## Goals/Aims

1. Students should be equipped with some tools and methods of economic analysis that will serve as the basis for a more advanced course of study in microeconomic theory.
2. The non-specialists economics student should have a good introduction to the application of fundamental principles of microeconomics.
3. Both specialist and non-specialist economics students should be able to use the concepts to which they are introduced to facilitate analysis of the functioning of the micro-economy, inclusive of those in the Caribbean.
General Objectives
At the end of the course students should:

- Have a greater awareness of the Petroleum Value chain
- Appreciate the critical contribution of energy to our domestic economy
- Appreciate the role of the energy industry in the global economy

Topic or Unit Objectives

Unit 1 Introduction to the Petroleum Industry
Students should be able to:

- Identify different approaches to classifying petroleum
- Explain the different types of petroleum Reserves
- Define key industry terms
- Compare and contrast global consumption patterns

Unit 2 The Exploration and production business
Students should be able to:

- Identify the components of the E & P value chain
- Explain the different components of the E & P cost structure
- Evaluate the legal arrangements underlying E & P operations

Unit 3 The International Oil Market
Students should be able to:

- List the major players in the international petroleum market
- Identify the drivers of oil demand
- Examine the role of OPEC in the market
- Evaluate the issues affecting refinery profitability
- Perform simple valuations of crude delivered to a refinery

Unit 4 The Natural Gas Business
Students should be able to:

- Identify the components of the Natural Gas value chain
- Describe and evaluate the key features of Natural gas contracts
- Appraise the different approaches to Natural Gas Pricing
- Examine the regulatory issues confronting the industry

Unit 5 The LNG Industry
Students should be able to:

- Identify the characteristics of the LNG Industry
- Evaluate the supply/demand outlook for LNG
- Critique the role of the Organization of Gas Exporting countries
Assignments
Students will complete three assignments during the semester. The first a Quiz is designed to indicate the extent of mastery of the first two units of the course. The second assignment –an Essay provides an opportunity to practice the analysis of industry issues. Finally a problem sheet will provide practice in the simple quantitative issues covered during the semester.

Course Assessment
Assessment is designed to establish the student understanding of the material and the ability to critically energy matters and issues. Students will be assessed on the following basis:

Evaluation
Course Work 25%
- Course Work Quiz 1: Multiple choice questions covering Units 1 and 2: 5%
- Course Work Essay covering Unit 3: 10%
- Course Problem Sheet covering Units1-5: 10%

Final Examination: 75%.
This examination will be two and a half hours long and consist of five essay questions of which students will be required to select three questions.

Teaching Strategies
Students will have three (3) contact hours for lectures weekly.

- Wednesday 8-11 a.m. (FSS 102 W)

Lectures will be delivered with the aid of power point presentations. Student participation will be encouraged and students are advised to read assigned material before the scheduled class, so that they can participate meaningfully in the class discussion.
Familiarity with the physical oil and gas environment is a useful aid to understanding theoretical concepts and commercial realities of the sector. To this end arrangements will be made for the students to benefit from a guided tour of major oil and gas facilities, including Point Lisas Industrial Estate and Petrotrin

Resources
Recommended books for reference
Richard Seba: Economics of World Wide Petroleum Production
Trevor Boopsingh: Oil and Gas Development – A view from the South 1988
French Institute for Petroleum Publications: Oil and Gas Exploration and Production, 2001
Julius De Anne and Afsanah Mashayeki The Economics of Natural Gas: Pricing Planning and Policy
# Readings

**Unit 1 Introduction to the Petroleum Industry**

- *Essential*  + *Recommended*

## Unit 1 Exploration and Production of Oil and Gas

- *Trevor Boopsingh: Oil and Gas Development – A view from the South* 1988 Chap 3.4.
- *French Institute for Petroleum Publications; Oil and Gas Exploration and Production* 2001 Chap.3, 4 and 5.
- *Robert Schmelzlee and Hussein K. Abdel – Petroleum Economics and Engineering; An Introduction 1978* Chap. 2.6 and 7

