**COURSE OUTLINE**

1. **GENERALLY**

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| **LEISURE** | College of Applied Economic and Social Sciences |
| **DEPARTMENT** | Regional and Economic Development |
| **LEVEL OF EDUCATION** | Undergraduate |
| **LESSON CODE** | 6526 | **SEMESTER OF STUDY** | 5th  |
| **COURSE TITLE** | Economics of Natural Resources |
| **TEACHERS** | Anna Tzavali |
| **OFFICE HOURS** | Monday 12:00-14:00 and Tuesday 16:00-18:00 |
| **e-mail** | annatzavali@aua.gr |
| **INDEPENDENT TEACHING ACTIVITIES** *where credit is awarded for discrete parts of the course e.g. lectures, laboratory exercises, etc. If credit is awarded for the whole course, indicate the weekly teaching hours and the total number of credits* | **WEEKLY TEACHING HOURS** | **ECTS** |
|  | 4 | 5 |
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| *Add rows if necessary. The teaching organization and the teaching methods used are described in detail in 4.* |  |  |
| **TYPE COURSE***Background, General knowledge, Scientific area, Development Skills* | Scientific Area |
| **PREREQUISITES****LESSONS:** | - |
| **language TEACHING****and EXAMINATIONS:** | Greek |
| **THE LESSON OFFERED IN****STUDENTS ERASMUS** | OXI |
| **website COURSE (URL)** | The lesson I will is presented together with notes and another Supporting material in the e-class of AUA (https://oeclass.aua.gr/eclass/) |

1. **LEARNING RESULTS**

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| **Learning results** |
| *The learning outcomes of the course are described, the specific knowledge, skills and abilities of an appropriate level that the students will acquire after the successful completion of the course.**Consult Appendix A** *Description of the Level of Learning Outcomes for each study cycle according to the Qualifications Framework of the European Higher Education Area*
* *Descriptive Indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
* *Comprehensive Guide to Writing Learning Outcomes*
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| * *Knowledge*
* Define and articulate the basic concepts of Natural Resource Economics.
* To determine the functions of the natural environment related to the development of economic activity.
* Understand indicators and variables used in Natural Resource Economics.
* *Abilities*
* To analyze the relationship between economic development and environmental quality through econometric approaches.
* Form a crisis and propose solutions to deal with the phenomenon of market failure.
* Interpret environmental policy measures (direct regulations, financial instruments and environmental taxes).
* To analyze issues related to Welfare Economics and the Environment.
* *Skills*
* To evaluate and contrast arguments regarding the treatment of environmental issues arising from the use of natural resources for the development of economic activity.
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| **General Skills** |
| *Taking into account the general skills that the graduate must have acquired (as listed in the Diploma Appendix and listed below) which / which of them is the course aimed at* |
| *Search, analysis and synthesis of data and information, also using the necessary technologies**Adaptation to new situations**Decision making**Autonomous work**Teamwork**Work in an international environment**Work in an interdisciplinary environment**Generating new research ideas* | *Project planning and management**Respect for diversity and multiculturalism**Respect for the natural environment**Demonstrating social, professional and ethical responsibility and sensitivity to gender issues**Exercise criticism and self-criticism**Promotion of free, creative and inductive thinking* |
| *Decision making**Teamwork**Work in an international environment*  |

1. **COURSE CONTENT**

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| * Theoretical foundation of the economics of natural resources.
* Environmental thinking in economics.
* Economic growth and income inequalities.
* Economic growth rate and impact on income level.
* Prosperity and environment.
* Economic approach.
* Private and public goods. Other forms of goods.
* The main financial problems.
* Analysis of the production possibilities curve.
* Market failure.
* The role of the Government.
* Reasons for market failure.
* Imperfect information.
* Monopolies.
* Public goods.
* Externalities or external burdens or external economies.
* Extensive analysis of the excellent pollution level.
* The Pareto optimal level of pollution.
* Correcting inefficiencies.
* The Pareto efficient provision of a public good.
* Environmental policy measures.
* Alternative energy sources.
* Energy problems from the use of conventional fuels.
* Climate change.
* Consequences on the economy and the quality of natural resources.
* Long-term evolution of international sustainability goals.
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1. **TEACHING AND LEARNING METHODS – ASSESSMENT**

