



Aacademic Program Description Form

University Name: University of Warith AL-Anbiya

Faculty/Institute: College of Engineering

Scientific Department: Oil And Gas Department

Academic or Professional Program Name: Bachelor of Science degree
(B.Sc.) in Oil and Gas Engineering

Final Certificate Name: Bachelor of Science degree (B.Sc.) in Oil and Gas
Engineering

Academic Degree System: Bologna Process

Description Preparation Date: 2024/12/1

File Completion Date: 2024/12/1

Signature:

Head of Department Name: Dr. Dheiaa
Alfarge

Date: 29/12/2024

Signature:

Scientific Associate Name:

Dr. Hassan .T. Hashim

Date: 29/12/2024

The file is checked by: Dr. Salam Al-Rbeawi

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance

Department:

Date: 29/12/2024

Signature:

Approval of the Dean

عميد كلية الهندسة



1. Program Vision

The oil and gas engineering department focuses on providing an efficient environment of science and knowledge required for preparing qualified graduates to develop the oil and gas industries in Iraq. It seeks to achieve leadership and excellence in its field of specialization locally and regionally.

2. Program Mission

The department is committed to:

- 1- Graduating engineering staff equipped by an integrated leadership personality, very well-rounded skills, and cultivated by high profession ethics that could fulfill the requirements of the national oil and gas industry organizations.
- 2- Supporting and providing a significant scientific study and research platforms, knowledge transfer, and technology settlement that could enhance and develop our societies.
- 3- Sustaining a powerful scientific environment that could support the innovations, talented and smart students and researchers as well as enhancing the continuous education skills and help the societies.
- 4- Providing the educational, academical, professional mentoring and deeply consolidate the national identity and loyal pertinence spirit.



3. Program Objectives

Petroleum and natural gas engineering program graduates will:

1. Be successful practitioners of petroleum and natural gas engineering who can self-learn, develop, apply and advance technical knowledge for engineering problem solving and design purposes.
2. Demonstrate the desire for continuous learning, technical competence, and necessary well-rounded soft skills to advance in their careers, and assume leadership roles and supervisory and management positions.
3. Perform engineering duties with strong professionalism, ethical behavior, economic and social awareness.
- 4- Pursue a graduate education and enhance research capabilities at major research institutions of oil and gas industry.

4. Program Accreditation

The department is currently relying on the Bologna process for its educational system, noting that it will apply for national and international accreditation in 2027 if the first batch graduates, as it is a new department.

5. Other external influences

- 1- Library
- 2- Laboratories
- 3- Computer laboratories
- 4- Industrial software
- 5- Internet services



6- Seminar, symposium, training courses well as field trips.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	6	19		Basic course
College Requirements	18	85		Basic course
Department Requirements	27	136		Basic course
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2024-2025/One	UOW111	English Language	2	
2024-2025/One	OGE112	Principle to Petroleum Engineering	4	
2024-2025/One	ENG113	Calculus I	5	
2024-2025/One	ENG114	Engineering Mechanics and Strength of Material	4	2
2024-2025/One	UOW115	Computer Programming I	2	2



2024- 2025/One	ENG116	Workshops I		6
2024- 2025/One	OGE117	General Geology I	2	2
2024- 2025/One	UOW121	Chemistry	4	2
2024- 2025/One	OGE122	General Geology II	2	2
2024- 2025/One	ENG123	Calculus II	3	
2024- 2025/One	ENG124	Engineering Practices	2	
2024- 2025/One	ENG125	Engineering Ethics	2	
2024- 2025/One	ENG116	Workshops II	0	6
2024- 2025/One	UOW126	Rights and Human Democracy	2	
2024- 2025/Two	UOW211	Academic English writing	2	
2024-2025/ Two	ENG212	Ordinary differential equations	3	
2024-2025/ Two	ENG213	Fluid Mechanic I	3	
2024-2025/ Two	ENG214	Computer Programming II	2	2
2024-2025/ Two	OGE215	Structural geology	2	2
2024- 2025/Two	UOW204	Arabic language	2	
2024-2025/ Two	ENG216	Statistics and Optimization	3	
2024-2025/ Two	UOW226	Crimes of the Baath regime in Iraq	2	



2024-2025/ Two	OGE221	Petroleum Geology	3	
2024-2025/ Two	OGE222	Properties and transportation of crude oil and gas	3	2
2024-2025/ Two	ENG223	Fluid Mechanic II	3	2
2024-2025/ Two	OGE224	Petrophysics of Reservoir Engineering	3	2
2024-2025/ Two	ENG225	Physics and Thermodynamic	4	
2024-2025/ Two	ENG226	Partial differential equations	3	
2024-2025/ Three	OGE311	Drilling Engineering I	3	2
2024-2025/ Three	OGE312	Well Logging and Formation Evaluation I	3	2
2024-2025/ Three	OGE313	Production Engineering I	3	
2024-2025/ Three	OGE314	Reservoir Engineering I (Reservoir Fluids)	3	2
2024-2025/ Three	OGE315	Geophysics and Rock Mechanics	4	
2024-2025/ Three	ENG316	Numerical analysis	4	
2024-2025/ Three	OGE321	Drilling Engineering II (Casing design and Cementing)	3	2
2024-2025/ Three	OGE322	Well Logging and Formation Evaluation II	3	2
2024-2025/ Three	OGE323	Production Engineering II	3	
2024-2025/ Three	OGE324	Reservoir Engineering II (Gas Reservoir)	3	



