

Higher Diploma Program in Occupational Safety Engineering

Catalog Data	SFE 531 Safety in Petroleum and Natural Gas Operations		
Prerequisite	None		
Co-requisites	None		
Level	First Semester – Year 1		
Textbook	A specialized note approved by the department prepared from selected chapters from various petroleum and natural gas engineering textbooks and references.		
Reference	Oil and Gas Journal, Journal of Petroleum Technology, API Standards, World Oil, SPE library (OnePetro), KSU library, Other licensed databases, API and ASTM standards for petroleum and natural gas.		
Learning Objectives	This course is designed to introduce students enrolled in the higher diploma program in Occupational Safety Engineering on the risk may encountered in the petroleum and natural gas operations and how to avoid and mitigate these risks if occurred.		
Topics (classes)		Topic	Contact, hr
	1.	General overview on the petroleum and natural gas industry from exploration to shipping.	6
	2.	Safety issues in the exploration procedures.	3
	3.	Safety issues in the oil and gas well drilling procedures.	3
	4.	Safety issues in the oil and gas well completion procedures.	3
	5.	Safety issues in the oil and gas production procedures.	3
	6.	Safety issues in the oil and gas storage procedures.	3
	7.	Safety issues in the oil and gas transportation procedures.	3
	8.	Midterm exam 1	1
	9.	Oil and gas operation wastes.	2
	10.	Field chemicals storage and handling.	5
	11.	Control of associated hydrogen sulfide gas.	2
	12.	Safety issues in the oil and gas laboratories and R&D centers.	2
	13.	Fire hazards of oil and gas.	2
	14.	Midterm exam 2	1
15.	API Safety standards.	3	
Laboratory Topics	N/A		
Project work	Several projects related to risk encountered in Petroleum and Natural Gas operations.		
Computer Usage	Use computer for preparing presentations, assignments, and reports.		
Learning outcomes	1.	Understand the elements of the oil and gas industry.	
	2.	Understand potential hazards in the oil and gas industry.	
	3.	Understand safety issues relevant in the oil and gas industry.	
	4.	Aware of safety issues and hazards handling standards.	
Estimated Category Content	3 lectures per week: 40 lectures + 2 hours for two exams.		
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Preparation Date	June 2012.		