

Course Syllabus

PTRE 201 Introduction to Petroleum Engineering

Course Syllabus

Course/Instructor Information

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|--------------------------------|--|---------------|--|
| Course Code & Title | PTRE 201 Introduction to Petroleum Engineering | | |
| Lecture | TTh 9:30-11:00 -11:00-12:30 | | |
| Instructor Name | Hussein Ghorayeb, M.Sc. | Office | G112 |
| Phone | 3480 | Email | h.gharib@bau.edu.lb |
| Office Hours | M-W2:00-4:00 T-Th 3:00-4:00 | | |
| Term/Year | Fall 2015 | | |

Course Description

Course-in-brief

Overview and history of the petroleum industry and petroleum engineering; Petroleum reserves, production and consumption statistics of the world; Structure of the petroleum industry; Composition, origin, migration and accumulation of petroleum; Oil traps. Petroleum exploration methods; Nature of oil and gas wells; Drilling History; Types of drilling rigs; Drilling equipment's; Introduction to drilling fluids; Special problems in Drilling; Cost; Data acquisition during drilling; Reservoir properties; Reservoir pressure and evaluation; properties and behaviors of reservoir fluids; Oil and gas production; The production system, Methods of oil production; Fundamentals of oil refining.

Prerequisites by topic

N/A

Course Resources

Textbook

Introduction to Petroleum Engineering, Mustafa Versan Kok, 1st edition, published by METU, Dept. of Petroleum & Natural Gas Eng, 2000

Educational Aims

This course provides the students with an introduction to the different stages of the Oil and Gas industries starting with the Geology. Then basics of drilling, production, well completions and reservoir properties are discussed.

Intended Learning Outcomes

As a result of successful examinations and assignments, the student will be able to:

1. Acquire the basics of Oil & Gas Industry
2. Familiar with concepts used in Petroleum Engineering
3. Familiar with the different Majors in Petroleum Engineering

4. Obtain the basic knowledge in Exploration, Drilling and Production

Class Policies

Class Attendance

Rationale. Attending class indicates a sense of responsibility and willingness to learn. Research has shown that attending classes, asking good questions, participating in class discussion, and submitting assignments and projects on time results in a better student's performance.

Policy. Attendance is required! Please be in class on time. Attendance will be taken at the beginning of each class period. In case you are not present when attendance sheet is passed on, you will be marked absent. If you are late for more than 10 minutes you will not be allowed into the classroom not to cause distraction. You will receive a Dean's warning if you miss more than 3 classes and shall be dismissed from the course if you miss more than 5 classes. You shall receive 5 bonus points at the end of the semester if you attend all classes and follow all course policies and procedures.

Class Discussion

Rationale. Active participation in classroom discussions, asking questions, and answering them gives life to a classroom and drives learning. Positive communication between the students and the instructor in the classroom and outside through various means such as Moodle, email, and twitter impacts students' learning positively.

Policy. Feel free to voice your opinions and ask questions anytime during a class period. Practice your right and freedom to learn. Remember you are here to learn and we are here to teach and that teaching and learning are forever intertwined. You can help me teach you as much as I can help you learn. Be an active participant in the learning process and recognize that it takes a team effort to realize meaningful things in life.

Make-up Tests and Late homework Policy

NO makeup test will be given and late assignments or project will not be accepted unless the reason is beyond the student's control. *Do not abuse the use of excuses because in the end it is of no use!*

Expected Behavior

includes attending all class activities; meeting deadlines; observing common courtesies to fellow students, teachers, and staff; being honest; making a diligent effort to learn; and does not engage in any disruptive irresponsible manner. Legitimate collaboration is encouraged but academic collusion or dishonesty will not be tolerated.

General Policies

These policies are available in the Students' manual and on the University website <http://www.bau.edu.lb/students/>. For inquiries about these policies the student should refer to the course instructor and faculty advisor.

Assessment and Evaluation

| Assessment Item | Tentative Date | Marks |
|-----------------|----------------|-------|
| Mid Term | As assigned | 30 |
| Project | As assigned | 30 |
| Final Exam | Exams period | 40 |

Topics

| Week | <i>Subjects covered</i> |
|------|---|
| 1 | Introduction to Petroleum Engineering |
| 2 | Geology and Exploration |
| 3 | Rocks and Fluid Properties |
| 4 | Rock properties |
| 5 | Drilling Operations |
| 6 | Drilling Operations |
| 7 | Drilling Operations |
| 8 | 8 th week assessment + Drilling operations |
| 9 | Formation Evaluation |
| 10 | Well Completion & Stimulation |
| 11 | Production |
| 12 | Production |
| 13 | Production |
| 14 | Group Project Presentations |
| 15 | Group Project Presentations |

