### Course Description

ECON 3068 – Energy Economics II. This course is tailored for the student desiring an understanding of the relationship between the energy sector and the wider economy. It covers additional topics in Energy Economics, with emphasis on tracing the macroeconomic impact and implications of energy sector decisions. Topics to be covered include oil price shocks and the global economy, the problems associated with managing resource generated wealth, transparency, resource based industrialization, depletion policy and environmental issues.

### Purpose of the Course

The course is intended to lead students to an appreciation of the role of the energy industry in the national and global economies and the issues associated with managing resource based economies.

### Instructor Information

- **Name of instructor(s)** - Michael John
- **Office address and phone** - Mobile 771-0904
- **E-mail address** - Michael.john@sta.uwi.edu, mikezachjohnm@gmail.com
- **Office hours** - To be advised
- **Communication policy** - preferred method of contact - E-mail

### Goals/Aims

To provide students with the analytical tools to facilitate the overall understanding of the energy sector

### General Objectives

At the end of the course students should:

- have a greater appreciation of how energy drives the global and local economy, and
- Appreciate the challenges of transformation beyond the dominance of energy sector.
- Issues of resource management, Climate change mitigation and adaptation and energy

### Introduction: Introducing Energy Economics II

- **Energy Management Overview**
- **Global Issues**

### Unit 1 Global Energy Challenges

**Oil Price shocks and the global economy**

Students should be able to:

- Compare and contrast the different approaches to oil pricing
- Classify and explain the types of oil price shocks
- Analyze the impact on different economies
- Critique the policy responses
- Compare the different approaches adopted
- Critique the solutions applied by different states

### Readings

- **Ali Hussain**: *The Long Term Benefits of Higher Oil Prices* Middle East Economic Survey Vol. LVII. No.11 March 2005
- **Berument, M. Hakan; Ceylan, Nildag Basak; Dogan, Nukhet**: *The Impact of Oil Price Shocks on the Economic Growth of Selected MENA Countries*. Energy
Journal, 2010, Vol. 31 Issue 1, p149-176, 29p;
Fattouh, Bassam: An anatomy of the crude oil pricing system, Oxford Institute for Energy Studies, 2011
--------------------- The causes of crude oil price volatility, Middle East Economic Survey 58(13), http://www.mees.com/postedarticles/oped/v48n13-5OD01.htm 2005
Kilian, Lutz: Not All Oil Price Shocks Are Alike: Disentangling Demand and Supply Shocks in the Crude Oil Market, American Economic Review 2009, 99:3, 1053–1069
IMF The Impact of Higher Oil Prices on the Global Economy; IMF research Department 2004. **
Jacquinot, Pascal; Kuismanen, Mika; Mestre, Ricardo; Spitzer, Martin: An Assessment of the Inflationary Impact of Oil Shocks in the Euro Area. Energy Journal 2009 Vol.30 Issue 1
Maysoun An Bar: Impact of Soaring Oil prices on the World Economy, Al Hyat 23/1/06*
OECD Oil Price Developments: Drivers, Economic Consequences and Policy Responses ; OECD Economic Outlook No. 76 Dec 2004.***
http://www.rbs.com/content/media_centre/rbs_and_the_economy/downloads/world/oil_prices.pdf
Williams, James L: The Coming Oil Crisis. Oil and Gas Journal Feb. 2003.**
• Describe the patterns of Caricom energy use
• Explain the energy challenges facing the Caricom States

Readings
Eastern Caribbean Gas Pipeline Company The Eastern Caribbean Gas Pipeline: Presentation to the Trinidad and Tobago Chamber of Industry and Commerce
Farrell, T Caricom Oil Market UWI St. Augustine 1982*
Government of Jamaica / Venezuela Petrocaribe Agreement; September 2005.***
McGuire G Caricom Impotence on LNG dispute. Mimeo August 2005**
Tewarie, Bhoendradatt Impact of High Oil Prices on OECS region Address to South Chamber Trinidad and Tobago Petroleum Congress; February 2005.*
Wood, Anthony The Case Against Petrocaribe. Barbados Advocate News; 18/9 05

Unit 3 Petroleum and the macro economy-Concepts
Students should be able to:
• Explain the role of natural resources in economic development
• Analyze the impact on different economies
• Identify the key theoretical perspectives on resource based economies
• Compare and contrast the various theoretical perspectives
• Critique the various policy prescriptions of these perspectives

