

Course Description

1. Course Name: Oil Production 2	
2. Course Code: PE402	
3. Semester / Year: 2025-2026	
4. Description Preparation Date: 10/9/2025	
5. Available Attendance Forms: classrooms	
6. Number of Credit Hours (150) / Number of Units (6)	
7. Course administrator's name	
Name: Mohammad Yaseen Heree Email: Mohammed.yaseen@alayen.edu.eq	
8. Course Objectives	
Course Objectives	- Develop a suitable plan to enable the student to acquire the necessary knowledge. - understand the interrelationship between the oil layer, the well, and the surface. - The student will be able to develop an integrated and appropriate production system for the well under study. - minimizing the pressure lost to extract oil, thus ensuring the reservoir's continued viability.



9. Teaching and Learning Strategies

Strategy	✓ Presentations. ✓ Discussions. ✓ Tutorials and illustrations. ✓ Problem solving. ✓ Brainstorming. ✓ Evaluation of reports and discussions
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10. Course Structure

Wee k	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	A1, B1,B2,C1	Introduction	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
2,3	6	A1, B1,B2,C1	Petroleum Production System	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
4,5	6	A1, B1,B2,C1	Oil Well Performance	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
6,7	6	A1, B1,B2,C1	Mathematical and physical principles for pressure drop calculations	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
8,9	6	A1, B1,B2,C1	Flow pattern and Classification in vertical and horizontal wells	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
10	3	A1, B1,B2,C1	Pressure gradient prediction for vertical well	Theoretical lecture	•Presentation •Interactive learning •Discussions

					•Brain storming
11	3	A1, B1,B2,C1	Pressure gradient prediction for horizontal well	Theoretical lecture	•Presentation •Interactive learning •Discussions •Brain storming
12	3	A1, B1,B2,C1	Gradient Curves for vertical and horizontal well	Theoretical lecture	Presentation •Interactive learning •Discussions •Brain storming
13,14	6	A1, B1,B2,C1	Flow of fluid through surface chokes	Theoretical lecture	Presentation •Interactive learning •Discussions •Brain storming
15	1	A1, B1,B2,C1	Mid -term EXAM	Theoretical lecture	
16-19	12	A1, B1,B2,C1	Derivation and, Solutions of Diffusivity Equation ,The Ei function solution, Application of Horner Solution	Theoretical lecture	• Presentation •Interactive learning •Discussions •Brain storming
20-25	18	A1, B1,B2,C1	Analysis the behavior of reservoir by using many methods of well Testing such as multi - rates test, build - up test, draw - down test. Effect of skin factor on well testing	Theoretical lecture	Presentation •Interactive learning •Discussions •Brain storming
26,27	6	A1, B1,B2,C1	Increases oil production rate by Gas lift technology	Theoretical lecture	Presentation •Interactive learning •Discussions •Brain storming
28,29	6	A1, B1,B2,C1	A technique to stimulate wells for improving well inflow performance	Theoretical lecture	Presentation •Interactive learning •Discussions •Brain storming
30	3	A1, B1,B2,C1	Final Mid -term EXAM		

11. Course Evaluation

- Weekly tests, assignments, and activities: 10 marks
- Biweekly quizzes: 10 marks
- Main midterm exam (first semester, second semester): 10 marks
- Final practical exam: 10 marks
- Final theoretical exam: 60 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	OIL AND GAS, PRODUCTION. HANDBOOK, An introduction to oil and gas production- Håvard Devold- © 2006 ABB ATPA Oil and Gas.
Recommended books and references (scientific journals, reports...)	-Petroleum Engineering Handbook- Larry W. Lake, Editor-in-Chief- U. of Texas at Austin. -Petroleum production Engineering - ISBN 0750682701- Publisher: Elsevier Science Technology Books- Pub. Date: February 2007
Electronic References, Websites	https://eng.alayen.edu.iq//colleges/e/42