

<b>OGOG 7006</b>	<b>Oil &amp; Gas Economics</b>	L	T	P	C
<b>Version 7.0</b>		4	0	0	4
<b>Pre-requisites/Exposure</b>	Graduate in any economics field/ Developing insights on oil and gas market				
<b>Co-requisites</b>	--				

### Course Objectives

The objective of this course is to :

1. The students shall learn the concepts related to the fundamentals of economics of oil and gas.
2. The students would develop their analytical skills in dealing with the economics scenarios, facts, statistics and associated developments.
3. This would enable the students in understanding and assimilating the situations and forecasting and finding reasons.
4. The application of the understanding would help them in making constructs and inferencing.
5. This would help in integrative way to make the efforts of working productive and in meeting the all round goals and also developing their personal personality levels and skills.

### Course Outcomes

- CO1:** Students will demonstrate strong conceptual knowledge of economic theory in the context of renewable and non-renewable energy sectors
- CO2:** Students will demonstrate effective understanding of economics as it is applicable to energy markets, energy pricing, energy trading and risk management.
- CO3:** Students will demonstrate analytical skills in designing solutions for energy efficiency.
- CO4:** Students will exhibit the ability to evaluate working of energy policies
- CO5:** Students will have domestic and global perspective towards legal frameworks and environmental regulations with respect to energy sectors.
- CO6:** Students will exhibit deployable skills pertinent to the renewable and non-renewable energy sectors.

### Catalog Description

This course is designed to make student build a common understanding as to the economic feasibility of the exploration, drilling and production projects

### Course Content

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**Unit I:**

**8 lectures hours**

Introduction to what is oil and gas, hydrocarbons and what is the global scenario? Which are the largest producers of oil and what are the trends?, Oil price theories. What is net back pricing?

**Unit II: 8 lecture hours**

Oil and Gas drilling and Exploration: Exploration process, drilling, completion, well stimulation

**Unit III: 8 lecture hours**

Management and Evolution of upstream assets, mega projects, trends, key challenges, issues, strategies

**Unit IV: 8 lecture hours**

Resource Mercantilism; China’s Quest for African Energy, The United States in the Gulf, Geopolitics in the Arctic

**Unit V: 8 lecture hours**

Midstream: overview, project planning, execution, infrastructure challenges, transportation challenges

**Unit VI: 8 lecture hours**

Global oil and gas market scenario, companies’ strategies across value chain, geopolitics

**Reference Books**

- Bhattacharyya, S. C. (2011). *Energy economics: concepts, issues, markets and governance*. Springer Science & Business Media.
- Diwan, P., & Patra, D. C. (2008). *Where is Oil in National Reforms*. Excel Books India.
- James, T. (2003). *Energy price risk*. Palgrave Macmillan.
- Edwards, D. W. (2010). *Energy trading & investing: Trading, risk management, and structuring deals in the energy markets*. McGraw-Hill.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination Examination Scheme:**

Components	CE			ESE
	Group presentations/ Project	Written assignment	Case study & Class Participation	
Weightage (%)	10	10	30	50

**Program Outcomes (POs)**

<b>PO 1</b>	Students will be able to develop and evaluate alternate managerial choices and identify optimal solutions
<b>PO 2</b>	Students will demonstrate effective application capabilities of their theoretical understanding of economics theories – Microeconomics, Macroeconomics and

