



# Introduction to Petroleum and Natural Gas Engineering

**PGE-251**

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**This course provides the Student with the information necessary to basically:**

- ❑ describe the history of the oil industry and the structure of, and operations conducted in, the modern industry;
- ❑ describe reservoir fluids; (oil and natural gas properties)
- ❑ explain the relationships between petroleum geology and the evolution of hydrocarbons, the storage of hydrocarbons in reservoirs, and the production of hydrocarbons; storage, and Transportation.
- ❑ discuss how data is made available in order to indentify and define potential hydrocarbon reservoir locations;
- ❑ describe the engineering and operations aspects of drilling; well completion operations;
- ❑ describe how hydrocarbons are recovered from reservoirs.
- ❑ describe Offshore Pollution by Petroleum
- ❑ describe Petroleum Refining and Petroleum Economics

# **Text Book**

## **Petroleum and Natural Gas Engineering Overview**

**For Non-Specialists**

**Prof. Musaed N. J. Al-Awad**

### **Course Contents**

<b>CHAPTER ONE:</b>	<b>Background and Objectives</b>
<b>CHAPTER TWO:</b>	<b>History of Oil and Natural Gas</b>
<b>CHAPTER THREE:</b>	<b>Origin and Geology of Petroleum Reservoirs</b>
<b>CHAPTER FOUR:</b>	<b>Petroleum Exploration Techniques</b>
<b>CHAPTER FIVE:</b>	<b>Chemistry of Petroleum</b>
<b>CHAPTER SIX:</b>	<b>Petroleum Well Drilling Engineering</b>
<b>CHAPTER SEVEN:</b>	<b>Oil and Natural Gas Reservoirs Rocks Properties</b>
<b>CHAPTER EIGHT:</b>	<b>Oil and Natural Gas Reserves Estimation</b>
<b>CHAPTER NINE:</b>	<b>Petroleum Production and Formation Evaluation</b>
<b>CHAPTER TEN:</b>	<b>Natural Gas Properties</b>
<b>CHAPTER ELEVEN:</b>	<b>Storage and Transportation of Petroleum</b>
<b>CHAPTER TWELVE:</b>	<b>Offshore Pollution by Petroleum</b>
<b>CHAPTER THIRTEEN:</b>	<b>Basics of Petroleum Refining</b>
<b>CHAPTER FOURTEEN:</b>	<b>Basics of Petroleum Economics</b>
<b>CHAPTER FIFTEEN:</b>	<b>Units and Conversion Factors</b>

# Evaluation

20% home work, participation

40% for two midterm tests

40% for the final exam



## King Saud University Petroleum and Natural Gas Engineering Department Courses Timetable

Eng. Abdulbari A. Arefi

Second Term 1438/39

	8-9	9-10	10-11	11-12	1-2
<b>Sunday</b>	Office Hours	Advising Hours	PGE-251	Dept. Development Committee Meeting	Dept. Activities
<b>Monday</b>	Office Hours	ISO committee	PGE-452	Quality Deanship Activities	Dept. Activities
<b>Tuesday</b>	Office Hours	Advising Hours	PGE-251	Quality Deanship Activities	Dept. Activities
<b>Wednesday</b>	Office Hours	Advising Hours	Scheduling	QA & Accreditation	Dept. Activities
<b>Thursday</b>	Office Hours	Advising Hours	PGE-251	Dept. Council Meeting	Dept. Activities