

PGE 543: Advanced Petroleum Economics

Course Instructor:

Professor Musaed N. J. AlAwad
Room 2B-81
malawwad@ksu.edu.sa

Course Learning Objectives:

By the end of the course, students are able to:

1. Evaluate Projects Using Economics Decision Yardsticks Including: Profit-to-Investment Ratio (P/I), Discounted and Undiscounted Payout Time (POT), Net Present Value (NPV), and Rate of Return (ROR)
2. Classification of Energy Sources
3. Define Oil Resources and Reserves
4. Unconventional Oil and Gas Resources
5. Recall and Describe the World's Giant Oil and Gas Fields
6. Uncertainty and Risk Analysis in Petroleum Exploration and Production
7. Discuss Oil Pricing Criteria and Identify Factors Affecting Oil Prices
8. The Role of Strategic Oil Reserves
9. Understand Oil and Gas Production Business Operations
10. Discuss Hubbert Model for Oil Peak Forecasting
11. Write and Present a Term Paper on any Topic Related to this Course

Assessment Criteria:

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| 1. Mid-term Exam 1 in Chapters 1, 2, 3, 4,5 and 6: | 20 Points |
| 2. Mid-term Exam 2 in Chapters 7, 8, 9 and 10: | 20 Points |
| 3. Term Paper: | 20 Points |
| 4. Final Exam: | 40 Points |

Course Contents:

Chapter One: Chapter One: Project Evaluation using Economics Decision Yardsticks
Chapter Two: Classification of Energy Sources
Chapter Three: Oil and Gas Recourses and Reserves
Chapter Four: Unconventional Oil and Gas Resources
Chapter Five: World's Giant Oil and Gas Fields
Chapter Six: Uncertainty and Risk Analysis in Petroleum Exploration and Production
Chapter Seven: Oil Pricing Criteria and Factors Affecting Oil Prices
Chapter Eight: The Role of Strategic Oil Reserves
Chapter Nine: Oil and Gas Production Business Operations
Chapter Ten: Hubbert Model for Oil Peak Forecasting

Example References:

1. OnePetro Database in Addition to Worldwide Available Economic Data.
2. Richard D. Seba: "Economics of Worldwide Petroleum Production.", OGCI, Inc. and PetroSkills, LLC. Publications, Tulsa, Oklahoma, Second Edition, July, 2003, ISBN 0-930972-21-X.
3. Matthew R. Simmons: "The Worlds Giant Oil Fields.", Simmons & Company International, January 9th 2002: <http://energyskeptic.com/wp-content/uploads/2011/07/Simmons-Giant-Oil-Fields.pdf>.
4. Hubbert Peak Theory, Wikipedia [Online]: http://en.wikipedia.org/wiki/Hubbert_peak_theory
5. PGE 543: "Advanced Petroleum Economics" Notes and Handouts by Professor Musaed AlAwad, King Saud University, College of Engineering, Petroleum and Natural Gas Engineering Department, Riyadh, Saudi Arabia.