

COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
ACADEMIC UNIT	AGRICULTURE		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	AGR_105	SEMESTER OF STUDIES	FIRST
COURSE TITLE	Agricultural Zoology		
INDEPENDENT TEACHING ACTIVITIES <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>		WEEKLY TEACHING HOURS	CREDITS
Lectures		2	
Seminars		1	
Laboratory exercises		2	
Total		5	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Mandatory, Special background, Specialised general knowledge		
PREREQUISITE COURSES:	Typically, there are no prerequisite courses.		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek. Teaching may be performed in English in case foreign students attend the course.		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

2. 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*

By the end of this course the student will have developed the following skills (general abilities):

- Understanding of the position and the role of various animal organisms in the Animal Kingdom and their role in the environment and agriculture, in particular.
- Familiarization with the systematics of animal organisms.
- Familiarization with the basic organization, form and functions of animal organisms, especially insects, nematodes, mites, rodents and gastropods.
- Familiarization with the symptoms of insect, nematode, mite/tick, rodent and gastropod pests of crop plants, stored agricultural products, food and / or livestock.
- Acquiring of basic management skills to reduce harmfulness and increase its beneficial effects on agriculture and the environment in general
- Familiarization with basic laboratory techniques in zoology.

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

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Others...

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Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Decision making

Autonomous (Independent) work

Respect for the Environment

Promotion of free, creative and inductive thinking

3. SYLLABUS

1. Sectors of zoology, importance of agricultural - applied zoology.
2. Special characters of the animal cell, form, organization and functions of animal organisms.
3. The diversity of animal organisms. Fauna of natural ecosystems.
4. Systematic zoology, zoological nomenclature, classification, phylogeny, origin and evolution of animal organisms. The main Phyla of agricultural importance.
5. Phylum Arthropoda.
6. Class Insecta: external morphology elements, anatomy elements, ecdysis and metamorphosis, preparation of entomological collections
7. Class Arachnida. Subclass Acari (of agricultural importance).
8. Class Chilopoda, Diplopoda.
9. Phylum Nematoda.
10. Phylum Annelida.
11. Phylum Mollusca, Class Gastropoda (Mammalia).
12. Phylum Chordata, Order Rodentia.
13. Principles of management of nematodes, centipeds, milipeds, insects, mites, rodents, gastropods.

Laboratory exercises:

1. Health and safety rules in the laboratory.
2. Stereoscopy principles.
3. Morphology and identification of various animal organisms.
4. Morphology of the various body parts of insects, mites and nematodes
5. Identification of adults and juveniles of major classes and families of animal organisms of agricultural importance
6. Recognition of the main categories of symptoms of pests on cultivated plants, stored agricultural products and livestock.

4. TEACHING AND LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures, self-tests of students and problem-solving seminars.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The contents of the course of each chapter are uploaded on the internet, in the form of a series of pdf files that the students can freely download using a password which is provided to them at the beginning of the

	course.	
<p>TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>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.</i></p> <p><i>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></p>	Activity	Semester workload
	Lectures (2 conduct hours per week x 13 weeks)	26
	Seminars (1 conduct hour per week x 13 weeks) - solving of representative problems	13
	Laboratory work (2 conduct hours per week x 6 weeks)	12
	Hours for private study of the student, preparation and attendance mid-term or/and final examinations.	74
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125 hours (total student work-load)
<p>STUDENT PERFORMANCE EVALUATION</p> <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>	<ol style="list-style-type: none"> 1. Optionally, two mid-term examinations, the first in the middle and the second at the end of the semester. The exam is performed with full length questions and / or multiple choice questions, as well as questions based on the laboratory work. In order to participate in the 2nd mid-term examination, the student must have attained at least the pass grade 5 in the 1st. The final grade is the mean mark of the two mid-term examinations. It is mandatory to obtain a pass grade (≥ 5, in a scale 0-10) in each examination. 2. Final mandatory written examination, full length questions and / or multiple choice questions, as well as questions based on the laboratory work, unless the student has successfully participated in two mid-term examinations, so the above applies. Minimum pass grade= 5, scale 0-10. 3. All the above are taking place in Greek and for foreign students (eg ERASMUS students) in English. 	

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Dorit, R.L., Walker, R. D., Barnes, 1991. Zoology. Saunders college publishing p.p. 1099
2. Gullan, P. J. and P. S. Cranston 2014. The Insects: An Outline of Entomology, 5th Edition.
3. Hickman, JR. C., L. S. Roberts, A. Larson, 1996. Integrated principles of Zoology. Wm. C. Brown Publishers p.p. 901
4. Jabde, P.V. 2005. Text Book of Applied Zoology. Discovery Publishing House New Delhi-110002. p.p. 502.
5. Miller, S. A. AND J. P. Harley, 1992. Zoology. Wm. C. Brown Publishers p.p.664.2. B. Lewin, "Genes VIII", Volume I and II, (Greek edition), 8th Edition, Translation: G. Stamatogiannopoulos, Academic Editions I. Basdra, 2004.