Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	**Koya Technical Institute**		
Department	**Petroleum Technology – Chemical Analysis (Evening)**		
Module Name	**Practical Oil and Gas Technology**		
Module Code	**OGT301**		
Degree	**Technical Diploma ✓ Bachelor High Diploma Master PhD**		
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**		
E-Mail & Mobile NO.	**Sardasht.taher@epu.edu.iq**		
Websites	**https://academicstaff.epu.edu.iq/faculty/sardasht.taher**		

Course Catalogue

Course Description	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.

Course Objectives	**Course intended for semester (3)- second 2nd stage students in Petroleum Technology-Chemical Analysis department.** 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. This It aims to explain all details of properties of heavy oil products. 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.

Student's obligation	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. Discuses 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.

	Task		Weight (Marks)	Due Week	Relevant Learning Outcome
Evaluation	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	✶ 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 Clevland 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	

Scientific trip to oil field	14	

✶ Examinations

✶ Practical Part

Q1 / define the following: (Only4) [-----M]

Q2 / answer the following: (Only3) [-----M]

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

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

✶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 theprinciples and rules in Oil and Gas Properties subjects.

Lecturer: Dr. Kardo Sardar Muhammad