

Leadership and Decision Making in the Energy Industry

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Overview

This course provides students with an effective decision making framework, in the context of value chains and scenario planning within three major energy markets: oil & gas, petrochemicals, and electric power.

Course Outcomes

After completing *Unit 1: Decision Making in the Energy Industry*, you will be able to:

1. Explain the idea of the global grand energy challenge
2. Describe the structure of our three major energy markets
3. Apply the three pillars of decision making to each of these markets
4. Describe a balanced Decision Making Framework

After completing *Unit 2: Value Chains in the Energy Industry*, you will be able to:

1. Explain the concept of value chains
2. Apply that concept to our three major energy markets

After completing *Unit 3: Scenario Analysis in the Energy Industry*, you will be able to:

1. Explain the concept of scenario planning
2. Describe how scenario planning is applied to each of our three major markets though understanding insights provided in dynamic interviews with Energy Industry leaders

Course Structure

Each unit is divided into five lessons. Every lesson contains multiple lecture videos. After watching all the videos, you'll complete a quiz using the knowledge you've gained. Additionally, you'll put your new knowledge into practice by completing an application, an assignment in which you use your own words and expertise to solve hypothetical problems in the energy industry. For each unit, there are optional (ungraded) supplemental materials to further your learning if you desire.

Once you've completed all course content, you will be asked to take a cumulative quiz to test your overall understanding.

Grading and Evaluation

Your grade will be calculated using a combination of your quiz scores from each lesson and your successful completion of each application. The quizzes will be graded automatically as you go, and you'll be given 2 attempts on each quiz. The applications will be graded for completion. You'll be responsible for comparing your answers to the model answers provided for each application. You will need to attain an overall course grade of **75% or higher to pass** this course.

Lesson Quizzes + Final Cumulative Quiz = **60%**

Applications = **20%**

Discussions = **20%**

Tips for Success

- Complete this course in a distraction free zone
- Take notes while watching the lecture videos – these will come in handy when you take your quizzes

Course Outline

Unit 1: Decision Making in the Energy Industry

Lesson 1: Introduction to Decision Making

Lecture Videos

Quiz

Application

Lesson 2: Oil & Gas Market

Lecture Videos

Quiz

Application

Lesson 3: Petrochemicals Market

Lecture Videos

Quiz

Application

Lesson 4: Electric Power Market

Lecture Videos

Quiz

Application

Lesson 5: Decision Making Framework

Lecture Videos

Quiz

Application

Unit 2: Value Chains and the Energy Industry

Lesson 1: Introduction to Value Chains

Lecture Videos

Quiz

Application

Lesson 2: Oil & Gas Value Chain

Lecture Videos

Quiz

Application

Lesson 3: Petrochemicals Value Chain

Lecture Videos

Quiz

Application

Lesson 4: Electric Power Value Chain

Lecture Videos

Quiz

Application

Lesson 5: Global Energy Landscape

Lecture Videos

Quiz

Application

Unit 3: Scenario Analysis in the Energy Industry

Lesson 1: Uncertain Future

Lecture Videos

Quiz

Application

Lesson 2: Oil & Gas Scenario Analysis

Lecture Videos

Quiz

Application

Lesson 3: Petrochemicals Scenario Analysis

Lecture Videos

Quiz

Application

Lesson 4: Electric Power Scenario Analysis

Lecture Videos

Quiz

Application

Lesson 5: Global Future of Energy

Lecture Videos

Quiz

Application

Cumulative

Final Quiz

Accessibility

This course has been designed with materials that are accessible to all students. If you require any additional accommodations, please contact eei@rice.edu

Honor Statement

It is expected that any assignment submitted by students is solely their own, original academic work, completed independently.