

Module (Course Syllabus) Catalogue
2022-2023

College/ Institute	Koya Technical Institute		
Department	Petroleum Technology – Chemical Analysis (Morning)		
Module Name	Practical Oil and Gas Technology		
Module Code	OGT301		
Degree	Technical Diploma ✓ Master PhD	Bachelor	High Diploma
Semester	3		
Qualification	Master		
Scientific Title	Lecturer Assistant		
ECTS (Credits)	7		
Module type	Prerequisite	Core ✓	Assist.
Weekly hours	3		
Weekly hours (Theory)	(0)hr Class	(0)Total hrs Workload	
Weekly hours (Practical)	(3)hr Class	(105)Total hrs Workload	
Number of Weeks	16		
Lecturer (Theory)	Dr. Kardo Sardar Muhammad		
E-Mail & Mobile NO.			
Lecturer (Practical)	Sardasht Rifaat Taher		
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Websites	https://academicstaff.epu.edu.iq/faculty/sardasht.taher		

Course Catalogue

Course Description	<p>This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification.</p>
Course Objectives	<p>Course intended for semester (3)- second 2nd stage students in Petroleum Technology-Chemical Analysis department.</p> <p>The course provides the student with a basic knowledge and understanding of the heavy oil industry, including technical aspects and impact on society and the environment. The primary emphasis is on operations in lubricating oil and asphalts and waxes production.</p> <p>This It aims to explain all details of properties of heavy oil products.</p> <p>The course gives deep idea about composition, chemistry, classification, formations, and products of heavy crude oil. Finally, the course involves in all testes that needs for evaluation of petroleum and its products. At the end of the course, the student should be able to speak in a general way on all aspects of the heavy oil industry and be familiar with common heavy oil industry terminology.</p>
Student's obligation	<ol style="list-style-type: none"> 1) Students must restrict by time of practical lab. 2) Students must participate in lab. By working, asking , answering question , explainingtheir opinions and suggestions. 3) Restricted by laws of working in Lab. 4) Working carefully with Lab. Equipment's and restrict by cleaning lab. 5) Participate in all exams of the subject without absenting. 6) Discusses students' suggestions, opinions and questions at teacher office hours. 7) Preparing reports, seminars and other activates.

Required Learning Materials	1 White board.
	2 White board pen.
	3 Data Show.
	4 Power point presentation.
	5 Papers and Posters.
	6 Lab. Equipment.

Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome	
	Paper Review	---			
	Assignments	Homework	4		
		Class Activity	---		
		Report	4		
		Seminar	---		
		Essay	---		
		Project	---		
	Quiz	2			
	Lab.	10			
	Midterm Exam	16			
	Final Exam	20			
Total	46				

Specific learning outcome:	1 Importance of practical part of subject.
	2 Importance of introducing different methods for evaluating oil.
	3 Study physical and chemical prosperities of each class oil products.
	4 Methods of improvement of oil products quality.
	5 Knowledge about most important technique and methods used in Lab.
	6 Knowledge about (ASTM) sheets and preparing La. report

Course References	<ul style="list-style-type: none"> * The Chemistry and Technology Petroleum - FOURTH EDITION by JAMES G. SPEIGHT- Laramie, Wyoming. * Characterization and Properties of Petroleum- Fractions- M. R. Riazi. * Oil and Gas Property Evaluation- John D. Wright
	*Magazines and review (internet):
	1 www.elsevier.com/books/book-series/handbook-of-petroleum-exploration-and-production
	2 https://www.slideshare.net/search/slideshow?searchfrom=header&q=oil+and+gas+industry

Practical Topics	Week	Learning Outcome
Standard method for measuring flash point	1	Open Cleveland method.
Standard method for pour point of lubricating oil.	2	
Standard method for determining carbon residua.	3	Ramsbottom method
Standard method for measuring water in crude oil.	4	Centrifuge method
Standard method for measuring petroleum products kinematic viscosity.	5	
Scientific trip to oil field	6	
Standard method for measuring lubricating oil viscosity index.	7	
Standard method for measuring lubricating oil sulfur content.	8-9	
Standard method for measuring asphalt and bitumen penetration point.	10	
Standard method for measuring asphalt and bitumen softing point.	11	
Standard method for measuring asphalt and bitumen ductility.	12	
Standard method for measuring salts in asphalt and lubricating oil.	13	

*** Examinations***** Practical Part**

Q¹ / define the following: (Only¹) [-----¹]

Q² / answer the following: (Only¹) [-----¹]

Q³ In lab. Crude oil sample prepared for determining (CR) percentage by Rammsbottom method we gate the following information: [-----¹]

Q⁴ /Write complete procedure of the following tests (Only¹) [-----¹]

*** Practical Test**

Repeat one of the experiments in the laboratory

*** Extra notes:***** External Evaluator**

I confirmed that the contents of this syllabus are commonly more explicit and follows the principles and rules in Oil and Gas Properties subjects.

Lecturer: Dr. Kardo Sardar Muhammad