



Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Koya Technical institute	
Department	Petroleum Technology /Chemical Analyzing	
Module Name	Oil and Gas Technology	
Module Code	OGT301	
Degree	Technical Diploma <input checked="" type="checkbox"/>	Bachler <input type="checkbox"/> High Diploma <input type="checkbox"/>
	Master <input type="checkbox"/>	PhD <input type="checkbox"/>
Semester	3	
Qualification	PhD	
Scientific Title	Lecturer	
ECTS (Credits)	7	
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours		
Weekly hours (Theory)	(2) hrs. Class	(175) Total hrs Workload
Weekly hours (Practical)	(2) hrs. Class	() Total hrs Workload
Number of Weeks	16	
Lecturer (Theory)	Kardo Sardar Mohammed	
E-Mail & Mobile NO.	kardo.mohamad@epu.edu.iq	
Lecturer (Practical)	Kardo Sardar Mohammed Sardast Rifaat Taher	
E-Mail & Mobile NO.	kardo.mohamad@epu.edu.iq	
Websites	https://academicstaff.epu.edu.iq/faculty/kardo.mohamad	

Course Book

Course Description	The course is designed to provide students with the basic understanding of origin and generation of hydrocarbons, exploration techniques, drilling techniques, well logging, well completion, transportation and storage of oil and gas, and natural gas processing...etc, which involved in oil and gas industry.
Course objectives	To ensure that all students have a basic knowledge and understanding of oil and gas technology from exploration to production and also provide basic processes pre and during and after drilling includes; well logging, well completion, and storage and transportation of oil and gas.
Student's obligation	<ol style="list-style-type: none"> 1. Students have a responsibility to respect all staff members and fellow students. They have a responsibility to conduct themselves in a manner that does not disrupt, distract, or interfere in any way with the teaching and learning process. 2. Students have a responsibility to arrive at class on time. 3. Students have a responsibility to be prepared for class with the appropriate materials and take care of all textbooks assigned to them. 4. Students have a responsibility to follow the institute's regulations regarding leaving the classroom. Students have a responsibility to secure a pass from their teacher in order to leave the classroom and to show that pass. 5. Students have a responsibility to conduct themselves in an appropriate manner during passing and whenever they are in the halls of the institute. Students have a responsibility to behave in such a way that the safety of others is not jeopardized by their acts. 6. Participate in all exams of the subject without absenting. 7. Discusses students' suggestions, opinions and questions at teacher office hours. 8. Preparing reports, seminars and other activates.
Required Learning Materials	Teaching by presentation: lecture, reading to the class, report, exposition, showing, displaying, teaching by example, demonstrating.

Evaluation	Task		Weight (Marks)	Due Week	Relevant Learning Outcome
	Paper Review				
	Assignments	Homework	5%		
		Class Activity	2%		
		Report	5%		
		Seminar	5%		
		Essay			
		Project			
	Quiz		8%		
	Lab.		10%		
	Midterm Exam		25%		
	Final Exam		40%		
	Total		100%		
Specific learning outcome:	<ol style="list-style-type: none"> 1. An overview of oil and gas technology. 2. Oil and gas exploration methods. 3. Drilling techniques. 4. Storage and transportation of oil and gas after production. 5. Processing the natural gas. 				
Course References:	<ol style="list-style-type: none"> 1. Fundamentals of Petroleum and Petrochemical Engineering, CHEMICAL INDUSTRIES, A Series of Reference Books and Textbooks, Founding Editor, HEINZ HEINEMANN, Berkeley, California, Series Editor, JAMES G. SPEIGHT, CD & W, Inc., Laramie, Wyoming, 2011 2. Dresser Atlas, 1984, Well logging and interpretation techniques, the home study course: Houston, Dresser Industries, publication 9333, variously paginated. Frank, R.W., 1986, Prospecting with old E-logs: Houston, Schlumberger Edu. 3. Bjorlykke, K. (2010) Petroleum Geosciences: From Sedimentary Environments to Rock Physics. Springer, Berlin, 508 p <p><u>Journals:</u></p> <ol style="list-style-type: none"> 1. Oil & Gas Journal 2. Journal of Petroleum Geology 				

Course topics (Theory)	Week	Learning Outcome
INTRODUCTION	1	
EXPLORATION TECHNIQUES	2	
RESOURCE ESTIMATION, EFFECT OF PRESSURE AND EFFECT OF TEMPERATURE	2	
OIL FIELD DEVELOPMENT.	2	
WELL LOGGING	2	
WELL COMPLETION STEPS	2	
CRUDE CONDITIONING AND STORAGE	1	
BASIC CONCEPTS OF NATURAL GAS PROCESSING	1	
Practical Topics	Week	Learning Outcome
Conradson carbon residue	1	
Softening Point Test of Bitumen	1	
Water and sediment content and sediment	1	
Distillation test of fuel oil	1	
Cleveland Open Cup Flash Point	1	
Viscosity of petroleum products	1	
<p>Questions Example Design</p> <p>Q.1: Define the following: 1. Natural gas 2. Petroleum geology.....etc.</p> <p>Q.2: Fill in the following blanks with the suitable word or words.</p> <p>1. The two most typical methods of crude-oil desalting are.....and</p> <p>Q.3: Write about the following.</p> <p>a) 1 Enumerate basic concepts of natural gas processing.</p> <p>Q.4: True (✓) and False (X)</p> <p>1 Sweet Gas: Gas in which the H₂S content is higher than 1 grain /100 SCF(X)</p> <p>Q.5) Calculate the initial Gas-in-place of a gas reservoir....</p>		
Extra notes:		

External Evaluator

The main scope of this course is to give the basic knowledge and understanding of oil and gas technology from exploration to production and also provide basic processes during the exploration and production such as well logging, well completion...etc. and also practical skills required for future works in the oil and gas industry.

Dr. Kardo Sardar Mohammed did it clearly in the course syllabus and this course details and covers the main aspects too.

Mr. Sardasht Rifaat Taher