Faculty of Economics & Political Science

Energy Economics

Information :

Course Code :	ECO 306	**Level** :	Undergraduate	**Course Hours :**	3.00- Hours

Department :	Department of Economics

Instructor Information :

Title	Name	Office hours
Lecturer	Fawzia Ahmed Abdelhamid Ibrahim	3

Area Of Study :

This course focuses on the basic economic concepts in energy production through studying the economic theories, empirical perspectives and political economy viewpoints. It discusses aspects of local, national and global markets and institutions for oil, natural gas, coal, electricity, nuclear power and renewable energy. It explores public policies such as taxation, the pricing decisions and the efficiency in energy usage.
Course Goals:
• Understand global, international, national, regional issues of the most vital sector of the economy from energy economics perspective
• Estimate and analyse how economic variables are related to energy economics.
• Evaluate the energy market, the different energy policies, and the different types of energy.
• Recognize how humans affect global flows of energy and materials and to interpret the ways in which such flows are currently and prospectively a challenge for sustaining the Earth's life-support capability and social cohesion.
• Understand the thermodynamic, technological, geological and biological options for changing the character of these flows.
• Develop mathematical, graphical, and research skills in understanding microeconomics.
• Understand the ways in which different areas of Economics relate to one another.
• Appraise the potential implications of options from an ecological, economic, and social perspective, institutional and policy mechanisms for implementing new options.
• Demonstrate how economics of energy is beneficial in understanding modern economic problems arising worldwide.
• Appraise how the laws of Economics are developed along with the relevance of Economics to society.

Description :

This course aims at understanding the basic economic concepts in energy production through studying the economic theories, empirical perspectives and political economy viewpoints. It discusses aspects of local, national and global markets and institutions for oil, natural gas, coal, electricity, nuclear power and renewable energy. It explores public policies such as taxation, the pricing decisions and the efficiency in energy usage.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Identify economic principles related to energy resource classification, energy markets and institutions for selected resources such as petroleum.
2 -	Observe the rationale behind the use of energy.

3 -	Comprehend the importance of using economic theories in determining optimal price and use of different types of energy resources both in the current period and in the long run.
4 -	Show sound knowledge of the role of energy towards economic and social development, the different energy policies both locally and globally.
5 -	Understand simple mathematical, verbal and diagrammatic methods of analysis.
6 -	Investigate alternative economic policy responses.
7 -	Recognize the importance of research in understanding microeconomics in the real world.

b.Intellectual Skills: :

1 -	Subdivide concepts such as opportunity cost, equilibrium and incentives in evaluating the allocation of resources in energy supply and the reduction of harmful emission.
2 -	Analyze empirical data, policies, concepts, arguments and theories.
3 -	Link energy economics with other social branches to facilitate the decision making process.
4 -	Articulate understanding through independent reading, group discussion and written communication.
5 -	Interpret key economic principles to various practical and policy issues.
6 -	Examine different microeconomic data analysis techniques in analyzing and interpreting international economic phenomenon such prose, tables, and graphs.
7 -	Be able to assess the role and impact of government intervention.

c.Professional and Practical Skills: :

1 -	Conduct economics models along applicable for the energy market.
2 -	Contribute in decision making by acquiring important skills in numeracy, literacy, and information processing.
3 -	Conduct profitability and cost-benefit analysis evaluations to analyze energy.
4 -	Use both qualitative and quantitative skills in solving economic problems.

d.General and Transferable Skills: :

1 -	Experience with conceptual frameworks effective for problem solving and decision making.
2 -	Acquire analytical reasoning skills, numeric and clear effective communication skills.
3 -	Test the ability of students to work under pressure and as part of a team.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introductory lecture and course outline - The Energy Story	3	1	
Energy Markets	3	1	
Energy policy	3	1	
Energy Subsidy	3	1	
Energy Security	3	1	
Energy Intensity	3	1	
Midterm		1	
Solar Power	3	1	
Renewable Energy	3	1	
Peak Oil and Global oil Pricing Systems	3	1	

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Nationalization of Oil Supplies	3	1	
Reserves and Prospective on long term system	3	1	
Food vs. Fuel	3	1	
Environment and Energy Perspective	3	1	
Final Exam		1	

Teaching And Learning Methodologies :

Demonstration videos

Presentation

Simulations

Debates

Group discussion

Research Paper

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Class participation and Attendance & Quizzes	10.00		assess understanding & theoretical background of the intellectual and practical skills.
Final Exam	40.00	15	assess knowledge and intellectual skills.
Midterm Exam	30.00	7	assess professional skills.
Research paper	20.00		

Recommended books :

K. Uno, K. Economy – Energy – Environment Simulation: Beyond the Kyoto Protocol. Springer, 2013.

Periodicals :

J. Moroney. Energy Supply and Demand: Advances in the Economics of Energy and Resources, Jai Press, 2007.

http://www.fue.edu.eg