Readings
Arezkia Rabah,* and Frederick van der Ploeg, Trade policies, institutions and the natural resource curse, Applied Economics Letters, 2010, 17, 1443–1451
Best L and St. Cyr, Modelling the Trinidad and Tobago Economy, Staff paper Trinidad and Tobago Institute of the West. Indies -2004
Best, Lloyd and Kari Levitt, Critical Review of the contributions of W.A. Lewis and Dudley Seers to Issues of Industrialization and Employment in the Caribbean in Essays on the Theory of the Plantation Economy UWI Press 2009 Ch. 8
Jobity, R Impact of Natural Gas on the Trinidad and Tobago economy Gasco News, Vol 17.No.2
Di John, Jonathan, Is there really a resource curse Global Governance 17(2011), 167-184
Macartan Humphreys, Jeffrey D. Sachs, and Joseph E. Stiglitz, Escaping the resource curse Chapter 1 & 12 Escaping the Resource curse.
Pantin Dennis, Governance in Natural Resource Based Rentier Economies in the Caribbean in Pantin (ed.) The Caribbean Economy- A Reader Ch. 28
Seers, Dudley The Mechanism of the Open Petroleum Economy, S.E.S also in Pantin (ed.) The Caribbean Economy- A Reader Ch. 6
SEMP What is a Rentier State ( Mimeo)
St Cyr, Eric, Some Fundamentals in the Theory of Caribbean Economy in Pantin (ed.) The Caribbean Economy- A Reader Ch. 7
Van der Ploeg Natural Resources: Curse or Blessing? Journal of Economic Literature 2011, 49:2, 366–420

Unit 4 The Challenge of macroeconomic management in Oil and Gas exporting economies

Students should be able to:

• Compare the economic management strategies of different oil and gas exporting states
• Explain the concepts of the resource curse thesis and Dutch disease
• Analyze the approaches of economies viewed as escaping the curse
• Critique the different approaches to the management of resource rents
• Evaluate the merits and demerits of Heritage Funds

Readings
Auty R, and A Gleb Oil windfalls in a small parliamentary democracy their impact on Trinidad and Tobago (1986) World Development, Vol.14, # 9,
Davis, JM (ed.). Fiscal Policy Formulation and Implementation in Oil Producing Countries. IMF 2003
Devlin Julia and Michael Lewin Managing Oil Booms and Busts in Developing Countries in Managing Volatility and Crises - A Practitioner's Guide
Jahangir Amuzurgar: Managing Oil Wealth: OPEC'S Windfalls and Pitfalls.
Jeffery Davis et al Stabilization and Savings Funds for non-renewable resources, experience and fiscal policy implications International Monetary Fund: Washington DC. 2001
Karl, Terry Lynn, The Paradox of Plenty: Oil Boom and Petro states (University of California Press 1997.)
Karl, T and Ian Gary The Global Record Foreign Policy in Focus, Petro Politics Special Report Jan. 2004
Stevens Paul Contractual Arrangements and Revenue Management: The UK/Scotland and Norwegian Experience, Global Governance 17(2011), 149-153
Velculescu Delia and Saqib Rizavi Trinidad and Tobago: The Energy Boom and Proposals for a Sustainable Fiscal Policy, IMF Working Papers, October 2005

Unit 5 The Petroleum Sector and Industrial Strategy

• Production possibilities from gas.
• Resource based industrialization revisited.
• Creating sustainability from oil and gas: options and constraints-Local content and participation

Students should be able to:

• Explain the concept of resource based industrialization
• Appraise the history and significance of national ownership of energy resources in
Trinidad and Tobago
• Critique the policy of Local content and participation

Auty, R.M. Resource -based industrialization; Sowing the oil in eight developing countries, Clarendon Press, New York 1990
Barclay, L FDI Facilitated Development ; The case of the Natural Gas Industry in Trinidad and Tobago. (Mimeo) UWI Mona 2003
Farrell, TMA Worship of the Golden Calf. An oil exporters Industrial Strategy , Technology Policy and Project Planning in the Boom Years, Dep’t Economics UWI St Augustine 1987
McGuire G. Natural Gas as the Motor of Economic Development. Gasco News Vol. 14# 3
Motley Wendell, Trinidad and Tobago Industrial policy 1958-2008 Chapters 1,2 and 3.
Pantin Dennis , Industrial Policy in the Caribbean in a time of Liberalization, Globalization and regional blocs in Pantin (ed) The Caribbean Economy- A Reader Ch 27
Punnett, C and John B. The philosophical and policy underpinnings of the local Natural Gas Industry. Gasco News Vol.14# 3
Ram Justin Rates of Return: Can Natural Resources Sustain Wealth? Pantin (ed.) The Caribbean Economy- A Reader Ch. 12

Unit 6 Energy Policy Issues
1. Energy Independence and Depletion policy
2. Environmental Issues:
   o Climate change and the energy sector
   o Kyoto Protocol
   o Alternative Energy
3. Governance Issues; Extractive Industries Transparency Initiative
4. Energy sector regulation

Students should be able to:
• Explain the concepts of depletion, Energy dependence, Peak oil
• Evaluate the Extractive Industries Transparency Initiative
• Analyze the impact of the energy sector on climate change
• Critique the impact adaptation and mitigation strategies on energy and the economy
• Explain the main approaches to regulation.


