COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Economics and Management Science		
ACADEMIC UNIT	Department of Economics		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	OIK612	**SEMESTER**	6th or 8th
COURSE TITLE	Energy Economics		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
	4	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specific background, Specialization of General Knowledge, Skills Development, search, analysis and synthesis of data and information using technologies, development of critical thinking promoting free, creative, and inductive thinking.
PREREQUISITE COURSES:	For a better understanding of the course, the following courses are indicative prerequisites: Introduction to Economics I, II Mathematics for Economists I, II Econometrics Microeconomic Theory I, II
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek with English terminology
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the module, students will be able to:

- understand the importance of economic thinking in managing energy resources and issues,

- comprehend the basic concepts and theoretical approaches associated with energy economics by specialized knowledge in this field,
- understand the importance of quantitative tools such as mathematics, operations research, and econometrics in measuring environmental-related quantities and resource efficiency as well as in decision-making and policy suggestions
- perform literature review through the appropriate tools, manage the information and compose it to reflect the current state of the international literature
- search, collect, analyze, comment on economic data related to the issues presented
- understand the importance of interdisciplinarity in the study of the energy, environment, climate change and sustainable development, among others, to propose efficient solutions
- comprehend the importance of efficiency and productivity analysis as a policy tool.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Working Independently, Work in small study groups promoting Team-work, Decision Making, Criticism and Self-criticism, Working in an international environment, Working in an interdisciplinary environment, Respect for the natural environment, Production of free, creating and inductive thinking.

(3) SYLLABUS

Background of Microeconomic Theory: Producer Theory and the Production Function, Introduction to Energy Economics & Energy Markets: Economics and Energy, Overview of the main problems in the energy markets, The economics of energy efficiency, energy paradox and energy conservation- The rebound effect, Energy access, Energy efficiency: (Energy conservation and efficiency, efficiency and productivity models), Research and Development and Innovation in energy markets: Innovations in the field of Energy, Renewable Energy and the role of Technological Change, Electricity and Oil Markets, Coal and Gas Markets, Energy Security, Analyzing Demand and Supply for Energy using Models, Pricing & Taxation in Energy Markets: Principles of Energy Pricing and Impact of Energy Prices, Main Methods of Taxation of Energy Markets, Carrying out investment plans in the various energy markets-Basic rules and models, Energy Policies, Climate Change and Sustainability: The evolution of energy policies, Climate Change Economics and Climate Change Policies, Sustainable development as a lever of growth.

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of MS Teams/eCourse platform to upload educational material and announcements. Communication with Students via e-mail. Posting grades on the online platform of the secretariat. The course is conducted through slides.</td></tr>
<tr><td>TEACHING METHODS
The manner and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures,</td><td>52</td></tr>
<tr><td>Non-directed study</td><td>98</td></tr>
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<tr><td>Course total</td><td>150 hours</td></tr>
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<tr><td>STUDENT PERFORMANCE EVALUATION
Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>2 compulsory projects (20% of the final grade), 1 mid-term exam (20% of the final grade) and written final examination in Greek/English for the ERASMUS program (60% of the final grade) under the condition of an advanced grade (≥5) in the final examination. Specifically:
$$Final\ Grade = 0.2 * Projects + 0.2 * Midterm\ Exam + 0.6 * Written\ Exam.$$
Exams may include multiple-choice questions/short-answer questions/problem solving, output economic interpretation.

In any case, the knowledge performance assessment is based on the level of understanding the subject matter of the material presented and the course in general, rather than on the memorization skills one may possesses.</td></tr>
</table>

(5) SUGGESTED BIBLIOGRAPHY

- Journal papers related to each topic.
- Οικονομικά της ενέργειας και ενεργειακό σύστημα, Bradford T., Εκδόσεις Παπαζήση, 2021. (ISBN: 978-960-02-3796-2)Κωδικός Βιβλίου στον Εύδοξο: 102124391.
- Αειφόρος Ανάπτυξη Περιβάλλον και Ενέργεια, Καρκαλάκος Σ. Πολέμης Μ., 2015, (ISBN: 978-960-93-7166-7), Κωδικός Βιβλίου στον Εύδοξο: 68378495, Εκδόσεις Τσότρας, Αθανάσιος.