



LEAD CITY UNIVERSITY
Faculty of Social and Management Sciences
Department of Economics

COURSE PARTICULARS

Course Code: ECO 416
Course Title: Energy/Petroleum Economics
Number of Units: 2
Status: Compulsory

LECTURER DETAIL

Name: Mrs. Aderinto, E. R.
Qualifications: B.Sc & M.Sc (Econs)
Phone: 08021413839
Email: esthercareer@yahoo.com
Area of Specialization: Energy Economics and Development Economics

COURSE DESCRIPTION

Theory of firm: production, classical and other theories; organization, structure, characteristics and role of the energy/petroleum/gas industries; its price and output determination; natural monopolies; externalities, environmental pollution and problems of natural resource depletion and resource and pricing; analysis of global institutions: energy markets, supplies and other market institutions; energy policy formulation in Nigeria; Nigerian gas development, deregulation, liberalization, transmission, generation and distribution, management, development and politics of energy and international experience.

COURSE OBJECTIVES

At the end of the course, the students should be able to have a clear understanding energy and its multidimensional interactions. The students should also be able to

- describe current energy market trends and relate current conditions to historical market performance;
- explain skillfully basic oil market and gas market dynamics focusing on consumer and producer responses to prices;
- evaluate economics projects for oil or gas resource and produce a report in a standard format;
- explain concepts fundamental to the economics of natural resources; and
- discuss the use of economic approaches to environmental regulation

ASSESSMENT

Continuous assessment tests	30 marks
Exam	70 marks
Total	100 marks

LECTURE PLAN

Week	Topic
Week 1:	Introduction to Energy Economics Energy and Multidimensional Interactions
Week 2:	Energy Basics Classifications of Energy Introduction to Energy Systems
Week 3&4:	Energy Markets I Energy Markets and Principles of Energy Pricing Introduction: Basic Competitive Market Model Extension of the Basic Model
Week 4&5:	Energy Markets II Sources of market failure Solution to Natural Monopoly Role of government in energy sector
Week 6&7:	Classical oligopoly- non collusive oligopoly Collusive oligopoly- cartels Collusive oligopoly-price leadership
Week 8:	Energy Investment Decisions Crude Oil Value Chain
Week 9:	Natural gas markets and price Nigerian gas development
Week 10:	Natural resource and environmental issues
Week 11-12:	Energy policy formulation in Nigeria

READING LISTS

Bhattacharyya, Subhes C. (2011) 'Energy Economics Concepts, Issues, Markets and Governance' Springer London and Dordrecht Heidelberg New York

Bosselman, Elsen, Rossi, Spence & Weaver (2006), Energy, Economics and the Environment: Cases and Materials, Foundation Press, 2nd Edition

Conaway, C. F. (1999), The Petroleum Industry: A Non-Technical Guide, Penn Well

Koutsoyiannis, A. (2006), Modern Microeconomics, MacMillan Press Ltd, 2nd Edition

TUTORIAL QUESTIONS

- 1 (a) What is a cartel?

(b) Explain the obstacles that prevent OPEC from collusion

(c) How does a cartel maximize joint profits?
2. The conceptual framework for an energy policy process are full of critical activities. Discuss.
3. Can Nigeria produce and use energy in ways that guarantee sustainable energy security, socioeconomic and environmental development? Discuss.
- 4.a) The crude oil value chain begins with exploration and ends with distribution. Explain the various activities involved in this value chain.

b) Distinguish clearly between:
 - i) Associated and Non- associated gas.
 - ii) Wet and dry gas.
- 5) (a) Write a short note on energy and energy economics.
(b) State the laws governing energy flows in physical sciences.
(c) What are the different classifications of energy globally? Explain them.
6. a) Discuss the factors responsible for market failure in the context of the energy sector.

b) Is government intervention always necessary or sufficient to control these failures?
c) What factors have hindered the smooth transmission and distribution of gas in Nigeria?
7. Explain the following concepts in relation to the energy industry:
 - (a) Present Worth Index
 - (b) Present Worth Payout
 - (c) Net present value
 - (d) Internal rate of return
8. a) Why is natural gas referred to as the green choice?
b) How is gas measured and priced for sales?
c) Explain the different classifications of natural gas delivery.
9. In measuring profitability of and performance in petroleum industry, there are four popular criteria.
 - (a) List these criteria

- (b) Discuss in details all of these criteria
10. (a) Explain the main characteristics of an oligopolistic market
(b) What are the alternative solutions to the problem of natural monopoly?
11. (a) Nigeria has come up with energy policy, do we really need this in Nigeria?
(b) What are the objectives of energy policy?
12. (a) Nigeria's overdependence on oil at the neglect of other sectors cannot be overemphasized; thereby making Oil revenue the largest proportion of the country's total revenue. As an energy economist, what in your own opinion is the economic implication of the fall in global oil price on the Nigerian economy?
(b) What measures can the government put in place to cushion this effect on the Nigerian economy, as Saudi Arabia, Libya and Iraq keep supplying 14.5 million barrels per day, despite the fall in price?
(c) Is there any political undertone associated with the ineffectiveness of OPEC in bringing up the price of oil?

