



<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
OGAS-105	Introduction to Energy Management and Markets	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
None	Management	Fall
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Hydrocarbons & Energy Management	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr Theodoros Tsakiris	1 <sup>st</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face to Face	N/A	None

**Course Objectives:**

The main objectives of the course are to:

- To analyze the structure and operations of the global energy system
- To evaluate the dynamics shaping the present and future composition of the global energy mix
- To comparatively assess the importance of the roles played in the global energy industry by national and multinational energy companies, governments, international organizations, environmental groups and financial institutions
- To comprehend the relative significance of various energy sources and energy technologies in the global energy industry

**Learning Outcomes:**

After and during the completion of the course students are expected to be able to:

- Review the concept and definitions of an effective energy system and analyze the dynamics of the global energy mix by the end of week 2
- Compare the different roles played by governments and international organizations in the global energy industry while highlighting the importance of energy security by the end of week 4
- Assess the significance of environmental and financial considerations in the global

energy industry by the end of week 6

- Evaluate the importance of different energy resources in the global energy system and its energy industry by the end of week 12.

### **Course Content:**

The Course is delivered over 12 weeks by focusing each week on the following topics:

- 1: Energy Market Systems: Inputs, Outputs, Prices and Actors
- 2: The Global Energy Mix
- 3: Energy Policy and Regulation: The role of governments and international organizations
- 4: Energy and Security: Geopolitical perspectives
- 5: Energy and Finance: Global trends and challenges
- 6: Energy and the Climate Change: The Concept of Energy Transition
- 7: The role of petroleum in the global energy system
- 8: The role of natural gas in the global energy system
- 9: The role of coal in the global energy system
- 10: The role of nuclear power in the global energy system
- 11: The role of hydroelectricity in the global energy system
- 12: The role of non-hydro Renewable Energy in the global energy system

### **Learning Activities and Teaching Methods:**

The module is delivered in taught on-campus mode by a selection from: lectures, videos, PPT presentation, discussion, case study tutorials and directed self-study.

### **Assessment Methods:**

Final-term exam, Mid-tem Exam, Open Book Test, Class Participation,

**Required Textbooks/Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Introduction to Energy Analysis	Kornelis Blok, Evert Nieuwlaar · 2021	Routledge	2021	9780367434809
Global Energy Market Trends	Blazev, Anco S.	The Fairmont Press, Inc	2016	9780881737547
Economics of Electricity Markets, Competition and Rules	Anna Creti, Fulvio Fontini	Cambridge University Press	2019	9781107185654

**Recommended / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Energy at The Crossroads:	Smil, V.	MIT Press	2003	0262194929
Energy In The 21st Century	Fanchi, John R.	World Scientific	2013	9789814434669