Shri Shivaji Science College, Amravati

Department of Environmental Science

2022-2023

Certificate Course in Health, Safety and Environment (CCHSE)

Date: 22th Aug 2022 to 10th Sep 2022

Total Hours 30 **Marks 100**

COURSE DESIGN

1. Course Title: Certificate Course in Health, Safety and Environment (CCHSE)

2. Course Description:

Industrialization is basically considered for the comfortable living of human beings. We are getting different types of goods and luxuries due to industrial products though, these are positive aspects of industrialization, along with the development in science and technology. The calamities related to industries and environmental pollution problems are increasing day by day. Bhopal Gas Tragedy, Chernobyl Accident etc. are some of the examples of safety violation. The above-mentioned incidences are to enough to understand the severity of Industrial calamities. To avoid such circumstances various laws and orders implementation is necessary but not the fact is that not only laws but proper training and education about safety rules and their implementation are prior requirements for any industry.

Considering the present scenario in mind, Dept of Environmental Science, propose to start Certificate Course in Health, Safety and Environment (CCHSE). The course is designed for the students for getting more knowledge and aware about industrial health, safety and environment. With their bachelor and master degree in Environmental Science, such Certificate Course in Health, Safety and Environment (CCHSE) which is compulsory under Factories Act, 1948 for a person joining industry as Environment and Safety Officer, these students will get more opportunity to job in the industry.

3. Course Objective:

To develop highly qualified professional manpower the basic requirement lies on systematic quality based coaching and project work. Therefore, the certificate course is designed to provide expert human and resource to safety management and expected to bring direct benefits to industry and society.

The course is based on following objectives:

- To develop an expert manpower to handle the complex industrial environment.
- To give knowledge about occupational health, safety and environment prevention techniques to the students.
- To make the student aware about health, safety and environment, pollution prevention techniques and industrial safety and occupational health regulation.
- To train the students about risk assessment and management.
- To provide knowledge the students about environmental and safety standards and certification such as ISO certification, environmental trading and green innovation.
- M. Sc. and B.Sc. Environmental Science students will get a skill development based enrichment course certificate.

4. Instructional Strategies:

Specific learning activities for effective learning i.e. in-text earning quiz, project work, daily assignment, etc planned for course work.

5. Instructional Material:

Department of Environmental Science, Shri Shivaji Science College, Amravati follows a guideline given by MOOCs. Our approach is learner-oriented and the learner is an active participant in the teaching-learning process. Most of the instructions are imparted through online and distance mode.

Academic delivery systems of course are:

Print Material: This online course mainly focuses on Self Learning Material (SLM) and their up gradation by eminent students. As text information plays a vital role in online education.

Audio-Visual Material Aids: The learning package contains audio and video programmes which have been produced by the department for the enhancement of understanding the course material given to the student. The video lectures are uploaded on the college website for the student access.

Online/Virtual Classes: Delivery of classroom-like lectures will also be available in the student portal.

6. Evaluation Strategies:

Specific assessment and evaluation exercises, activities for formative assessments and module-end exercises, summative auto-graded test, assignments for self-check and assignment for eTutor feedbacks planned for course work.

Formative Assessment – 30 Marks for internal assessment i.e. assignment, quiz, feedback

Summative Assessment – 50 Marks exam at end of course and 20 Marks project work.

7. Detailed time-wise Course Session Plan:

Module No. and Title/Code	Day/Date	Contents/Topic and Hours Allotted	Name of Faculty	Video/Quiz/Assignment/Feedback/ Discussion Forum
1. Introduction to Health Safety and Environment (IHSE1)	**Day1** 22.08.2022	• Introduction (1 hrs) • Importance of environmental safety in industry (1 hrs)	SPI	Video/ E-Content
			SPI	Video/ Quiz
	Day 2 23.08.2022	• Introduction to occupational health hazards (2 hrs)	VDB	Video / Quiz / Assignment
2. Industrial Hazard Identification and Preventive Technique (IHIPT2)	**Day 3** 24.08.2022	• Define hazard and hazard identification (1 hrs)	VDB	Video/ E-Content
		• Types of industrial hazards (2 hrs)	VDB	Video/ E-Content/Quiz
	Day 4 25.08.2022	• Method of hazards identification - HAZOP technique (2 hrs) • Hazard Prevention and Control (1 hrs)	SPI	Video/ E-Content/ Assignment
3. Emergency Planning and Introduction to Chemical Safety (EPICS3)	**Day 5** 26.08.2022	a) Emergency Planning • Introduction (1 hrs)	KJG	Video/ E-Content/ Assignment
		• Need (1 hrs)	KJG	Video/ E-Content/ Assignment
		• key elements and concept of emergency planning (1 hrs)	KJG	Video/ E-Content/ Assignment

