

Course Type	Course Code	Name of Course	L	T	P	Credit
OE3	PEO401	Petroleum Environment, Health and Safety Practices	3	0	0	9

Course Objective

The objective of the course is to provide operational and occupational hazards in oil and gas industry as well as awareness of safe practices and environmental sustainability

Learning Outcomes

Safety code of conduct in oil and gas operations
Environmental impact assessment and mitigation.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to Health, Safety and Environmental Management	4	The role of Health, Safety and Environment in Petroleum operation will be explained to the students.
2	HSE Terms and Definitions, Importance of HSE Management, HSE performance. HSE Regulations and regulatory agencies for Oil and Gas Industry	5	Basic terminology and different HSE regulations will be explained to the students.
3	Environmental issues and Management	4	How to minimize that adverse impacts of oil and gas activity to the environment will be explained to the students.
4	Air pollution- Stack emissions, Flaring and fugitive release	5	Students will learn about different harmful gases which releases during E&P activities and how to minimize that emissions.
5	Water pollution and wastewater management, Produced water management	4	Students will learn about waste water management techniques which ultimately controls the problems of water pollution.
6	Oil spill Management	4	Student will learn about methods to mitigate offshore and onshore oil spill.
7	Waste management: Drilling waste, Rock cutting, oily sludge, etc.,	4	Students will be able to understand the different process to decrease the toxicity of waste generated by oil and gas drilling and production activities.
8	Environmental Management, monitoring and Impact Assessment.	4	The students will be able to assess the environmental impacts of Petroleum operation.
9	Occupational Health and Safety Management	4	Different aspects of on-field safety requirement will be explained to students
10	Risk assessment and management: (Qualitative and quantitative)	4	We will teach to students the management to plan ahead, not necessarily to avoid the risk, but to be as prepared as possible should the risk become an issue.
Total contact hours:		42	

Text Books:

- Environmental Control in Petroleum Engineering: John C Reis
- Environmental Technology in the Oil Industry: Orszulik, Stefan

Reference Books:

- Environmental management in Petroleum Industry: S. K. Wahi
- The prevention of Oil pollution: J. Wardley-Smith
- The Control of Oil Pollution: Wardley-Smith
- Safety and Health in the oil and gas Extractive Industries: Graham & Trotman Ltd., London for the commission of European Communities.