



MEWBOURNE COLLEGE OF EARTH AND ENERGY
RONNIE K. IRANI
CENTER FOR ENERGY SOLUTIONS
The UNIVERSITY of OKLAHOMA

PROJECT ANALYSIS USING ECONOMIC ANALYSIS AND MACHINE LEARNING

How to propose projects that create value. How to use data analysis to get assertive estimates in your Project Evaluation.

October 17 - 22, 2022

6 - 9 P.M. CT (3 hrs per day)

Cost: US\$1,200



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Project Analysis Using Economic Analysis And Machine Learning

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INTRODUCTION

This course will prepare you to be a hands-on economic analyst, estimating key value drivers for different projects and to make managerial recommendations based on your own calculations. We will analyze the Oil Industry as a whole and understand the key drivers behind decision-making processes at the management level. You will learn how to calculate the value of money over time, how to generate forecast and estimate key financial issues like expected Revenue, Operating Expenses, Capital Expenditures, Income, Cash Flow and Net Present Value of the project. Additionally, we will explore basic concepts to address risk analysis and to quantify said analysis on your economic estimations. We will deal with data analysis (Machine Learning) in order to get better estimates for key economic drivers, like well performance and capital expenses. We will combine basic economic analysis and machine learning to analyze a full project.

The course will have a hands-on approach and some basic understanding of Excel is required. We will execute several exercises step-by-step together, so a second screen is recommended. Active participation from attendees is expected.

ABOUT THE INSTRUCTOR



Luis Carlos Rodríguez

Petroleum Engineer with a Masters's in Engineering from The University of Oklahoma and a Master in Business Administration from Rice University. Luis has been in the industry for more than 20 years working in different assets internationally. During his career, he has analyzed a multitude of projects both conventional and unconventional plays. His experience with economic analysis and business development brings a fresh perspective from the industry to our webinar. Luis was a Planning Manager for Oxy in California, a Vice-President of Reservoir Engineering for Rex Energy in Pennsylvania and more recently he was in charge of the Reservoir Engineering department for Lewis Energy in Texas.

GOALS

- To explore the Oil Business and its cycles. We will go thru the current status of the Oil and Gas Industry and its financial situation before the 2020 Recession.
- We will quickly go into a hands-on experience, exploring basic concepts that will make economic analysis possible.
- To explore decision-making processes and the concept of mutually exclusive and non-exclusive projects.
- To deal with basic Machine Learning algorithms (Regression) and how to apply them to real data.
- To combine our economic analysis skills with our ability to predict key performance drivers and develop a full project analysis completely driven by data.

SYLLABUS

1. The Oil Industry and its cycles
2. Time Value of Money and Cash and Income Concepts. How to build a Cash Flow
3. Economic Indicators for decision-making processes and their advantages and disadvantages
4. Decision-Making Tools and Brief Introduction to Risk Analysis. How to think like a manager
5. Machine Learning algorithms, basic statistical concepts, and how to execute a regression
6. Linear and Non-Linear Regression. Uses and key driver identification
7. How to combine different models in the same project
8. Real data application – Use of regression models to predict Capex and Well Performance and apply the models in a Cash Flow Analysis for a complete project evaluation

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