

## COURSE OUTLINE: ENVIRONMENTAL ECONOMICS

### GENERAL

|                                                                                                                                                                                                                                                                       |                                |                              |                      |
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| <b>SCHOOL</b>                                                                                                                                                                                                                                                         | ECONOMICS AND BUSINESS         |                              |                      |
| <b>ACADEMIC UNIT</b>                                                                                                                                                                                                                                                  | ECONOMICS                      |                              |                      |
| <b>LEVEL OF STUDIES</b>                                                                                                                                                                                                                                               | UNDERGRADUATE                  |                              |                      |
| <b>COURSE CODE</b>                                                                                                                                                                                                                                                    | <b>OA120</b>                   | <b>SEMESTER</b>              | <b>8th (Major A)</b> |
| <b>COURSE TITLE</b>                                                                                                                                                                                                                                                   | <b>Environmental Economics</b> |                              |                      |
| <b>INDEPENDENT TEACHING ACTIVITIES</b><br><i>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</i> |                                | <b>WEEKLY TEACHING HOURS</b> | <b>CREDITS</b>       |
|                                                                                                                                                                                                                                                                       |                                | 3                            | 6                    |
|                                                                                                                                                                                                                                                                       |                                |                              |                      |
|                                                                                                                                                                                                                                                                       |                                |                              |                      |
| <i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>                                                                                                                                              |                                |                              |                      |
| <b>COURSE TYPE</b><br><i>general background, special background, specialized general knowledge, skills development</i>                                                                                                                                                | General background             |                              |                      |
| <b>PREREQUISITE COURSES:</b>                                                                                                                                                                                                                                          | NO                             |                              |                      |
| <b>LANGUAGE OF INSTRUCTION and</b>                                                                                                                                                                                                                                    | Greek                          |                              |                      |

|                                                  |                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EXAMINATIONS:</b>                             |                                                                                                                                                                                                                                                                                           |
| <b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b> | NO                                                                                                                                                                                                                                                                                        |
| <b>COURSE WEBSITE (URL)</b>                      | <a href="http://www.halkos.gr/el/content/91-oikonomik%CE%B7-toy-%CF%80%CE%B5%CF%81%CE%B9%CE%B2%CE%B1%CE%BB%CE%BB%CE%BF%CE%BD%CF%84%CE%BF%CF%83">http://www.halkos.gr/el/content/91-oikonomik%CE%B7-toy-%CF%80%CE%B5%CF%81%CE%B9%CE%B2%CE%B1%CE%BB%CE%BB%CE%BF%CE%BD%CF%84%CE%BF%CF%83</a> |

## 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*

The course learning outcomes are:

- Show the relationship between the environment and the economic process.
- Explain the methodological framework and specific economic valuation methods for environmental goods (travel cost and hedonic pricing methods, and stated-preference/contingent valuation approaches).
- Identify the socially optimal level of environmental protection.
- Discuss in detail the automatic achievement of optimal environmental protection through market functioning (Coasean approach).
- Present and analyze economic instruments of environmental policy (taxes, subsidies, tradable pollution permits) as well as regulatory instruments (standards, bans, etc.).
- Compare regulatory and economic instruments.
- Discuss the organization of a private environmental management office and the preparation and presentation of an environmental study.

On successful completion students will be able to:

Approach Environmental Economics through a methodological analytical framework

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| <p>applicable to various environmental problems.</p> <p>Diagnose the nature of environmental problems and examine their interaction with the economic process, treating environmental issues as factors affecting social welfare.</p> <p>Understand the role of firms in creating environmental problems and propose appropriate solutions.</p> <p>Appreciate how production and consumption impact the environment and be able to recommend policy or managerial responses.</p> <p>Course structure: theoretical first part (lectures 1–7) and a more empirical second part with presentations and discussions of major environmental problems.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                 |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <p><b>General Competences</b></p> <p><i>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?</i></p> <table> <tr> <td><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td><td><i>Project planning and management</i></td></tr> <tr> <td><i>Adapting to new situations</i></td><td><i>Respect for difference and multiculturalism</i></td></tr> <tr> <td><i>Decision-making</i></td><td><i>Respect for the natural environment</i></td></tr> <tr> <td><i>Working independently</i></td><td><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td></tr> <tr> <td><i>Team work</i></td><td><i>Criticism and self-criticism</i></td></tr> <tr> <td><i>Working in an international environment</i></td><td><i>Production of free, creative and inductive thinking</i></td></tr> <tr> <td><i>Working in an interdisciplinary environment</i></td><td><i>.....</i></td></tr> <tr> <td><i>Production of new research ideas</i></td><td><i>Others...</i></td></tr> <tr> <td></td><td><i>.....</i></td></tr> </table> |                                                                                                 | <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> | <i>Project planning and management</i> | <i>Adapting to new situations</i> | <i>Respect for difference and multiculturalism</i> | <i>Decision-making</i> | <i>Respect for the natural environment</i> | <i>Working independently</i> | <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> | <i>Team work</i> | <i>Criticism and self-criticism</i> | <i>Working in an international environment</i> | <i>Production of free, creative and inductive thinking</i> | <i>Working in an interdisciplinary environment</i> | <i>.....</i> | <i>Production of new research ideas</i> | <i>Others...</i> |  | <i>.....</i> |
| <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>Project planning and management</i>                                                          |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Adapting to new situations</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <i>Respect for difference and multiculturalism</i>                                              |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Decision-making</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <i>Respect for the natural environment</i>                                                      |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Working independently</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Team work</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <i>Criticism and self-criticism</i>                                                             |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Working in an international environment</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <i>Production of free, creative and inductive thinking</i>                                      |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Working in an interdisciplinary environment</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>.....</i>                                                                                    |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <i>Production of new research ideas</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Others...</i>                                                                                |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <i>.....</i>                                                                                    |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |
| <p><i>Adapting to new situations</i></p> <p><i>Decision-making</i></p> <p><i>Working in an international environment</i></p> <p><i>Working in an interdisciplinary environment</i></p> <p><i>Production of new research ideas</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                 |                                                                                                             |                                        |                                   |                                                    |                        |                                            |                              |                                                                                                 |                  |                                     |                                                |                                                            |                                                    |              |                                         |                  |  |              |