	Day 6 01.09.2022	b) Chemical Safety • Introduction and general chemical safety guidelines (2 hrs)	KJG	Video/ E-Content/ Assignment
4. An understanding of the ISO 14001 (Environmental Management System) (EMS4)	**Day 7** 02.09.2022	• Introduction and concepts (2 hrs)	SPI	Video/ E-Content/ Assignment
5. An Overview on Legal aspects in Environment, Health and safety (LAEHS5)	**Day 8** 06.09.2022	• Legislative measures in industrial safety: Factories Act, 1948 (2 hrs)	VDB	Video/ E-Content
	Day 9 07.09.2022	• Workman's Compensation Act, 1943 (2 hrs)	VDB	Video/ Quiz
		• Environmental (Prevention and control) Act 1986 (2 hrs)	VDB	Video/ Quiz
6. Project Work (Related to Course Content) (PW6)	**Day 10** 08.09.2022	• Project Work (Related to Course Content) (6 hrs)	KJG	
Exam	**Day 11** 10.09.2022	• Final Theory Exam (1 hrs)	KJG	

8. Duration of the Course:

The duration of the course is 1 month and day wise lectures will be uploaded on college website.

9. Course Outline:

Certificate Course in Health, Safety and Environment (CCHSE)

Total Hours 30 **Marks 100**

Syllabus

Module 1: Introduction to Health Safety and Environment (IHSE1)

- Introduction, importance of environmental safety in industry, introduction to occupational health hazards

Module 2: Industrial Hazard Identification and Preventive Technique (IHIPT2)

- Define hazard and hazard identification, types of industrial hazards, method of hazards identification - HAZOP technique, Hazard Prevention and Control

Module 3: Emergency Planning and Introduction to Chemical Safety (EPICS3)

a) Emergency Planning – Introduction, need, key elements and concept of emergency planning

b) Chemical Safety – Introduction and general chemical safety guidelines

Module 4: An understanding of the ISO 14001 (Environmental Management System) (EMS4)

- Introduction and concepts

Module 5: An Overview on Legal aspects in Environment, Health and safety (LAEHS5)

- Legislative measures in industrial safety: Factories Act, 1948, Workman's Compensation Act, 1943, Environmental (Prevention and control) Act 1986

Module 6: Project Work (PW6)

Structure of topic:

Sr. No.	Code	Module Title	Contents	Theory Hours	Marks
1	(IHSE1)	1. Introduction to Health Safety and Environment	1.1 Introduction 1.2 Importance of environmental safety in industry 1.3 Introduction to occupational health hazards	1 1 2	10
2	(IHIPT2)	2. Industrial Hazard Identification and Preventive Technique	2.1 Define hazard and hazard identification 2.2 Types of industrial hazards 2.3 Method of hazards identification - HAZOP technique 2.4 Hazard Prevention and Control	1 2 2 1	10
3	(EPICS3)	3. Emergency Planning and Introduction to Chemical Safety	3.1 Emergency Planning 3.1.1 Introduction 3.1.2 Need 3.1.3 key elements and concept of emergency planning 3.2 Chemical Safety 3.2.1 Introduction and general chemical safety guidelines	 1 1 1 2	10

4	(EMS4)	4. An understanding of the ISO 14001 (Environmental Management System)	4.1 Introduction and concepts	2	10
5	(LAEHS5)	5. An Overview on Legal aspects in Environment, Health and safety	5.1 Legislative measures in industrial safety: Factories Act, 1948 5.2 Workman's Compensation Act, 1943 5.3 Environmental (Prevention and control) Act 1986	2 2 2	10
6	-	Final Theory Exam	-	1	50
7	-	Internal Assessment	-	-	30
8	(PW6)	Project Work (Related to Course Content)	-	6	20
9		**Total**		**30 Hours**	**100 Marks**

10. Programme Outcome

The programme aims to cater learners to acquire and demonstrate competency in Environment Health & Safety, making them Knowledgeable and competent to make a prospective career in Industry.