Painuly, Jyoti *The Kyoto Protocol, Emissions Trading and the CDM: An analysis from Developing Country Perspective*. IAEE Journal Volume 26 # 3


### Assignments
Students will complete three assignments during the semester. Each student must deliver two tutorial presentations on questions from the tutorial sheets. The second assignment—an Essay provides an opportunity to practice the analysis of industry issues. Thirdly, students will be involved in a group project to be completed three weeks before the teaching ends.

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

- **Course Work** 40%
  - Course Work Quiz 1: Multiple choice questions - 5%
  - Course Work Essay covering Unit 4: - 10%
  - Presentations of tutorial questions Units 1-6: - 5%
  - Group Project 20%

- **Final Examination**: 60%. 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
**CLASS FORMAT**
Students will have two (2) contact hours for lectures weekly

- Lecture time - Thursday (SAC R-73), 5.00-7.00 p.m.

**Lectures**
This is a lecture discussion course. Student participation is encouraged and expected. Students are encouraged to read assigned material before the scheduled class, so that they can participate meaningfully in the class discussion. From time to time additional readings may be added to the course as may be deemed to be relevant and necessary.

**GROUP PROJECT**
The group project will be used an a learning tool facilitation discovery and practice in analysis of energy issues.
**Tutorials**

Students will have one (1) contact hour for tutorials weekly. Tutorials will normally begin two weeks after lectures. Please check the notices posted at the Department of Economics for further information.

Tutorial sheets are designed to help students internalize and apply concepts taught during the lectures. It is expected that students will complement material covered in the lecture sessions with use of the recommended references. Students will be provided with tutorial questions which they are required to prepare before the weekly tutorial session. Every effort should be made to complete each tutorial sheet and please ensure that you prepare the tutorial questions to maximize your benefits from the tutorials. Each student will be expected to deliver at least one (1) tutorial presentation and maintain a minimum of 75% tutorial attendance.

**Recommended Resources**

- IPCC Fourth Assessment Reports- The AR 4 Synthesis Report

**Additional Information**

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

19. Any candidate who has been absent from the University for a prolonged period during the teaching of a particular course for any reason other than illness or whose attendance at prescribed lectures, classes, practical classes, tutorials, or clinical instructions has been unsatisfactory or who has failed to submit essays or other exercises set by his/her teachers, may be debarred by the relevant Academic Board, on the recommendation of the relevant Faculty Board, from taking any University examinations. The procedures to be used shall be prescribed in Faculty Regulations.

[This regulation (19) will be enforced. Students failing to attend a minimum of 75% of the tutorial classes will be debarred from taking the final Examination. Consequently, students are strongly advised to promptly bring to the attention of their Tutors/Lecturer evidence of extenuating circumstances that prevent them from attending tutorial class/lectures. Evidence of such circumstances will not be accepted at the end of the semester when the list of students to be debarred in this course is published.]

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 howsoever 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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<th>Grade</th>
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Course Calendar

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<td>Jan. 25</td>
<td>Course Overview – Analysis and Thought</td>
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<td>Feb 1</td>
<td>Oil and the global economy – GDP Intensity, oil shocks Impact and policy responses</td>
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<td>Oil and the global economy- Impact and policy responses</td>
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<td>Feb 15</td>
<td>Caricom Energy problems and responses – San Jose to Petrocaribe. LNG</td>
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<td>Feb 22</td>
<td>Petroleum and the macro economy – Concepts and issues</td>
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<td>Petroleum and the macro economy - Applications</td>
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<td>March 7</td>
<td>Macroeconomic management in oil producing states I - challenges</td>
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<td>March 14</td>
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<td>Oil and gas and Industrial Strategy I Resource based industrialization</td>
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<td>March 28</td>
<td>Oil and gas and Industrial Strategy II- Sustainability</td>
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<td>Energy Policy Issues –Dependence Depletion and Governance</td>
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<td>Energy Policy Issues –The Environment,-Kyoto, Climate Change and Alternative energy</td>
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<td>Revision Lecture</td>
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December 12, 2011