



Course Syllabus

Course Code	Course Title	ECTS Credits
MBAN-761	Hydrocarbon (HCB) Markets and Economics	6
Prerequisites	Department	Semester
None	School of Business	Fall, Spring
Type of Course	Field	Language of Instruction
Concentration	Energy, Oil & Natural Gas	English
Level of Course	Lecturer(s)	Year of Study
2 nd Cycle	Dr. Theodoros Tsakiris	1 st or 2 nd
Mode of Delivery	Work Placement	Prerequisites
Face to Face	N/A	None

Course Objectives:

The main objectives of the course are to

- Comparatively assess the different types of reserves of oil and gas and the variant costs of their exploration and development that result from the geological characteristics of their formation
- Evaluate the importance the economic parameters affecting the “life cycle” of oil & gas investment
- Reflect on the relative significance of taxation, financing, contracting and regulation in the oil and gas industry and its decision-making process
- Measure the relative gravity of the different parameters affecting oil and gas price formation and the functioning of hydrocarbon markets on a global and regional basis

Learning Outcomes:

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

1. critically review the relative significance of the economic, geological, technological, environmental and regulatory/political factors shaping the exploration, exploitation, development, production, refining, transportation and consumption of oil and natural gas
2. compare the importance of the different political and economic parameters of oil and natural gas price formation
3. debate on the cartelization dynamics of the global hydrocarbons industry with regards to oil and for natural gas

4. assess the importance and characteristics of different oil and gas trading contracts
5. evaluate the effectiveness of the various mechanisms and institutions in place to avert and manage potential oil and natural gas supply crises

“Details on the contribution of the course’s learning outcomes towards the learning goals / competencies and learning objectives of the programme are included in the curriculum map of each programme”.

Course Content:

Week	Topics	Readings
1	Definitions and classifications of the various types of conventional and unconventional reserves -Typology of resources and reserves – Hydrocarbon Formation Process- Qualitative Hydrocarbon characteristics	Lecture file 1
2	Peak oil supply – Peak oil demand – Neo-Malthusian Mineral Economists- Oil Price Elasticity – Costs of Alternative Fuels – EOR Techniques- Definition of Green/Brown Fields	Lecture file 2
3	(Pre)-Exploration, Development and Production Phases, Costs, Finances, Licensing Permits and Processes for Petroleum	Lecture file 3
4	Global Supply/Demand Patterns and Cartelization: The roles of OPEC and the IEA	Lecture file 4
5	(Pre)-Exploration, Development and Production Phases, Costs, Finances, Licensing Permits and Processes for Natural Gas with an emphasis on Unconventional Production	Lecture file 5
6	Global Supply/Demand Patterns and Cartelization Dynamics in LNG: The role of the GECF-Assignment Presentation 1	Lecture file 6
7	Oil Price Formation in historical perspective: A politically conditioned global market	Lecture file 7
8	Oil Trading contracts: Types, Processes, Financing in historical perspective	Lecture file 8
9	Natural Gas Price Formation: Regional markets and the globalization of LNG prices	Lecture file 9
10	Natural Gas Trading: Types, Process, Financing in various regional market conditions	Lecture file 10
11	Oil & Gas Crisis Prevention and Mitigation mechanisms and the role of the IEA and the EU – Assignment presentation 2	Lecture file 11
12	OPEC Meeting Simulation Note: Final Exam will be scheduled by the Academic Office secretariat	Lecture file 12- BP Statistical Review of World Energy-Section 4 and OPEC Annual Statistical Review

Learning Activities and Teaching Methods:

Module is delivered by lectures and seminars, simulation, case studies, interactive multimedia resources, innovative group work and directed self-study with particular focus on assignment completion and amelioration of presentation techniques in a simulated business environment. It also includes and encourages group interactive study preparation and active participation in simulation level of a major real-world event that directly relates to a core element of the course: oil price formation. Active participation in the classroom is of paramount importance for the successful completion of this course. Absences that exceed 20% of the weekly course lectures will lead to automatic withdrawal from the class.

Assessment Methods:

Final Examination, Assignments, In class simulation

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Hydrocarbon exploration and production	Jahn F., Cook M., & Graham M.	Elsevier ebook, 2d edition	2008	9780444532367
A Profile of the Oil and Gas Industry: Resources, Market Forces, Geopolitics & Technology	Herkenhof f L.	Business Expert Press	2014	9781606495001
Global Gas Security Review 2020	International Energy Agency	IEA Publications	2020	https://www.iea.org/reports/global-gas-security-review-2020
Oil Security Toolkit,	International Energy Agency	IEA Publications	2020	https://www.iea.org/reports/oil-security-toolkit
World Energy Investment 2020	International Energy Agency	IEA Publications	2020	https://www.iea.org/reports/world-energy-investment-2020

Title	Author(s)	Publisher	Year	ISBN
Private Empire: ExxonMobil and American Power	Coll, S.	Penguin Books	2012	9781594203350
The Quest: Energy, Security and the remaking of the Modern World	Yergin, D,	Penguin Books	2012	9780241957776

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Resources to Reserves: Oil, Gas and Coal Technologies for the Energy Markets of the Future, Paris	International Energy Agency (IEA)	OECD	2013	
World Energy Outlook Special Report on Unconventional Gas, Paris	IEA	OECD	2012	
Adjustment to the Oil Market	B. Fattouh	Oxford Institute for Energy Studies	2016	
Oil Politics: A Modern History of Petroleum	F. Parra	I.B Tauris	2004	
The Genie out of the Bottle: World Oil since 1970	Adelman, M	MIT Press	1995	
The Age of Oil	Maugeri, L	Praeger	2006	

Journals:

Energy Journal, Oil & Gas Journal,

Economics of Energy & Environmental Policy,

Energy Sources Part B: Economics, Planning and Policy,

Youtube Resources:

Daniel Yergin: *The Prize: The Epic Quest for Oil, Money and Power*, Documentary, Parts 1-8

Databases of International Energy Organizations:

- OPEC: Organization of the Petroleum Exporting Countries, http://www.opec.org/opec_web/en/
- GECF: Gas Exporting Countries Forum organization_ <https://www.gecf.org/about/overview.aspx>
- US Department of Energy, Energy Information Administration, <http://www.eia.doe.gov/international>
- IEA (International Energy Agency): <http://www.iea.org/>
- European Commission_Eurostat Energy data_ <http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy>
- European Commission_Directorate General for Energy_ <https://ec.europa.eu/energy/en/home>