



Putting Knowledge To Work

# Energy Certificate Programs

Fall 2012 - Spring 2013 Programs



Our Energy Certificate Program offers you an in-depth look at the economics, strategy, business valuation and finance that is specific to the energy industry. It offers industry managers and executives a unique opportunity to improve their business acumen in an environment focused specifically on the complexities of their field. This certificate program is presented by Texas Executive Education, and features faculty from the McCombs School of Business, the College of Engineering, and the Center for Energy Economics.

## Key Benefits of the Series

- Understand the risk and operational implications of market prices of futures options contracts
- Incorporate and optimize above-ground risks
- Address links between physical properties and financial markets in value
- Use information from futures/options prices to make optimal production
- Discover the optimal timing for extraction and ideal rate at which to extract oil (gas) from a field
- Learn how to value oil fields, pipelines and storage facilities
- Optimize division-level and corporate-level price-quantity exposure
- Implement Value-at-Risk methods in energy
- Understand the stochastic behavior of commodity prices in the oil and gas markets
- Use structured products to enhance firm value; understand exotic structures unique to oil and gas
- Conduct basic valuation of energy assets and corporations including the valuation of capital investments; financing instruments and strategic investments
- Value a business by discounting cash flows and using comparables
- Value investments with embedded options
- Discover how financing choices affect valuation
- Understand the economic fundamentals of the energy industries and value chains
- Gain an understanding of electric power

Program Schedule	2012	2013
Economics & Technology of the Crude Oil, Natural Gas & LNG Value Chains	Sep 15, 2012	
Energy Finance	Oct 13, 2012	
Global Oil and Gas Accounting	Nov 10, 2012	
External Stakeholders, Ethics and Social Responsibility in Energy Markets		Jan 19, 2013
Introduction to Electric Power and the Economics & Technology of the Electric Power Value Chain		Feb 16, 2013
Decision and Risk Analysis in Hydrocarbon Exploration and Production		Apr 20, 2013
Business Valuation		May 4, 2013
Energy, Technology and Policy		Jun 1, 2013

## Energy Certificate Requirements

Participants must complete 6 of the courses to receive their Energy Certificate.

## Economics & Technology of the Crude Oil, Natural Gas & LNG Value Chains

This program is designed to provide an overview as well as advanced topics on global oil, natural gas and LNG value chains. Participants will discover the economics, technology, policy/regulatory issues and business strategies and trends that affect these value chains. Global market conditions, U.S. and international case studies, oil and natural gas market outlooks, and example project investments are used to illustrate and provide hands-on experience.

### Benefits

- Review key value chain economics, business, and technology features impacting investment projects
- Gain a perspective on strategic planning for governments and investors
- Understand the relationship between global energy balances, prices and investment cycles
- Learn the role technology and technological innovation play in the value chain

### Faculty

- **Gürcan Gülen, Ph.D.**, *Senior Energy Economist, Bureau of Economic Geology Center for Energy Economics*

<b>When:</b>	September 15, 2012
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**"Great stories and relevance to the subject. I liked the real world examples."**

*Lisa Lehman, Manager Of Land & Administration, DJ Resources, LLC, Houston, TX*



## Energy Finance

This training program is designed to provide participants with an in-depth understanding of energy finance by addressing three areas of finance in an energy context: pricing, asset valuation, and risk management.

The program will begin by placing energy markets in the context of global financial markets, and analyzing markets' reactions to the unfolding 2007 – 2009 international crisis. In so doing, we will develop participants' understanding of the energy markets, as well as how to model and forecast energy and forward/futures prices. The course will then focus on giving delegates an understanding of energy-related derivatives. Delegates will be taught the different derivative products and learn how to apply them in the energy markets to develop hedging and risk management strategies.

The course will then consider valuation and the application of option theory to energy related assets. By the end of the course delegates will leave with an understanding of the energy markets and how to measure and manage the financial risks created by volatile energy prices. In addition, delegates will gain the skills to accurately value energy assets and use derivatives to mitigate energy price risk.

This course will be invaluable for those involved in financial and quantitative analysis, valuation and structuring, and trading positions within major energy companies as well as people working within leading investment banks, consulting, and financial services firms.

### Benefits

- Understand international financial markets' reactions to the unfolding 2007 – 2009 crisis; Measure the nervousness/uncertainty of equity, credit and commodity markets
- Use financial models to analyze and forecast energy prices; extrapolate forward prices beyond the liquidity tenor
- Understand the risk of and return from futures and options contracts on energy commodities
- Manage and optimize corporations' energy risk exposure
- Estimate and calculate volatility in energy prices
- Apply option valuation techniques to the energy markets
- Understand and use derivative products to mitigate energy price risk; use structured products to enhance firm value; understand exotic structures unique to oil (e.g., average option) and gas and power (e.g., swing options, weather derivatives)
- Utilize real options theory to value energy assets; use information from futures/option prices to make optimal production decisions: Optimal timing for extraction, optimal rate at which to extract oil (gas) from a field; value oil fields, pipelines and storage facilities, power plants
- Apply Value-at-Risk to the energy industry

