

## COURSE OUTLINE

### 1. GENERAL

|  |   |                 |     |
|--|---|-----------------|-----|
| <b>SCHOOL</b>                                      | APPLIED ECONOMIC AND SOCIAL SCIENCES  |                 |     |
| <b>ACADEMIC UNIT</b>                               | AGRIBUSINESS AND SUPPLY CHAIN MANAGEMENT                                    |                 |     |
| <b>LEVEL OF STUDIES</b>                            | <i>Undergraduate</i>  |                 |     |
| <b>COURSE CODE</b>                                 | <b>GEN808</b>   | <b>SEMESTER</b> | 8th |
| <b>COURSE TITLE</b>                                | Environment and Recycling Management in the Agricultural Sector             |                 |     |
| <b>INDEPENDENT TEACHING ACTIVITIES</b>             | <b>WEEKLY TEACHING HOURS</b>  | <b>CREDITS</b>  |     |
| Lectures   | 4   | 5               |     |
| <b>COURSE TYPE</b>                                 | Special Background  |                 |     |
| <b>PREREQUISITE COURSES</b>                        | NO  |                 |     |
| <b>LANGUAGE OF INSTRUCTION and EXAMINATIONS</b>    | Greek   |                 |     |
| <b>IS THE COURSE OFFERED for ERASMUS STUDENTS?</b> | YES (in English)  |                 |     |
| <b>COURSE WEBSITE (URL)</b>                        | <a href="https://oeclass.aua.gr/eclass/">https://oeclass.aua.gr/eclass/</a> |                 |     |

### 2. LEARNING OUTCOMES

| Learning Outcomes   |
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| <p><b>The aim of the course is:</b><br/>Familiarization of students with the basic concepts and terminology related to recycling - alternative management and with the standard technologies of recycling / recovery of waste as well as the recognition of the basic cost elements related to the alternative management systems and ways of calculating the required contribution.</p> <p><b>Upon successful completion of the course the student will be able to:</b></p> <ul style="list-style-type: none"> <li>• Understand and are aware of the basic principles of the current national and EU legal framework, as well as the relevant regulations issued by the central administration or the local government.</li> <li>• They are aware of the legal obligations of companies that have an extended responsibility of the producer.</li> <li>• They have the ability to spread a sensitized concept, regarding the prevention of pollution, the reduction of waste volume, the recycling and reuse of materials and energy, etc.</li> <li>• Have knowledge of what are the main recycling tasks per specific waste stream, what are the main directions of the legislation in recycling / alternative management and possible developments in the near future, what are the available technologies, their environmental impact as well as their costs their construction and operation, as well as the operating costs of alternative management systems.</li> <li>• Acquire skills of analysis and resolution of complex institutional and financial-technical issues, for recycling and alternative management systems.</li> </ul> |

### General Competences

- Search, analysis and synthesis of data and information, using the necessary technologies
- Adaptation to new situations
- Decision making
- Working independently
- Teamwork
- Working in an International Environment
- Work in an interdisciplinary environment
- Promotion of new Research Ideas
- Respect for the Natural Environment
- Project planning and management
- Respect for Diversity and Multiculturalism
- Demonstration of social, professional and moral responsibility and sensitivity to gender issues
- Exercise criticism and self-criticism
- Promoting free, creative and inductive thinking

### 3. SYLLABUS

1. European institutional framework for waste recycling, extended producer responsibility, trends in European legislation (circular economy), key concepts, basic separation techniques and recycling technologies.
2. General principles of alternative management - National legislative framework.
3. Packaging recycling.
4. Waste prevention.
5. Bio-waste and composting
6. Recycling end-of-life vehicles.
7. Recycling of tires.
8. Recycling of mineral oils.
9. Recycling of electrical and electronic equipment waste.
10. Recycling batteries and accumulators.
11. Recycling of excavation, construction and demolition waste.
12. Compilation of technical files for the approval of alternative management systems.
13. Environmental impact of recycling.

### 4. TEACHING and LEARNING METHODS - EVALUATION

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| <b>DELIVERY</b>   | Face -to-face, Distance learning  |
| <b>USE OF INFORMATION and COMMUNICATIONS TECHNOLOGY</b> | • Support of the learning process through the University's AUA Open eClass platform (integrated e-Course Management System) |