## SYLLABUS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <p>Introduction to the problem (business and the environment)</p> <p>Types of business economic units. Theory of the firm. Production and cost functions, joint production. Distinctions of production costs (total, average, marginal). Classification of goods. Pareto efficiency and the role of the state. Economic reasons for state intervention. Public goods and market failure.</p> <p>Externalities and market failure (causes of market failure; non-optimal equilibrium in presence of externalities). Market failure — external effects in production (causes of market failure; non-optimal equilibrium when production externalities exist; mixed external burdens).</p> <p>Application of practical policy instruments against externalities (standards, taxes, tradable permits, etc.) and firms' responses. Taxation (introduction to taxation, tax</p> |
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types, tax incidence and who pays what, tax shifting, factors determining tax incidence, optimal taxation, first-best and second-best solutions for environmental problems).

The role of the environmental consultant (justification for the profession; philosophical, ethical and technical principles for environmental management).  
Organization of a private environmental management office (services provided by environmental management firms with environmental scientists to businesses; client contact, proposal preparation, choice of methodology, ensuring credibility).  
Writing and presenting an environmental impact/study report.

Methods for valuing environmental goods (travel cost and hedonic pricing methods; analysis of stated-preference/contingent valuation methods).

Discussion and presentation of environmental problems (acid rain, greenhouse effect, ozone depletion, solid and liquid waste, desertification, biodiversity, marine pollution, recycling).

#### TEACHING and LEARNING METHODS - EVALUATION

| <b>DELIVERY</b><br><i>Face-to-face, Distance learning, etc.</i>                                                                                                                                                                                                                                                                                                                                                                                                                             | Face-to-face                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------|----------|----|---------|----|-------------------|---|------------|---|---------------------|----|----------------------|----|----------------------------|----|--------------|------------|
| <b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b><br><i>Use of ICT in teaching, laboratory education, communication with students</i>                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Use of the e-class electronic platform to post: (a) lecture notes, (b) workshop exercises, (c) announcements.</li> <li>• Use of specialized statistical software (e.g., Excel Analysis ToolPak, Minitab) to perform descriptive and inferential statistical analysis.</li> </ul>                                                                                                                                                                                              |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| <b>TEACHING METHODS</b><br><i>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</i> | <table border="1"> <thead> <tr> <th><i>Activity</i></th><th><i>Semester workload</i></th></tr> </thead> <tbody> <tr> <td>Lectures</td><td>39</td></tr> <tr> <td>Seminar</td><td>15</td></tr> <tr> <td>Intermediary exam</td><td>2</td></tr> <tr> <td>Final exam</td><td>2</td></tr> <tr> <td>Bibliographic study</td><td>60</td></tr> <tr> <td>Homework preparation</td><td>30</td></tr> <tr> <td>Econometric software study</td><td>32</td></tr> <tr> <td>Course total</td><td><b>180</b></td></tr> </tbody> </table> | <i>Activity</i> | <i>Semester workload</i> | Lectures | 39 | Seminar | 15 | Intermediary exam | 2 | Final exam | 2 | Bibliographic study | 60 | Homework preparation | 30 | Econometric software study | 32 | Course total | <b>180</b> |
| <i>Activity</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Semester workload</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Lectures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Seminar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Intermediary exam                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Final exam                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Bibliographic study                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Homework preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Econometric software study                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| Course total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>180</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |
| <b>STUDENT PERFORMANCE EVALUATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Assessment will be carried out in one of two ways: <ul style="list-style-type: none"> <li>• 100% by final examinations; or</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  |                 |                          |          |    |         |    |                   |   |            |   |                     |    |                      |    |                            |    |              |            |

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| <p><i>Description of the evaluation procedure</i></p> <p><i>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.</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p> | <ul style="list-style-type: none"> <li>• Continuous assessment: an exemption/progress exam in week 10 (70%) plus participation and preparation of an empirical application in week 7 (30%).</li> </ul> |
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#### ATTACHED BIBLIOGRAPHY

|                                                                                                                                                                                                                                                                         |
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| <p>ΟΙΚΟΝΟΜΙΚΗ ΦΥΣΙΚΩΝ ΠΟΡΩΝ ΚΑΙ ΠΕΡΙΒΑΛΛΟΝΤΟΣ</p> <p><b>Κωδικός Βιβλίου στον Εύδοξο: 102073016</b></p> <p>Έκδοση: 2/2021</p> <p>Συγγραφείς: ΧΑΛΚΟΣ ΕΜΜ. ΓΕΩΡΓΙΟΣ</p> <p>ISBN: 9786182020579</p> <p>Τύπος: Σύγγραμμα</p> <p>Διαθέτης (Εκδότης): ΕΚΔΟΣΕΙΣ ΔΙΣΙΓΜΑ ΙΚΕ</p> |
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