

Identification	Department	Civil and Environmental Engineering	
	Subject	Advanced Health, Safety and Environment (ENV 532)	
	Credits	3	
	Term	Spring, 2010	
	Instructor	Rovshan Abbasov PhD, abbasov@hotmail.com	
Prerequisites	ENV 305		
Language	English		
Compulsory/Elective	Compulsory		
Text books and course materials	<p>Core textbook: 1. <i>Rockwell Collins). Safety, Health and Environment, 2003</i></p> <p>Supplementary sources: 2. <i>Siegfried Radandt, Jorma Rantanen and Ortwin Renn Governance of occupational safety and Health and Environmental Risks.2005</i> 3. <i>L. Lee Harrison. Environmental, Health and Safety Auditing Handbook, 2008</i></p>		
Teaching methods	Case analysis		
	Group discussion		x
	Lab		
	Lecture		x
	Course project		x
	Problem solving		x
	Others		
Evaluation Criteria	Methods	Date/deadlines	Percentage (%)
	Midterm Exam		30
	Case studies		
	Class Participation		10
	Quizzes		
	Project		10
	Presentation		10
	Laboratory Work		
	Final Exam		30
	Reading task (review paper)		10
Total		100	
Course objectives	Sustainability and in many cases the license to operate for business is defined by its Health, Safety, and Environmental (HSE) commitment and policy. HSE is concerned with the issues related to natural and human made hazards that may damage safety atmosphere both in working and non working environments. A comprehensive content of HSE issues will be delivered. The course is designed to inform students mainly with HSE issues observed in oil production environments.		
Course outline	The course is designed to introduce the student a broad range of contemporary HSE issues. A board knowledge regarding natural hazards and human made disasters will be delivered. The effectiveness of different safety equipments will also be analyzed.		
Weekly Schedule			
Week	Date	Topics	Textbook/Assignments
1		Introduction	¹ Chapter 1
2		Types of Hazards and their Effects	¹ Chapter 2
3		Recognizing Chemical and Biological Hazards	¹ Chapter 3,4
4		Equipment and Energy Hazards Fire and Explosion Hazards	¹ Chapter 5,6
5		Pressure, Temperature, and Radiation Hazards Hazardous Atmospheres and Respirator Hazards	¹ Chapter 7,8
6		Working Area and Height Hazards Hearing and Noise Hazards	¹ Chapter 9, 10

7		Construction, Maintenance, and Tool Hazards	¹ Chapter 11
8		Midterm Exam	
9		Vehicle and Transportation Hazards	¹ Chapter 12
10		Natural Disasters and Inclement Weather	¹ Chapter 13
11		Physical Security and Cyber Security	¹ Chapter 14
12		Environmental hazards	¹ Chapter 16
13		Introduction to hazard controls Engineering Controls: Alarms and Indicator Systems	¹ Chapter 18, 19
14		Process Containment and Process Upset Controls Administrative Controls: Programs and Practices	¹ Chapter 19,20
15		Permitting Systems Personal Protective Equipment and First Aid	¹ Chapter 22
16		Fire, Rescue, and Emergency Response Equipment	¹ Chapter 24
		Final exam	