

Ministry of Higher Education & Scientific research

Scientific Supervision and Evaluation Body

Department of Quality Assurance and Academic Accreditation

Academic program Description form for the Department of Petroleum and Refining Engineering 2019-2020

University: University of Mosul

College: Petroleum and Mining Engineering College

Department: Petroleum and Refining Engineering

Date: 2020

Signature

Head of Department:

Nabhan Abd Al-Kareem Hamdoon

Date: 2020

Signature

Assist. Dean for Scientific Affairs :

Mohammad Ali Al – Rashidi

Date: 2020

The file was checked by Division of Quality Assurance and University Performance

**The Director of the Division of Quality Assurance and University Performance :
Dr. Asmaa Muaffaq Al Hasani**

Date: 2020

Signature:

The Dean Ratification

Description of the academic program

This academic program description provides a necessary summary of the most important characteristics of the program and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available opportunities. It is accompanied by a description of each course within the program

1	Educational institution	Petroleum and Mining Engineering College/ university of Mosul
2	Scientific Department / Center	Petroleum and Refining Engineering
3	3. The academic or professional program	Iraqi Council Accreditation for Engineering Education
4	The final certificate	Bachelor's degree in Petroleum and Mining Engineering
5	Academic Annual/courses/others:system	Annual
6	The adopted accreditation program	
7	Other external influences	
8	Date of preparing description	1/8/2021

9. Aims of the academic program:

The Department of Petroleum and Refining Engineering aspires to be a local, regional and global pioneer in graduating qualified engineers specializing in Petroleum and Refining Engineering and in accordance with the latest approved international curricula, with the aim of implementing the various engineering projects that the country currently needs, and this is done by providing a high-quality engineering, educational and research environment in the field of Petroleum and Refining engineering and serving their country. Also contributing to the development of scientific research to contribute to development and technical progress and have a positive impact on the local

community of Nineveh Governorate in particular and the whole country.

10. Required program outcomes and teaching, learning and evaluation methods:

The outcomes of the academic program of the Petroleum and Refining Engineering Department depend on two main axes:

First: Knowledge resulting from the basic module

The graduate petroleum and refining engineer are anticipated to possess a solid understanding of refining processes, built upon a comprehensive knowledge of crude oil resources and the fundamentals of oil refining. We anticipate that the educational programs will equip petroleum and refining engineers with essential knowledge in oil extraction methods, petroleum geology, refining processes for petroleum derivatives, and insights into the petroleum industry.

11. a. The Cognitive aims :

Knowledge resulting from scientific and applied lessons

The petroleum and refining engineer is anticipated to possess an adequate understanding of practical applications, facilitated through field visits to various regions, oil fields, and refineries. These visits are intended to bridge the gap between theoretical and practical learning, maximizing the engineer's proficiency. This equips them with the skills necessary for employment in both the private and public sectors, while also enabling them to conduct laboratory tests.

11.b. Skills aims of the program:

The basic skills that a newly graduated Petroleum and Refining Engineer is expected to know

Training and qualifying students who have the ability after graduation as Petroleum and Refining Engineers to achieve the following goals:

1. The ability to develop their technical and personal skills in order to adapt to the technological developments they face in their professional

lives.

2. The ability to carry out the duties assigned to them with high professionalism and adherence to applicable laws and regulations and professional ethics.

3. The ability to continue their postgraduate studies in petroleum and refining engineering or any other field related to their field of specialization.

4. Ability to employ their communication, teamwork, and leadership skills to serve their profession

5. Full awareness of the important role played by the petroleum and refining engineer in maintaining the health and safety of society by preserving the environment and implementing safety systems while working.

6. Optimal investment of mineral wealth and support of the national economy by supplying the industrial sector and mining companies associated with it with specialized and qualified cadres capable of applying scientific and engineering concepts in solving the engineering problems they face.

7. Design and conduct engineering experiments and analyze their results
Design and conduct engineering experiments and analyze their results.

8. Design and implement engineering systems that effectively achieve the desired objectives.

9. Working with the group, team spirit, communication and leadership.

10. Their awareness of the ethics and responsibilities of the profession.

11. Paying attention to continuing education in developing the skills of the basic scientific disciplines in the department. Such as engineering, mining and applied geology, mining engineering, planning and technology, mine surveying, ore concentration and processing engineering, engineering and design of tunnels and subsurface facilities, rock mechanics and tests, ventilation and industrial security in mines and tunnels, mineral ore geology, petroleum geology, drilling oil, gas and groundwater wells, extraction. Metallic and non-metallic mineral ores, processing of applied mineral ores, formation and casting of metals, corrosion and protection of metals, non-metallic materials and their applications, evaluation and examination of engineering materials, environmental studies.

