

SEE4004: ENVIRONMENTAL IMPACT ASSESSMENT FOR SUSTAINABLE DEVELOPMENT

Effective Term

Semester A 2022/23

Part I Course Overview

Course Title

Environmental Impact Assessment for Sustainable Development

Subject Code

SEE - School of Energy and Environment

Course Number

4004

Academic Unit

School of Energy and Environment (E2)

College/School

School of Energy and Environment (E2)

Course Duration

One Semester

Credit Units

4

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

SEE1003 Introduction to Sustainable Energy and Environmental Engineering OR
SEE2201 Fundamentals of Environmental Engineering

Precursors

SEE2204 Principles of Sustainability;
SEE3001 Energy and Environmental Policy; AND
SEE3002 Energy and Environmental Economics

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details**Abstract**

This course provides an overview of the principles, processes and practices for assessing environmental impacts. As sustainability is becoming a key concept in the design of future societies, environmental impact assessment (EIA) is a key support tool for sustainable development and aids decision makers with an indication of the environmental impact of policies and projects to guide decisions by examining the environmental consequences of development project in advance.

The course equips students with knowledge and basic skills to understand, critically read and conduct EIA and to balance and integrate inter-disciplinary nature of the subject (socio-economic, environmental and ecological systems). Latest EIA legislation, guidance and good practice will be discussed in the context of both Hong Kong and overseas.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 app.)		DEC-A2	DEC-A3
1	Apply the analytical and presentation skills to define the basic concept of sustainability and examine the potential conflict between development and environmental issues	20	x		
2	Critically examine and integrate the inter-disciplinary nature of the subject (socio-economic, environmental and ecological systems) with knowledge of the impacts and risks of various types of pollution and emission in the EIA process	20		x	
3	Apply the process to evaluate, review and assess environmental impacts	30		x	
4	Apply the content of EIA in environmental management, auditing, life cycle analysis and sustainability	30		x	

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)	
1	Lecture and Tutorial	Students will understand the key concept, process and practice of EIA, and the relationship between EIA and sustainable development	1, 2, 3, 4	2
2	Group discussion	Students in small groups will critically examine the complex nature of the environment with uncertainty and play different stakeholders in solving problem solving	1, 2, 3, 4	1
3	Case study and developing decision making devices	Students will evaluate and analyze EIA case studies and develop effective communication skills by assembling and processing various types of data and its visualization and facilitating decision making process	1, 2, 3, 4	
4	Project presentation and roleplay	We aim to foster a culture of active learning in our curriculum with EIA as a tool to address sustainability. Students will practice their skills in collaboration, data collection, analysis, integration, visualization, modelling, and simulation with real-life example.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)	
1	In-class test	1, 2, 3	20	
2	Assignment	1, 2, 3	15	
3	Project presentation	1, 2, 3, 4	25	

Continuous Assessment (%)

60

Examination (%)

40

Examination Duration (Hours)

2

Additional Information for ATs

Examination duration: 2 hrs

Percentage of coursework, examination, etc.: 60% by coursework; 40% by exam

To pass a course, a student must do ALL of the following:

- 1) obtain at least 30% of the total marks allocated towards coursework (combination of assignments, pop quizzes, term paper, lab reports and/ or quiz, if applicable);
- 2) obtain at least 30% of the total marks allocated towards final examination (if applicable); and
- 3) meet the criteria listed in the section on Assessment Rubrics

Assessment Rubrics (AR)

Assessment Task

1. In-class test

Criterion

Short quizzes will enable students to apply the key concept, process and practice of EIA to sustainable development.

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

2. Assignment

Criterion

Essay assignments (case studies and scenarios) and web-based discussion will enable students to apply EIA concepts to examine the complex nature of the environment with uncertainty and play different stakeholders in problem solving.

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

3. Project

Criterion

In oral presentation and a case study report students will evaluate and analyze EIA case studies and develop effective communication skills by assembling and processing various types of data.

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

4. Final exam

Criterion

In end of course examination students will review and practice their skills in EIA with real-life example using problem-based questions.

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

- Principles and procedures: EIA and sustainability
- EIA process: Project screening, scoping, baseline set up, impact identification
- Impact prediction, evaluation, mitigation and enhancement
- Assessment of environmental risk, water quality, air quality, noise impact, waste management ecological impact, cultural heritage impact
- Public participation, monitoring and auditing presentation and review of EIA
- EIA report: International and Hong Kong standard and guideline, best practice
- Case studies and project presentation

Reading List

Compulsory Readings

Title	
1	John Glasson, Riki Therivel, and Andrew Chadwick (2012). Introduction to environmental impact assessment. Routledge, New York. 4th ed.
2	Bram F. Noble (2010). Introduction to environmental impact assessment: a guide to principles and practice. Oxford University Press. 2nd ed.
3	Methods of environmental impact assessment / edited by Peter Morris and Riki Therivel. Routledge, 2009.

Additional Readings

Title	
1	Environmental Impact Assessment Ordinance (EIAO), EPD (http://www.epd.gov.hk/epd/eia/english/legis/index1.html)
2	The Operation of Environmental Impact Assessment Ordinance in Hong Kong, April 1998 – December 2001, EPD (http://www.epd.gov.hk/eia/operation/index.html)
3	A Guide to the Water Pollution Control Ordinance, EPD (http://www.epd.gov.hk/epd/textonly/english/environmentinhk/water/guide_ref/guide_wpc_wpc.html)
4	Guidelines for Development Projects in Hong Kong, EPD (http://www.epd.gov.hk/epd/eia/hb/materials/guidelines.htm) Focused on Environmental Monitoring and Audit
5	Technical Memorandum on EIA Process, EPD (http://www.epd.gov.hk/epd/eia/english/legis/index3.html)
6	EPD Website (http://www.epd.gov.hk)