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| **METHOD of TEACHING***Face to face,* *Distance learning etc.* | Lectures and meetings with students Deliveries take place in the form of face-to-face lectures.In order to better consolidate the teaching content, interactive teaching is carried out with questions and answers. In addition, in each lecture, the presentation of the topics will be accompanied by relevant examples and applications of statistical methodologies in matters related to business, economics and regional economy and development. |
| **USE OF TECHNOLOGIES INFORMATION AND COMMUNICATION***Use of ICT in Teaching, Laboratory training, in Contact with students* | Computer, projector and interactive whiteboard will be used in the teaching. Communication with students will be on a personal level, also using e-mail and direct telecommunication (e.g. skype). Learning process support through the AUA Open eClass platform. |
| **TEACHING ORGANIZATION***The way and methods of teaching are described in detail.**Lectures, Seminars, Laboratory Exercise, Field Exercise, Literature Study & Analysis, Tutorial, Internship (Placement), Clinical Exercise, Art Workshop, Interactive Teaching, Educational Visits, Study Preparation (Project), Writing Paper / Assignments, Artistic Creation, etc. etc.**The student's study hours for each learning activity as well as the hours of unguided study are listed so that the total workload at semester level corresponds to the ECTS standards* |

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| ***Activity*** | ***Semester Workload*** |
| Lectures | 52 hours |
| Study of course material | 17 hours |
| Exercises and practice in applications in the field of Economics of Natural Resources | 33 hours |
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| Course Total | 102 |

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| **STUDENT ASSESSMENT** *Description of the evaluation process**Language of Assessment, Assessment Methods, Formative or Inferential, Multiple Choice Test, Short Answer Questions, Test Development Questions, Problem Solving, Written Work, Report, Oral Examination, Oral Examination, Public Presentation, Laboratory Work, Clinical Examination of a Patient, Artistic Interpretation, Other**Explicitly identified assessment criteria are stated and if and where they are accessible to students.* | Written Final Exams and exercises during the course

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| Final Exams |  |
| Mandatory final exams: (All subjects) | 100% |

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1. **RECOMMENDED -BIBLIOGRAPHY**

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| **Basic textbooks:*** Halkos Georgios. Natural Resource and Environmental Economics (2nd Edition). Disigma Publications. 2021.
* Menegaki, AN (2021). A guide to econometrics for the energy-growth nexus, Book in Elsevier, [https://www.elsevier.com/books/a-guide-to-econometric-methods-for-the-energy-growth-nexus/menegaki/ 978-0-12-819039-5]
* Melgar-Melgar, RE, and Hall, CAS (2020). Why ecological economics needs to return to its roots: The biophysical foundation of socio-economic systems. Ecological Economics, 169, 106567. https://doi.org/10.1016/j.ecolecon.2019.106567
* Menegaki, AN, and Tugcu, CT (2018). Two versions of the Index of Sustainable Economic Welfare (ISEW) in the energy-growth nexus for selected Asian countries. Sustainable Consumption and Production, 14, 22-35. https://doi.org/10.1016/j.spc.2017.12.005
* Menegaki, AN, and Tugcu, CT (2017). Energy consumption and Sustainable Economic Welfare in G7 countries? A comparison with the conventional nexus. Renewable and Sustainable Energy Review 69, 892-901. DOI: 10.1016/j.rser.2016.11.133
* Halkos, G, and Petrou, NK (2020). The relationship between MSW and education: WKC evidence from 25 OECD countries. Waste Management, 114(1), 240-252. https://doi.org/10.1016/j.wasman.2020.06.044
* Halkos, G, and Tsilika, K. (2020). Understanding transboundary air pollution network: Emissions, depositions and spatio-temporal distribution of pollution in European region. Resources, Conservation and Recycling, 145, 113-123.
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