6.	EIA Review, Decision making, implementation and follow-up	2, 3 & 4	Read ppt slides Video Lecture Working on Group Project
7.	Introduction to methods for assessment of socio-economic	2, 3 & 4	Read ppt slides Video Lectures

	impacts and other important systems such as air, water and noise environment.		Tutorials Working on Group Project
8.	Group Project Presentation: A simple attempt at an EIA project	1, 2, 3 & 4	Group Project Presentations

Appendix 1: Assessment Criteria for Group Project and Presentation

Criteria	Good (8-10)	Ave (6-7)	Fair (4-5)	Poor (1-3)	Remarks
Introduction/Project Background (10%) - ILO 1					Well defined project; clear background and objectives.
Impact Analysis (25%) - ILO 2, 4					Selection and application of impact Identification methods
Mitigation Measures (25%) – ILO 3, 4					Application of impact mitigation measures (avoid, minimize and compensate)
Presentation format and layout (10%) – ILO 2					Clear and concise; good grammar and spelling with appropriate Tables/graphs/Figures;
Clarity of expression / Style of presentation (10%) – ILO 2					Slides are presented well with logical sequence
Ability to answer questions (10%) – ILO 1, 3, 4					Able to defend ideas or rebut criticism
TOTAL					