

**King Saud University**  
**College of Engineering**  
**Petroleum and Natural Gas Engineering**  
**PGE 480: Production Engineering Laboratory**  
**Second Semester 1437 – 1438 (2016 – 2017)**

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**Goals:** This course is aimed to provide the students of the Petroleum and Natural Gas Engineering department with the knowledge about the basic laboratory equipment and procedures used in measuring the physical properties of crude oil and its products depending on ASTM methods and standard. Also to give knowledge of the physical properties of reservoir fluids and their practical application in conducting a field study. These fluid properties are usually determined by laboratory experiments performed on samples of actual reservoir fluids.

**Evaluation:**

Weekly reports:	20%
Performance and accuracy	10%
Safety:	6%
Team work & Exams:	24%
Final Exam:	40% (20% written, 20% oral)

**Lab policy:**

1. Obey the safety issues all the time.
2. All excuses have to be certified by Student Affairs.
3. Maximum time for late is 10 minutes (**2 late = 1 absent**)
4. Late reports will not be accepted.
5. Copying of report is disallowed.
6. Food, drink, or cell phones are not allowed in the class.
7. Contact via email and within office hours.
8. All materials will be uploaded weekly to my personal website (<http://fac.ksu.edu.sa/mokhamis>).

**Office Hours: Sun - Tues : 1:00 - 2:00 PM**

**Topics:**

<b>Week</b>	<b>Topic</b>
1	<b>Introduction:</b> Regulation and the lab safety issues. Introduce and explain the course material and the grading system. Report writing.
2	Measurement of liquids density.
3	Measurement of fluids kinematic viscosity.
4	Measurement of fluids dynamic viscosity.
5	Measurement of surface tension.
6	Determination of flash point.
7	Determination of cloud and pour point of crude oil.
8	Determination of liquids vapour pressure.
9	Determination of water in crude.
10	Determination of salt contents.