

SEE2203: ENVIRONMENTAL, SAFETY, AND OCCUPATIONAL HEALTH MANAGEMENT

Effective Term

Semester A 2024/25

Part I Course Overview

Course Title

Environmental, Safety, and Occupational Health Management

Subject Code

SEE - School of Energy and Environment

Course Number

2203

Academic Unit

School of Energy and Environment (E2)

College/School

School of Energy and Environment (E2)

Course Duration

One Semester

Credit Units

3

Level

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

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

BCH1100 Chemistry OR CHEM1300 Principles of General Chemistry; AND
SEE1003 Introduction to Sustainable Energy and Environmental Engineering

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

This course aims to provide an understanding of environmental, safety and occupational health management. Building upon the fundamental principles of work place safety, students will learn how to manage a work place environment through a detailed environmental and safety framework with the aims of improving occupational safety and complying with local regulations. The ISO14000 series and the principles of life-cycle analysis for environmental management will also be introduced for broadening students' knowledge on environmental sustainability.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	Describe the sources of environmental safety issue in the work place environment		x		
2	Explain the basic principles of environmental, safety and occupational health management			x	
3	Discuss and analyse the role of local regulations in the work place safety and develop work place implementation plan			x	x
4	Demonstrate the understanding of ISO14000-series framework and its relationship to environmental sustainability				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.

Learning and Teaching Activities (LTAs)

LTAs	Brief Description	CILO No.	Hours/week (if applicable)	
1	Lecture	Students will engage in lectures with facilitated discussion to gain key concepts, such as principles related to environmental, safety and occupational management.	1, 2, 3, 4	3

2	Group Project	Students will participate in debating activities to gather information, to analyse situation and trend, and to critically assess feasibility and suitability of existing and emerging practices related to the field of environmental management and safety. Debating activities involve formation of small group of 4-5 students; delivery mode includes in-class debate and a written report.	1, 2, 3, 4	3 hours per week (for 4 weeks)
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Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assignment (essay types)	1, 2, 3, 4	30
2	In-class Quiz	1, 2, 3	20
3	Group Project (written reports with in-class debate activities, in small group of 4-5 students)	1, 2, 3	20

Continuous Assessment (%)

70

Examination (%)

30

Examination Duration (Hours)

2

Additional Information for ATs

Examination duration: 2 hrs

Percentage of continuous assessment, examination, etc.: 70% by continuous assessment; 30% 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 continuous assessment (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. Assignment

Criterion

ABILITY to RESOLVE problems from various key concepts and principles

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. Quiz

Criterion

ABILITY to RESOLVE problems from various key concepts and principles

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. Group Project

Criterion

ABILITY to EXPLAIN in DETAIL and with ACCURACY for the methods and approaches used in the work place implementation plan

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. Examination

Criterion

ABILITY to RESOLVE problems from various key concepts and principles

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

- Fundamentals of occupational health
- Industrial processes and hazard recognition
- Management of safety and health programs
- Emergency management
- Local regulation
- ISO14000 series
- Life-cycle analysis
- Construction safety and waste production

Reading List

Compulsory Readings

Title	
1	Nil

Additional Readings

Title	
1	Theodore, L. (2012). Environmental Health and Hazard Risk Assessment: Principles and Calculations. Boca Raton, FL: CRC Press.
2	McAleenan, D. (2015). ICE Manual of Health and Safety in Construction. London: Institute of Civil Engineers Pub.

3	Reese, C. (2012). Accident/Incident Prevention. Boca Raton: CRC Press.
4	ISO 14001:2015 Environmental Management Systems -- Requirements with Guidance for Use