	trade theories to the renewable and non-renewable energy sectors.
<b>PO 3</b>	Students will exhibit effective decision-making skills, employing analytical and critical thinking ability
<b>PO 4</b>	Students will demonstrate effective oral and written communication skills in presenting frameworks, models and regulations of the energy sector
<b>PO 5</b>	Students will be able to work effectively in teams and demonstrate team-working capabilities.
<b>PO 6</b>	Students will exhibit leadership and networking skills.
<b>PO 7</b>	Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in energy economics.
<b>PO 8</b>	Students will demonstrate employability traits in line with the needs of changing dynamics of renewable and non-renewable energy sectors
<b>PSO 9</b>	Students will demonstrate strong conceptual knowledge of economic theory in the context of renewable and non-renewable energy sectors
<b>PSO 10</b>	Students will demonstrate effective understanding of economics as it is applicable to energy markets, energy pricing, energy trading and risk management
<b>PSO 11</b>	Students will demonstrate analytical skills in designing solutions for energy efficiency
<b>PSO 12</b>	Students will exhibit the ability to evaluate working of energy policies
<b>PSO 13</b>	Students will have domestic and global perspective towards legal frameworks and environmental regulations with respect to energy sectors
<b>PSO 14</b>	Students will exhibit deployable skills pertinent to the renewable and non-renewable energy sectors

### Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

<b>Mapping between COs and POs</b>			
	<b>Course Outcomes (COs)</b>	<b>POs</b>	<b>PSOs</b>
<b>CO1</b>	The students shall learn the concepts related to the fundamentals of economics of oil and gas	<b>1,2,3,4</b>	<b>9,11,12,14</b>
<b>CO2</b>	The students would develop their analytical skills in dealing with the economics scenarios, facts, statistics and associated developments	<b>1,3,5,6</b>	<b>9,10,11,12,14</b>
<b>CO3</b>	This would enable the students in understanding and assimilating the situations and forecasting and finding reasons.	<b>5,6,7</b>	<b>9,10,12,13,14</b>
<b>CO4</b>	The application of the understanding would help them in making constructs and inferencing	<b>1,2,8</b>	<b>11,12,13,14</b>
<b>CO5</b>	This would help in integrative way to make the efforts of working productive and in meeting the all round goals and also developing their personal personality levels and skills	<b>1,2,5,8</b>	<b>9,12,13,14</b>

Course Outcomes	CO 1	CO 2	CO 3	CO4	CO5
PO 1	3	2		3	2
PO 2	2			2	3
PO 3	2	2			
PO 4	3				
PO 5		3	3		3
PO 6		3	3		
PO 7			3		
PO 8				3	2
PSO 9	3	2	3		3
PSO 10		2	3		
PSO 11	3	2		3	
PSO 12	2	3	3	3	2
PSO 13			3	2	2
PSO 14	3	3	2	3	2

Course Code	Program Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PSO 9	PSO 10	PSO 11	PSO 12	PSO 13	PSO 14
OGOG 7006	Oil & Gas Economics	2	1	1	1	2	1	1	1	2	1	1	3	1	3

1=weakly mapped

2= moderately mapped

3=strongly mapped

**Model Question Paper**

Roll No: -----



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination – December, 2017**

**Program/course: MA (Energy Economics)**

**Semester – II**

**Subject: Oil & Gas Economics**

**Max. Marks: 100**

**Code : OGOG 7006**

**Duration: 3 Hrs**

**No. of page/s: 1**

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Note: All sections are compulsory.

Section – A (4 X 5 = 20 Marks)

Answer the following questions in brief:

Answer the following questions in brief:

1. What is the “Geopolitics of Energy”? CO1
2. How crude prices impact oil and gas projects? CO2
3. Write short note on the government policies impact on project economics.CO4
4. Write short note on oil and gas value chain. CO2

Section – B (10x3 = 20 Marks)

All questions are compulsory:

1. Analyze the role of natural gas in energy mix. CO3
2. What are the major factors impacting petroleum retail business? CO1, CO3

Section – C (2\*15= 30 Marks)

All questions are compulsory:

1. Analyze the importance of transportation on overall project cost.CO2, CO3, CO4
2. What are mega projects? Analyze the factors impacting their performance. CO3, CO4

Section – D (2\*15= 30 Marks)

1. Why crude benchmarks are important? Also, mention the drivers for choosing any crude as benchmark.CO1, CO4
2. Analyze the role of Russia in European energy market. CO2