Course of Study

College of Petroleum and Mining Engineering

University of Mosul

Department of Petroleum and Refining Engineering

Vocabulary of the First-Year Curriculum (Annual):

First Year (1 st Class)									
No.	Symbol	Subject	Units	1 st Semester			2 nd Semester		
				T	P	D	T	P	D
1	PRE 101	Mathematics (1)	6	3	---	1	3	---	1
2	PRE 102	Principles of petroleum engineering	4	2	---	1	2	---	1
3	PRE 103	Chemistry	6	2	2	---	2	2	---
4	PRE 104	Computers	6	2	2	---	2	2	---
5	PRE 105	Engineering mechanics	4	2	---	2	2	---	2
6	PRE 106	Engineering Drawing	3	---	3	---	---	3	---
7	PRE 107	Petroleum Geology	6	2	2	1	2	2	1
8	PRE 108	Democracy and human rights	4	2	---	---	2	---	---
9	PRE 109	English	2	1	---	---	1	---	---
Sum			41	16	9	5	16	9	5
				30			30		

T=theoretical

P=practical

D=discussion

Department of Petroleum and Refining Engineering

Vocabulary of the Second-Year Curriculum (Annual):

Second Year (2 nd Class)									
No.	Symbol	Subject	Units	1 st Semester			2 nd Semester		
				T	P	D	T	P	D
10	PRE 201	Mathematics (2)	6	3	---	1	3	---	1
11	PRE 202	Properties of Petroleum and natural gas	6	2	2	---	2	2	---
12	PRE 203	Surveying Engineering	6	2	2	---	2	2	---
13	PRE 204	Thermodynamics	5	2	1	---	2	1	---
14	PRE 205	Fluid mechanics	6	2	2	1	2	2	1
15	PRE 206	Mechanics of Materials	4	2	---	2	2	---	2
16	PRE 207	Engineering statistics	4	2	---	1	2	---	1
Sum			37	15	7	5	15	7	5
				27			27		

T=theoretical

P=practical

D=discussion

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Vocabulary of the Third-Year Curriculum (Annual):

Third Year (3 rd Class)									
No.	Symbol	Subject	Unit s	1 st Semester			2 nd Semester		
				T	P	D	T	P	D
17	PRE 301	Petroleum production engineering	6	3	---	1	3	---	1
18	PRE 302	Petroleum Reservoir Engineering	6	2	2	1	2	2	1
19	PRE 303	Industrial chemistry	4	2	---	1	2	---	1
20	PRE 304	Rock mechanics	6	2	2	---	2	2	---
21	PRE 305	Well logging Engineering	6	2	2	---	2	2	---
22	PRE 306	well drilling Engineering Oil	4	2	---	1	2	---	1
23	PRE 307	Natural gas technology	4	2	---	1	2	---	1
24	PRE 308	Numerical Analysis	4	2	---	---	2	---	---
Sum			40	17	6	5	17	6	5
				28			28		

T=theoretical

P=practical

D=discussion

Summer training: Four weeks

Department of Petroleum and Refining Engineering

Vocabulary of the Fourth -Year Curriculum (Annual):

Fourth Year (4 th Class)									
No.	Symbol	Subject	Unit s	1 st Semester			2 nd Semester		
				T	P	D	T	P	D
25	PRE 401	Petroleum pollution	2	1	---	1	1	---	1
26	PRE 402	Petroleum production engineering (2)	6	3	---	1	3	---	1
27	PRE 403	Reservoir simulation and modeling	6	2	2	---	2	2	---
28	PRE 404	Petroleum refining technology	6	2	2	---	2	2	---
29	PRE 405	Reservoir management and Petroleum economics	4	2	---	1	2	---	1
30	PRE 406	Geometric design	4	2	---	1	2	---	1
31	PRE 407	Enhanced oil recovery processes	4	2	---	1	2	---	1
32	PRE 408	Final Year Projects	5	1	3	---	1	3	---
Sum			37	15	7	5	15	7	5
				29			29		

T=theoretical

P=practical

D=discussion

Total units for the four classes =41+37+40+37=155