**COURSE OUTLINE**

1. **GENERAL**

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| **SCHOOL** | SCHOOL OF ECONOMICS AND ADMINISTRATIVE STUDIES | | | | |
| **ACADEMIC UNIT** | DEPARTMENT OF ECONOMICS | | | | |
| **LEVEL OF STUDIES** | UNDERGRADUATE | | | | |
| **COURSE CODE** | OIK612 | **SEMESTER** | | 6th & 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** |
| LECTURES | | | 4 | | 6 |
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| *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* | Special Background  Specialised General Knowledge  Skills Development  Search, Analyse and Synthesize Data and Information using Technologies  Development of Critical Thinking  Promotion of Free, Creative and Inductive Thinking | | | | |
| **PREREQUISITE COURSES:** | For a better understanding of the course, indicative prerequisites are the following courses:  Introduction to Economics I, II  Mathematics for Economists I, II  Econometrics  Microeconomic Theory I, II | | | | |
| **LANGUAGE OF INSTRUCTION and EXAMINATIONS:** | GREEK | | | | |
| **IS THE COURSE OFFERED TO ERASMUS STUDENTS** | NO | | | | |
| **COURSE WEBSITE (URL)** | <https://ecourse.uoi.gr/course/view.php?id=3493> | | | | |

1. **LEARNING OUTCOMES**

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| **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* | |
| After successful completion of the course, students are expected to be able to:  • understand the importance of economic thinking in the management of energy issues  • know the basic concepts and theoretical approaches related to the course by specializing the knowledge in the specific field  • identify the problem-solving methodology, the mechanisms underlying the basic concepts and the policies applied when there are failures in the specific market  • understand the importance of quantitative tools such as mathematics, business research and econometrics in measuring quantities related to the context of Energy Economics and resource efficiency in order to make decisions and policy proposals  • search for scientific papers through the appropriate tools and synthesize them in order to reflect the current state of the international literature  • search, collect, analyse, comment on financial data related to the topics presented  • understand the importance of interdisciplinarity in studying the energy landscape, environmental resources, climate change and sustainable development, in order to propose effective solutions  • understand 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*  *Adapting to new situations*  *Decision-making*  *Working independently*  *Team work*  *Working in an international environment*  *Working in an interdisciplinary environment*  *Production of new research ideas* | *Project planning and management*  *Respect for difference and multiculturalism*  *Respect for the natural environment*  *Showing social, professional and ethical responsibility and sensitivity to gender issues*  *Criticism and self-criticism*  *Production of free, creative and inductive thinking*  *……*  *Others…*  *…….* |
| Search for, analysis and synthesis of data and information, with the use of the necessary technology  Working independently  Working in an international and interdisciplinary environment  Respect for the natural environment  Exercise criticism and self-criticism  Promotion of free, creative and inductive thinking | |

1. **SYLLABUS**

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| 1. **Background of Microeconomic Theory**    * Producer Theory and the nature of the production function 2. **Introduction to Energy Economics and Energy Markets**    * Economics and energy    * The energy market (equilibrium-failures-market structures)    * Overview of the main problems in energy markets    * Energy access    * Electricity, oil, coal and natural gas markets 3. **Demand and Supply in the Energy Market**    * Determinants    * Change in demand and supply    * Demand and supply models    * Different market structures 4. **Pricing and Taxation in Energy Markets**    * Energy pricing principles and impact of energy prices    * Main methods of taxation of energy markets    * The implementation of investment plans in the various energy markets    * Energy policies 5. **Energy Efficiency**    * Energy conservation and efficiency    * Efficiency and productivity models 6. **R&D and Innovation in Εnergy Μarkets**    * Innovations in the field of energy    * Renewable energy sources and the role of technological change    * Energy security 7. **Climate Change and Sustainability**    * The evolution of energy policies    * Climate change economics and climate change policies    * Sustainable development as a growth driver |

1. **TEACHING and LEARNING METHODS - EVALUATION**

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| **DELIVERY** *Face-to-face, Distance learning, etc.* | Face-to-face lectures.  In each lecture, specific topics are developed in the context of the following course method:  • Interactive lectures using slides.  • Discussions with students.  • Examination of Case Studies as well as practical examples for practical application.  • Discussion and resolution of questions with the participation of students. |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY** *Use of ICT in teaching, laboratory education, communication with students* | Use of ICT in teaching as well as in communication with students:  • Lectures using a computer, which is connected to the corresponding projector.  • The slides-notes of the lectures and assignment instructions are offered in electronic form to the students through the ecourse platform.  • Students are contacted via email. |
| **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* | |  |  | | --- | --- | | ***Activity*** | ***Semester workload*** | | Lectures | 52 | | Independent Study | 98 | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | | Course total | 150 | |
| **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.* | Written exam including:  • Multiple Choice Questions  • Short-Answer Questions  • Open-Ended Questions  • Problem Solving |

1. **ATTACHED BIBLIOGRAPHY**

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| 1. Energy Economics and Energy System, Bradford T., Papazisis Publications, 2021. (ISBN: 978-960-02-3796-2). Eudoxos Book Code: 102124391. 2. Sustainable Development, Environment and Energy, Karkalakos S., Polemis M., Tsotras Publications, Athanasios, 2015. (ISBN: 978-960-93-7166-7). Eudoxus Book Code: 68378495. 3. Published papers related to the content of each topic. |