### Faculty

- **Ehud Ronn, Ph.D.**, *Professor of Finance*

<b>When:</b>	October 13, 2012
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

## Global Oil and Gas Accounting and Contracting Procedures

*“The world’s energy system is at a crossroads. Current global trends in energy supply and consumption are patently unsustainable - environmentally, economically and socially.”*

Report published by the International Energy Agency (IEA)

This program will present an examination of the current accounting and financial environment and how World Reserves, Consumption, Doing Business Internationally, Accounting Rules, Disclosures and Creditability all come into play. Participants will investigate the accounting and financial aspects of international oil and gas operations and gain a working knowledge of key oil and gas issues, techniques, practices and terminology. The program consists of the following parts: (i) Accounting for International Petroleum Operations, (ii) Accounting for International Contracts, and (iii) Financial Management, Planning and Analysis.

### Benefits

- Discover how to make better accounting and financial decisions
- Learn how we disclose the reserves and use the data for financial purposes
- Discuss the Major Contracts used on a world-wide basis and how they work
- Understand the Joint Venture Contracts and how they work
- Realize accounting issues, problems and solutions with regard to GAAP/SEC vs. Contract Accounting vs. Government Accounting and so on

### Faculty

- **W. Wayne Scott**, *Professor of Accounting*

<b>When:</b>	November 10, 2012
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**“Practical application, real world, timely examples.”**

*Tracie Williams, Manager, Internal Audit, GDF-Suez Energy International, Houston, TX*



## External Stakeholders, Ethics and Social Responsibility in Energy Markets

This program will examine the management of ethical, legal, political and cultural risks (and opportunities) associated with developing energy projects in emerging markets, including upstream and downstream oil and gas investments. We will focus on companies' social responsibility efforts, the management of relationships with external stakeholders, and how politics, culture and law structure companies' relationships with governments and other stakeholders in emerging markets.

### Benefits

- Learn how to manage your firm's relationship with external stakeholders, both governmental and nongovernmental
- Explore important social responsibility issues in the oil & gas industry, including environment, human rights, and governance
- Examine how law, politics and culture structure relationships with stakeholders
- Explore the law and politics of the siting process, including environmental permitting

### Faculty

- **David Spence, Ph.D.**, *Professor of Law, Politics and Regulation*

<b>When:</b>	January 19, 2013
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**"Kudos to Dr. Spence for a great class. He did a wonderful job of bringing content that's practical and instantly applicable. Group interaction was wonderful. I learned so much that I can immediately incorporate into my job and this program definitely added value."**

*Ernesto Alegria, Sr. Financial Analyst, Denbury Resources Inc., Plano, TX*



## Introduction to Electric Power and the Economics & Technology of the Electric Power Value Chain

Participants in this program will gain a working understanding of electric power. The program explores global electric power value chain economics, technology, policy/regulatory issues, business strategies and trends. Global market conditions, US and international case studies, oil market outlooks and sample project investments will be utilized for better understanding and hand-on experience.

### Benefits

- Understand and discuss technical issues in the electric utility industry
- Gain an understanding of the issues through analogies between electric power and familiar experiences
- Review key value chain economics, business, and technology features impacting electric power investment projects
- Gain a perspective on strategic planning for governments and investors
- Identify sources of political and business risk related to country risk assessment and risk management considerations
- Discover relationships between electric power value chains and economic development including drivers for global electricity supply-demand balances and prices
- Learn the role technology and technological innovation play in the electric power value chain

### Faculty

- **Ross Baldick, Ph.D.,** *Professor of Engineering*

<b>When:</b>	February 16, 2013
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**"Relevant. Solid content. Strong presentation. Dr. Baldick is a subject matter expert!"**

*Julie Stumpe, Controller, ABB, Jefferson City, MO*



## Decision and Risk Analysis in Hydrocarbon Exploration and Production

This program will present approaches for modeling decisions and uncertainties that arise in the context of oil and gas project management. These risks include those associated with estimates of hydrocarbon reserves and recovery rates, as well as those associated with the economic risks related to investment costs and oil prices.

This course will begin with a brief review of the ideas associated with risk analysis as it relates to the production of hydrocarbons over the life of an oil field. Next, we will review economic modeling, and then illustrate how these risks should also be incorporated into decision making in oil and gas investments. We will emphasize the use of information and of options to enhance economic value and to manage project risks. These ideas will be illustrated with examples and case studies. We will also demonstrate experience with some of the software tools that support the analysis of problems.

