

Course Type	Course Code	Name of Course	L	T	P	Credit
DE	NPED510	Health, Safety & Environment in Petroleum Industry	3	0	0	3
Course Objective						
<ul style="list-style-type: none"> • Introduction to operational and occupational hazards in oil and gas industry • Teaching safe practices and environmental sustainability 						
Learning Outcomes						
<ul style="list-style-type: none"> • 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 (HSE) management terms and definitions, importance of HSE management, and HSE performance.	4	Students will learn about how environment and biotic communities is affected by oil industry and possible mitigation.			
2	HSE regulations and regulatory agencies for oil and gas industry.	5	Students will learn about legislations formulated from time to time, which are required to be complied with by the E&P operators before, during and after the completion of operations.			
3	Environmental issues and management.	6	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, and produced water management.	6	Students will learn about waste water management techniques which ultimately controls the problems of water pollution.			
6	Oil spill management.	5	Student will learn about methods to mitigate offshore and onshore oil spill.			
7	Waste management: drilling waste, rock cutting, oily sludge and others. Environmental management, monitoring, and impact assessment	6	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	Occupational health and safety management, risk assessment and management: qualitative and quantitative assessments.	5	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	42				

Text Books:

1. Environmental Technology in the Oil Industry by Orszulik, Stefan, Springer, 2007
2. Fire Protection Manual for Hydrocarbon Processing plants, Charles H. Vervalin, Gulf Pub Co; 1984

Reference Book:

1. Response to Oil and Chemical Marine Pollution, D. Cormack, Applied Science Pubs, 1983