## Unit 3 Oil Market Fundamentals

- *Mamdouh G. Salameh China’s Global Oil Diplomacy Benign or Hostile* IAEE Newsletter Quarter 1, 2010
- *Victor Koosh Market Dynamics can be Challenging* Oil and Gas Financial Journal, January 2009
- *Bassam Fattouh The Drivers of Oil Prices: The Usefulness and Limitations of Non-Structural model, the Demand–Supply Framework and Informal Approaches* Oxford Institute for Energy Studies, OIES, 2007
- *OPEC - Monthly Oil Market Report* www.OPEC.org

## Unit 4 Natural Gas Industry Fundamentals

- *Natural Gas Supply Association – Natural gas.org* www.naturalgas.org Section 1, 2.5
- *National Gas Company of Trinidad and Tobago Limited – Gasco News. Special Anniversary Editions 22nd. and 30th.*
- *AM Samsam Bakhtiari: The Price of Natural Gas* OPEC Review Dec2001
### Unit 5 The LNG Industry

* EIA The Global LNG Market EIA 2003
* Petroleum Economist. **Fundamentals of the Global LNG Industry Sections 2.15.13;5.15;6.3;6.10**
* Centre for Liquefied Natural Gas [www.lngfacts.org](http://www.lngfacts.org)
* Julius De Anne and Afsanah Mashayeki **The Economics of Natural Gas: Pricing Planning and Policy Chaps 1-3**

### Course Calendar**

<table>
<thead>
<tr>
<th>Date /Week</th>
<th>Topic/Lecture</th>
<th>Assignment Due</th>
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<tbody>
<tr>
<td>Sept 8</td>
<td>1. Introduction to the Petroleum Industry</td>
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<tr>
<td>Sept 15</td>
<td>2. Overview of the Trinidad Industry, Concepts and measurement</td>
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<td>Sept 22</td>
<td>3. Introduction to the Exploration and Production (E &amp; P) business, Legal</td>
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<td>Sept 29</td>
<td>4. E &amp; P Costs</td>
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<td>Oct 6</td>
<td>5. Investment Decisions and Costs</td>
<td>Quiz</td>
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<td>Oct 13</td>
<td>6. Tour of Facilities /Guest Lecture</td>
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<td>Oct 20</td>
<td>7. The International Petroleum Market –Supply, Demand Drivers</td>
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<td>Oct 27</td>
<td>8. The International Petroleum market- Understanding Prices</td>
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<td>Nov 3</td>
<td>9. Refining Economics and Product markets, Oil and Gas Transportation</td>
<td>Essay</td>
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<td>Nov 10</td>
<td>10. The Natural Gas value Chain</td>
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<td>Nov 17</td>
<td>11. The Natural gas market- Key issues, contracts, pricing</td>
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<td>Nov 24</td>
<td>12. The LNG Business</td>
<td>Problem sheet</td>
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<td>Dec 1</td>
<td>13. Revision Lecture</td>
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<td>Dec</td>
<td>14. Final Examinations</td>
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Additional Information

Students are reminded of the University’s Examination Regulations for First Degrees, Associate Degrees, Diplomas and Certificates including GPA Regulations:

97. (i) Cheating shall constitute a major offence under these regulations.
(ii) Cheating is any attempt to benefit one’s self or another by deceit or fraud.
(iii) Plagiarism is a form of cheating.
(iv) Plagiarism is the unauthorized and/or unacknowledged use of another person’s intellectual effort and creations however recorded, including whether formally published or in manuscript or in typescript or other printed or electronically presented form and includes taking passages, ideas or structures from another work or author without proper and unequivocal attribution of such source(s), using the conventions for attributions or citing used in this University.

103. (i) If any candidate is suspected of cheating, or attempting to cheat, the circumstances shall be reported in writing to the Campus Registrar. The Campus Registrar shall refer the matter to the Chairman of the Campus Committee on Examinations. If the Chairman so decides, the Committee shall invite the candidate for an interview and shall conduct an investigation. If the candidate is found guilty of cheating or attempting to cheat, the Committee shall disqualify the candidate from the examination in the course concerned, and may also disqualify him/her from all examinations taken in that examination session; and may also disqualify him/her from all further examinations of the University, for any period of time, and may impose a fine not exceeding Bds$300.00 or J$5000.00 or TT$900.00 or US$150.00 (according to campus). If the candidate fails to attend and does not offer a satisfactory excuse prior to the hearing, the Committee may hear the case in the candidate’s absence.”

Grading System

The University grading system will be followed.

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