Course Specification
(Bachelor)

Course Title:	SAFETY & ENVIRONMENTAL ENGINEERING
Course Code:	INE 4361
Program:	Bachelor of Industrial Engineering
Department:	Industrial Engineering
College:	Engineering
Institution:	King Khalid University
Version:	2
Last Revision Date:	15-12-2025

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (2)					
2. Course type					
A.	☐ University	☐ College	☒ Department	☐ Track	☐ Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: (Fifth level/third Year)					
4. Course General Description:					
This course deals with industrial safety and health disciplines concerning human and environment pollution. This course also deals with standards of working safely, hazards and management of safety systems & pollution control					
5. Pre-requirements for this course (if any)**:**					
NIL					
6. Co-requisites for this course (if any)**:**					
NIL					
7. Course Main Objective(s):					
CLO 01: Define the principles of industrial safety. CLO 02: An Ability to apply knowledge of developing hazard identification and analysis CLO 03: Resolve importance to Know the accidents and their causes and follow the personal protective methods and first aids. CLO 04: Analyze chemical hazards, toxicity & solutions CLO 05: Identify electrical hazards and solutions CLO 06: Analyze environmental water causes & pollution control CLO 07: Identify soil & air pollution cause & control CLO 08: Communicate industrial safety emergency plans & hygiene applications					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning		
3	Hybrid • Traditional classroom		

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	0
3.	**Field**	0
4.	**Tutorial**	30
5.	**Others (specify)**	0
Total		36

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Define principles of industrial safety**	**K1**	**Traditional teaching method using board**	**Designated questions from the mid-term and final exam, quizzes**
	Recognize hazard and analysis	**K2**	**Traditional teaching method using board**	**Homework, quizzes**
1.2	**Identify the importance of PPE & first aids**	**K3**	**Traditional teaching method using board**	**mid-term and final exam,**
2.0	**Skills**			

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.1	**List chemical hazards, toxicity**	**S1**	**Traditional teaching method using board**	**Surprise tests to know the level of student for further proactive solution like special hours for the weak students**
2.2	**Identify electrical hazards and solutions**	**S3**	**Traditional teaching method using board**	**Designated questions from EXAM**
3	**Values, autonomy, and responsibility**			
3.1	**Analyze environmental pollution issues**	**V1, V3**	**Traditional teaching method using board**	**Surprise tests, quizzes**

C. Course Content

No	List of Topics	Contact Hours
1.	An introduction to industrial safety and health and its goals.	4
2.	Hazard identification, hazard analysis, work accidents and their causes and first aid.	8
3.	Importance of Personal Protective Equipment's, (PPE), accident & causes, first aids |	8
4.	Toxic Chemical hazards and solution, toxicity	8
5.	Electrical Hazards, causes & solutions	8
6.	Industrial pollution issues, Water pollution causes & control.	8
7.	Management of soil & air pollution issues	4
8.	Industrial safety & Emergency plans	8
9.	Industrial Hygiene applications in safety programs.	4
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	E-learning based activities (On-line Quizzes, Assignments)	Every Week	25%
2.	Mid Exam- I	5TH week	15%
3.	Mid Exam- II	10th week	15%
4.	Discussions / Attendance / Participation	All week	05%
5.	Final Exam	15th week	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Industrial safety and health management. Asfahl, C.,2003, Upper Saddle River, NJ: Prentice Hall.
Address	Safety, health and environmental protection. Wentz, C., 1999, McGraw-Hill
Electronic Materials	Environmental issues and Safety Journals
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Lecture room • Backboard facility for sharing lecture notes, • Submission of assignments and attempting Quizzes. • Details of recommended group profiles in the teacher manual
Technology equipment (projector, smart board, software)	• Every student requires access to a personal computer and the Internet. • On-site University access is provided through the University Central Library.
Other equipment (depending on the nature of the specialty)	• Present Planned Resources takes care of the subject's needs.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Course Evaluation Survey (CES
Effectiveness of Students assessment	Students	Blackboard feedback
Quality of learning resources	Students	Course Evaluation Survey (CES)
The extent to which CLOs have been achieved	Course Evaluation Committee (CEC)	In-Situ Evaluation
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Reviewed by Curriculum Committee Approved by Quality Committee
REFERENCE NO.	**9-6-47**
DATE	**25/06/1447**