### Benefits

- Review economic modeling and understand how risks should be incorporated into decision making in oil and gas investments
- Understand how to frame the decision opportunity (decision hierarchies and strategy tables)
- Model complex projects with influence diagrams
- Learn how to do deterministic sensitivity analysis (Tornado Diagrams)
- Develop skills using decision trees as a means of structuring risky problems
- Learn how to use information and options to enhance economic value and to manage project risks
- Use provided examples and case studies to apply the concepts learned
- Use some of the software tools that support the analysis of risky decision problems (participants will be encouraged to use personal laptops)

### Faculty

- **Jim Dyer, Ph.D.**, *Professor of Information, Risk and Operations Management*

<b>When:</b>	April 20, 2013
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks



## Business Valuation

This course walks participants through the valuation tools and techniques used to estimate enterprise values as well as large-scale investments in power plants, refineries, and oil & gas development projects. The majority of the class will feature hands-on exercises using Excel and other add-in packages. The goal is to gain enough model building and interpretation skills to become an intelligent consumer of models encountered when valuing projects and companies.

### Benefits

- Learn how to construct discounted cash flow forecasts used to value the business enterprise
- Estimate the appropriate cost of capital for valuing projects that have different risks
- Carry out sensitivity analysis of valuation projects including break-even sensitivity and simulation

### Faculty

- **John C. Butler**, *Professor of Finance*

<b>When:</b>	May 4, 2013
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**"This was the best professor for giving examples! Theory of decision-making on projects was good."**

*George Peacock, Financial Advisor, Edward Jones Investments, Forth Worth, TX  
Attended Business Valuation*

**"I really enjoyed learning about real options. I also found the in-class working problems effective."**

*Jarrad Bourger, Senior Staff Analyst, ConocoPhillips, Houston, TX  
Attended Decision and Risk Analysis in Hydrocarbon Exploration and Production*



## Energy, Technology and Policy

Participants in this course will be provided with an overview of “The Big Picture: Energy & Society.” This fast-paced, information-packed session, will cover a range of topics beginning with “Basics and Fundamentals” and then delving into the part that energy plays in our environment, including “Energy and Water” and “Energy and Food.” Participants will explore how energy and energy policy affects culture and humanity and wrap up with a discussion on critical technologies of the future.

### Benefits

- Understand the central role energy plays in society
- Discover how energy is interconnected with other sectors
- Leave with a whole new view about energy

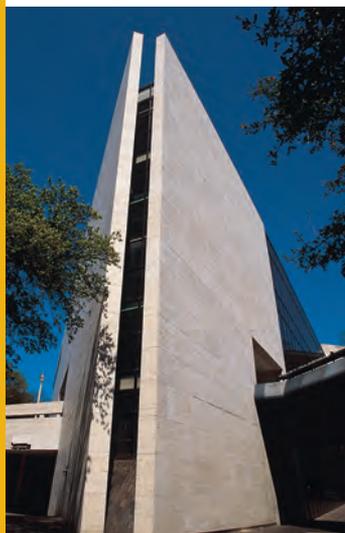
### Faculty

- **Michael Webber, Ph.D.**, *Co-Director of the Clean Energy Incubator and Associate Director of the Center for International Energy and Environmental Policy*

<b>When:</b>	June 1, 2013
<b>Where:</b>	The Houstonian Hotel, 111 North Post Oak Lane, Houston, Texas 77024
<b>Cost:</b>	Single program fee: \$1395   Certificate program fee: \$7350 Fee includes materials, lunch and breaks

**“Thorough teaching methods to apply concepts to real world scenarios that helped make the learning process a little easier.”**

*Laura O'Connor, Staff Financial Analyst, Anadarko Petroleum Corporation, Houston, TX  
Attended Energy Finance*



## Texas Executive Education

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Since 1955, innovative and timely executive programs have offered business professionals the insights and skills that enable them to lead, to think strategically and to manage change.

The reputation of the McCombs faculty is world-renowned. With nearly 200 members, the faculty includes scholars representing virtually all of the major management disciplines and functions. All are dedicated educators who conduct research in their respective disciplines, as well as serve as consultants and board members for leading corporations globally. And they bring this knowledge to the programs they design and teach.

### Custom Programs

We develop a unique curriculum with action-learning solutions that meet your specific goals. The topics, faculty, program structure and site are selected specifically to maximize learning and the effectiveness of the program for your organization. We provide complete program design, development and implementation services. Other services include development of promotional materials, customized program website and web-enhanced communication. Quality and customer benefits are key objectives for us and we constantly monitor the program content and delivery.

### Open Enrollment Programs

Our Open Enrollment Programs are specifically designed for working professionals, managers, leaders and executives who strive for professional and personal growth. Our programs strengthen the leadership and intellectual capacity of individuals and provide valuable learning for their organizations.

The strength of Texas Executive Education's excellence is the capability and flexibility to provide business leaders and executives educational programs that offer new perspectives, powerful ideas and innovative solutions to succeed in today's and tomorrow's business environments.

## Contact

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**To register online, please go to:**

<https://www.mcombs.utexas.edu/execed>

**To register by phone, please call:**

800.409.3932 (or) 512.475.6430

**To register by email, please email:**

[ExecEd@mcombs.utexas.edu](mailto:ExecEd@mcombs.utexas.edu)

**For additional program information, please contact:**

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