|  | <ul style="list-style-type: none"> <li>• Support of lectures using presentation software</li> <li>• Use of audiovisual material</li> <li>• Use of web applications</li> </ul> <p><b>Communication with students:</b> face-to-face at office hours, email, eclass platform</p>   |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
|--|---|-----------------|-----------------|-------------------|----|---------------------|----|---------------|----|------------------|----|------------------|-----|-------------|---|------------------------|----|--|--------------|
| <b>TEACHING METHODS</b>                            | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activity</i></th> <th style="text-align: center;"><i>Workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures (direct)</td> <td style="text-align: center;">65</td> </tr> <tr> <td>Laboratory Practice</td> <td style="text-align: center;">--</td> </tr> <tr> <td>Essay Writing</td> <td style="text-align: center;">28</td> </tr> <tr> <td>Autonomous study</td> <td style="text-align: center;">30</td> </tr> <tr> <td>Advisory Support</td> <td style="text-align: center;">0,5</td> </tr> <tr> <td>Examination</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Laboratory Examination</td> <td style="text-align: center;">--</td> </tr> <tr> <td><i>Total</i><br/>(About 25 hours of study per ECTS)</td> <td style="text-align: center;"><b>125,5</b></td> </tr> </tbody> </table>   | <i>Activity</i> | <i>Workload</i> | Lectures (direct) | 65 | Laboratory Practice | -- | Essay Writing | 28 | Autonomous study | 30 | Advisory Support | 0,5 | Examination | 2 | Laboratory Examination | -- | <i>Total</i><br>(About 25 hours of study per ECTS) | <b>125,5</b> |
| <i>Activity</i>                                    | <i>Workload</i>   |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Lectures (direct)                                  | 65  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Laboratory Practice                                | --  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Essay Writing                                      | 28  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Autonomous study                                   | 30  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Advisory Support                                   | 0,5   |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Examination  | 2   |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| Laboratory Examination                             | --  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| <i>Total</i><br>(About 25 hours of study per ECTS) | <b>125,5</b>  |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |
| <b>STUDENT PERFORMANCE EVALUATION</b>              | <p>The evaluation process is in the language that the course is taught (Greek or English) and consists of:</p> <ol style="list-style-type: none"> <li>i. Compulsory written final examination at the end of the semester (weighting factor <b>70%</b> at least) which may includes: <ul style="list-style-type: none"> <li>• Multiple choice questionnaires</li> <li>• Open-ended questions</li> <li>• Problem solving</li> <li>• Oral examination</li> </ul> <p><b>Evaluation criteria:</b> correctness, completeness, clarity</p> </li> <li>ii. Optional written exam or essay during the semester (weighting factor 30%) which may includes: <ul style="list-style-type: none"> <li>• Multiple choice questionnaires</li> <li>• Open-ended questions</li> <li>• Problem solving</li> <li>• Essay/report</li> <li>• Oral examination</li> </ul> <p><b>Evaluation criteria:</b> correctness, completeness, clarity</p> </li> </ol> <p><b>Special learning difficulties:</b></p> <p>Students with <b>special learning difficulties</b> in writing and reading (as they are certified and characterized by a competent body) are examined based on the procedure provided by the Department.</p> <p><b>Specifically-Defined Criteria:</b></p> <p>The evaluation criteria are made known during the first</p> |                 |                 |                   |    |                     |    |               |    |                  |    |                  |     |             |   |                        |    |  |              |

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|  | lesson and are clearly stated on the course website and the AUA Open e-class platform. The answers to the exam questions are posted on the AUA Open e-Class platform after the exam. The students are allowed to see their exam paper after its grading (during the announced office hours) and receive explanations about the grade they received. |
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## 5. ATTACHED BIBLIOGRAPHY

### ***Suggested Bibliography in Greek Language:***

- Ηλεκτρονικό περιοδικό "περιβάλλον για τους Ευρωπαίους"
- Βαβίζος Γ., Μερτζάνης Α., (2003): *Περιβάλλον - Μελέτες Περιβαλλοντικών Επιπτώσεων*. 2η Έκδοση. Βιβλίο 345 σελ. Εκδόσεις Παπασωτηρίου, Αθήνα, ISBN 960-7530-03-9

### ***Suggested Bibliography in English Language:***

- [http://ec.europa.eu/environment/news/efe/themes/waste/index\\_el.htm](http://ec.europa.eu/environment/news/efe/themes/waste/index_el.htm)
- [www.generationawake.eu/el](http://www.generationawake.eu/el)
- Green Week 2014 - circular economy
- [ec.europa.eu/environment/greenweek/programme.html](http://ec.europa.eu/environment/greenweek/programme.html)
- European Commission [DG Environment] Waste Prevention – Handbook: Guidelines on waste prevention programs , October 2012.

### **Related academic Journals:**

1. Preparing a Waste Management Plan – A methodological guidance note, European Commission – Directorate-General Environment, 2012.
2. Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste, European Commission, Directorate-General Environment, Brussels 2012.
3. Use of Economic Instruments and Waste Management Performances – Final Report, Bio Intelligence Service, Contract ENV.G.4/FRA/2008/0112, 10 April 2012, European Commission DG Env., Brussels.
4. OECD/EEA database on instruments used for environmental policy and natural resources management, <http://www2.oecd.org/econinst/queries/>
5. EEA, Resource efficiency in Europe, Policies and approaches in 31 EEA member and cooperating countries, No 5/2011
6. EEA, 2011 Survey of resource efficiency policies in EEA member and cooperating countries, Country Profile Greece, May 2011
7. Naoko Tojo, Alexander Neubauer and Ingo Brauer, IIIIEE, Waste management policies and policy instruments in Europe, Report written as part of project HOLIWAST, WP 1, 2006.

***Instructor's Notes***