

COURSE OUTLINE

1. GENERAL INFORMATION

FACULTY/SCHOOL	SCHOOL OF ANIMAL BIOSCIENCES / SCHOOL OF ENVIRONMENT & AGRICULTURAL ENGINEERING / SCHOOL OF APPLIED BIOLOGY & BIOTECHNOLOGY / SCHOOL OF APPLIED ECONOMICS & SOCIAL SCIENCES		
DEPARTMENT	DEPARTMENT OF ANIMAL SCIENCE AND AQUACULTURE / DEPARTMENT OF NATURAL RESOURCES MANAGEMENT & AGRICULTURAL ENGINEERING / DEPARTMENT OF BIOTECHNOLOGY / DEPARTMENT OF AGRICULTURAL ECONOMICS & RURAL DEVELOPMENT		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	3695	Semester:	1 st / 2 nd / 2 nd / 5 th
COURSE TITLE	AGRICULTURAL ZOOLOGY - ENTOMOLOGY		
INDEPENDENT TEACHING ACTIVITIES <i>in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	ECTS	
Lectures	3	5	
Laboratory Exercises	2		
<i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4</i>			
COURSE TYPE <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i>	Scientific expertise		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION:	Greek		
LANGUAGE OF EXAMINATION/ASSESSMENT:			
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://oeclass.aua.gr/eclass/courses/5106/ https://oeclass.aua.gr/eclass/courses/AFPGM137/ https://oeclass.aua.gr/eclass/courses/5107/ https://oeclass.aua.gr/eclass/courses/AOA235/		

2. LEARNING OUTCOMES

<p>Learning Outcomes The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult:</p> <p>APPENDIX A</p> <ul style="list-style-type: none"> • Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework. • Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and <p>APPENDIX B</p> <ul style="list-style-type: none"> • Guidelines for writing Learning Outcomes

Upon successful completion of the course, students will acquire knowledge, skills and abilities in the following subjects:

- 1) the classification, physiology, biology, and diversity of the animals
- 2) understanding of their role in the environment and in animal production in particular; and
- 3) management of animal organisms with a view to reducing their damaging and increasing their beneficial effects on animal production and on agriculture and the environment in general
- 4) the classification of the Phylum Arthropoda, the diversity and importance of insects.
- 5) Knowledge on the morphology, systematics, biological cycles, ecology, risk and modern methods concerning the management of pests that infest crops, stored products, agricultural or domestic animals and insects of public health importance.

The Laboratory Exercises aim to familiarize students with and develop skills related to:

The identification of the life stages of the Classes and important Families of animals and insects, with emphasis on pest of agricultural and hygiene importance as well as identifying the main types of symptoms and damages they cause.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,

Adapting to new situations

Decision-making

Individual/Independent work

Group/Team work

Working in an international environment

Working in an interdisciplinary environment

Introduction of innovative research

Project planning and management

Respect for diversity and multiculturalism

Environmental awareness

Social, professional and ethical responsibility and sensitivity to gender issues

Critical thinking

Development of free, creative and inductive thinking

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(Other.....citizenship, spiritual freedom, social awareness, altruism etc.)

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- Adapting to new methods.
- Decision-making.
- Individual/Independent work.
- Group/Team work.
- Working in an international environment.
- Design and application of management strategies against pests of stored-products and pests in urban areas.
- Development of free, creative and inductive thinking.

3. COURSE CONTENT

Divisions of zoology, importance of agricultural - applied zoology and entomology

- the biological basis of animal organisms
- characteristics of the animal cell
- the morphology, physiology and ecology of animal organisms
- systematic zoology, zoological nomenclature, classification, phylogeny of animal organisms
- the diversity of animal organisms
- elements of agricultural zoology and entomology: emphasis on morphology, biology, ecology, identification and the role and management of protista, flatworms, nematodes, insects, mites and rodents
- Insects of agricultural importance: morphology, biology and management of insect pests of crops
- Arthropods of hygiene importance: Morphology, biology and management of insects of hygiene importance.
- Insects, rodents and other vertebrates as pests of stored products and dwellings: Damage assessment. Health significance of these. Management by mechanical, biological, cultural and chemical means.

4. TEACHING METHODS--ASSESSMENT

<p>MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i></p>	In-class lecturing																	
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i></p>	<ul style="list-style-type: none"> • Support of the lectures using presentation software. • Use of audiovisual material. • Communication with students. • Support of the learning process through the AUA eClass asynchronous platform. 																	
<p>COURSE DESIGN <i>Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.</i></p> <p><i>The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</i></p>	<table border="1"> <thead> <tr> <th>Activity/ Method</th> <th>Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>39</td> </tr> <tr> <td>Laboratory practice</td> <td>13</td> </tr> <tr> <td>Individual laboratory project (data processing and commenting)</td> <td>33</td> </tr> <tr> <td>Personal study</td> <td>40</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Total of Course (25 hours of workload per ECTS)</td> <td>125</td> </tr> </tbody> </table>	Activity/ Method	Semester workload	Lectures	39	Laboratory practice	13	Individual laboratory project (data processing and commenting)	33	Personal study	40					Total of Course (25 hours of workload per ECTS)	125	
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<p>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures:</i></p> <p><i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i></p> <p><i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.</i></p>	<p>The evaluation process of the theoretical part is in the language that the course is taught consists of:</p> <p>Compulsory written final examination at the end of the semester which includes open-ended questions.</p> <p>Evaluation criteria: correctness, completeness, clarity.</p> <p>The evaluation process of the laboratory part is in the language that the course is taught consists of:</p> <p>Identification of pests and trapping/ management devices.</p> <p>Evaluation criteria: correctness, completeness, clarity.</p>
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5. SUGGESTED BIBLIOGRAPHY:

- Emmanuel N. 1998. Agricultural Zoology, ed. A.U.A., pp. 315
- Van Emden H.F. 2014. Agricultural Entomology (N. Emmanuel, Trans.), ISBN: 9789603949770
- Triplehorn A.C. and J.F. Norman 2005. Borror and DeLong's Introduction to the Study of Insects. 7th Edition, BROKEN HILL PUBLISHERS LTD, ISBN: 9789925576715
- Gullan P.J. and P.S. Cranston 2014. The Insects: An Outline of Entomology, 5th Edition.

6. TEACHERS:

-Theory:

Giannakou Ioannis, Professor
Perdikis Dionysios, Associate Professor
Kavallieratos Nickolas, Associate Professor

Koliopoulos George, Assistant Professor
Helen Panou, Teaching Assistant
Chalkia Christina, Teaching Assistant

-Laboratory:

Giannakou Ioannis, Professor
Perdikis Dionysios, Associate Professor
Kavallieratos Nickolas, Associate Professor
Koliopoulos George, Assistant Professor
Helen Panou, Teaching Assistant
Chalkia Christina, Teaching Assistant