2024-2025/ Three	ENG325	Health, Safety, and Environmental	2	
2024-2025/ Three	OGE326	Risk analysis and Petroleum Economics	3	
2024-2025/ Four	OGE411	Petroleum reservoirs engineering	3	
2024-2025/ Four	OGE412	Well Control	3	
2024-2025/ Four	OGE413	Well Testing	3	
2024-2025/ Four	OGE414	Natural Gas Engineering	2	
2024-2025/ Four	OGE415	Integrated Reservoir Management I	3	
2024-2025/ Four	ENG416	Engineering project	2	
2024-2025/ Four	OGE421	Directional drilling and Well Design	3	2
2024-2025/ Four	OGE422	Workover and Well Stimulation	3	
2024-2025/ Four	OGE423	Improved Oil Recovery	3	
2024-2025/ Four	OGE424	Reservoir Simulation	3	2
2024-2025/ Four	OGE425	Integrated Reservoir Management II	3	
2024-2025/ Four	ENG416	Engineering project	2	



8-Garduates Learning outcomes

1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
2. 1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environment, and social context.
6. An ability to recognize the ongoing need to acquire new knowledge, to choose appropriate learning strategies, and to apply this knowledge.
7. An ability to function effectively on a team whose members together provide leadership , create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

9- Teaching and Learning Strategies

The department strives to provide a comprehensive and rigorous education to students pursuing petroleum engineering. It aims to equip them with the necessary knowledge and skills to excel in the field. Research and Development: The department promotes cutting-edge research in petroleum engineering, focusing on



innovative technologies, reservoir characterization, drilling techniques, production optimization, and environmental sustainability. It aims to contribute to the advancement of the industry through valuable research outcomes. Industry Collaboration: The department seeks to establish strong ties with the petroleum industry, fostering collaboration and partnerships. It aims to facilitate knowledge transfer, internships, and industry-sponsored projects to ensure students' exposure to real-world challenges and opportunities.

Professional Development: The department aims to nurture students' professional growth by encouraging participation in professional societies, conferences, and workshops. It provides guidance

and support for students to pursue certifications and licensure, fostering their career readiness. Environmental Responsibility: Recognizing the importance of environmental stewardship, the department emphasizes sustainable practices in petroleum engineering. It aims to educate students about minimizing environmental impact, promoting energy efficiency, and exploring alternative energy sources.

Diversity and Inclusion: The department values diversity and aims to create an inclusive environment that welcomes individuals from diverse backgrounds. It promotes equal opportunities and encourages underrepresented groups to pursue petroleum engineering, fostering a diverse and vibrant community.

10-Evaluation methods

- Quizzes
- Assignments
- Projects
- Report



11-Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Ph.D.	Petroleum Engineering	Enhanced Oil Recovery and Reservoir Simulation			1	
Ph.D.	Petroleum Engineering	Reservoir engineering			1	
Ph.D.	Mechanical Engineering					1
PhD	Mathematics				1	
M.SC	Petroleum Engineering	Reservoir and Production engineering			1	
M.SC	Petroleum Engineering	Drilling			1	
M.Sc.	Petroleum Engineering	Gas project management			1	
M.Sc.	Chemical Engineering	Refineries			1	
M.Sc	Law				1	



12-Acceptance Criterion

- A- Conditions for admission to the college:**
- B- Approval of admission conditions for students in accordance with instructions issued by the Ministry of Higher Education and Scientific Research (central admission)**
- T- He must be medically fit for the specialty applied for**
- D- Conditions for admission to the scientific department.**
- C- Choosing the student's desire from more than one desire arranged according to preference**
- H- High school acceptance rate**
- X- Absorptive capacity of the scientific department.**

13-The most important sources of information about the program

1. Sources approved by international universities
2. Local trends
3. Market needs
4. Studies and questionnaires
5. Specialized seminars and workshops with beneficiaries

14-Program Development Plan

The focus in Oil and Gas Engineering department is given to the continuous improvement. The department always seeks to improve the scientific and administrative process and overcome all the difficulties and obstacles that hinder the educational program by developing human resources to develop personality.



The following procedures explain the steps implemented or in the process of implementation in this area:

1. Continuous improvement and development of faculty members through training programs and workshops inside and outside the department and university.
2. Increasing extracurricular activities, such as holding conferences, scientific seminars, and personal and sports creativity, locally, regionally, and internationally.
3. Encouraging faculty members to obtain the highest academic and administrative ranks.
4. Providing modern scientific sources and books for the department's library to keep pace with the rapid progress in engineering sciences.
5. Providing specialized software in petroleum engineering and the computers necessary for this, along with Internet lines, for all teachers.

