

COURSE OUTLINE

1. GENERAL

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| SCHOOL | Animal Biosciences | | |
| ACADEMIC UNIT | Animal Science | | |
| LEVEL OF STUDIES | Undergraduate | | |
| COURSE CODE | 1440 | SEMESTER | 9 th |
| COURSE TITLE | Animal Production Systems | | |
| 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 and exercises | | 2 | 2 |
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| Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d). | | | |
| COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i> | specialised general knowledge, skills development | | |
| PREREQUISITE COURSES: | --- | | |
| LANGUAGE OF INSTRUCTION and EXAMINATIONS: | Greek | | |
| IS THE COURSE OFFERED TO ERASMUS STUDENTS | No | | |
| COURSE WEBSITE (URL) | https://oeclass.aua.gr/eclass/courses/EZPY190/ | | |
| Academic Staff | Politis I., Theodorou, G, Laliotis G. | | |

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

The objective of the present course is to introduce to the students of our department the concept of "Production Systems" and their significance for animal agriculture worldwide. The content of the course intends to familiarize students with the methods of analysis and study of Production Systems. Furthermore, the course intends to study "Production Systems" using simulation and Statistical Analysis. Students will familiarize themselves with Production Systems mainly in Greece and the European Union. Emphasis is placed on productivity and the ability of Production Systems to adjust in constantly changing conditions (e.g., environmental conditions and legislation).

Following successful completion of the course the students will be capable to:

- comprehend the significance of Production Systems.
- explore systems at farm, chain, regional and country level.
- understand the environmental impact of Production Systems, as well as their impact on animal welfare, economic viability, and the concept of sustainability in animal production.
- analyze and calculate cost data.
- analyze the effects of implementing innovations (in matters of nutrition and breeding).
- work individually or in groups.

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| General Competences <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> | |
| <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i> | <i>Project planning and management</i> <i>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> <i>.....</i> <i>Others...</i> <i>.....</i> |
| <p>The eight (8) exercises (case studies) developed under the course require independent and group work.</p> <ul style="list-style-type: none"> • Skills related to searching, analyzing, synthesizing data and information using new technologies as well as decision-making are developed. • The student acquires skills related to respect for the natural environment. • The discussion of students' answers to the laboratory exercises takes place in front of the whole class fostering critical and self-critical thinking. | |

3. SYLLABUS

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| i. | Definition, significance for animal agriculture |
| ii. | Organization of Production Systems, general principles |
| iii. | Descriptive models |
| iv. | Mathematical models (Simulation, statistical models) |
| v. | Biological and Economic viability of Production Systems |
| vi. | Examples of Production System in Greece and European Union |
| vii. | Production System and Environmental impact |
| viii. | Sustainable Production Systems-Precision livestock farming |

4. TEACHING and LEARNING METHODS - EVALUATION

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| DELIVERY <i>Face-to-face, Distance learning, etc.</i> | In class, face to face and distance learning | |
| USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i> | PowerPoint and video presentations. Communication with students via e-mail. Teaching support through access to the e-class platform, to on-line databases etc. | |
| TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <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> <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> | Activity | Semester workload |
| | Lectures | 16 |
| | Essay writing | 10 |
| | Teamwork/group simulating exercise | 10 |
| | Independent study | 14 |
| | Course total | 50 hours |
| STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <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</i> | -Evaluation is conducted in Greek Students can choose to be evaluated either: a) through tasks where the grade is obtained 100% from individual and/or group simulation exercises, depending on the number of students that will choose the course, or b) through written tests | |

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| <p><i>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> | <p>The option (a) is only valid for ongoing students of 9th semester and not for students who owe the course. Students who owe the course are examined through written test.</p> |
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5. ATTACHED BIBLIOGRAPHY

(A) Suggested literature

- *Livestock production systems, Laca G.A. and M&W Demment, EOLSS, 2013*
- *Animal Production Systems for Pasture-Based Livestock Production. Edited by: Edward B. Rayburn, published by NRAES (2008)*
- *Precision livestock farming applications: Making sense of sensors to support farm management. Edited by: Ilan Halachmi, published by: Wageningen Academic Publishers (2015)*
- *A comparative evaluation of models of lactating ruminant. Sauvant D. Ann. Zootechn. 1996. 45:215-235.*

(B) Digital Educational Materials (e-class; in Greek):

- *Politis (2022). Introduction to Production Systems (Lectures in electronic format)*
- *G. Laliotis (2022). Agricultural Livestock Production Systems with an emphasis on Ruminants (Lectures in electronic format)*
- *G. Theodorou (2022). a) Sustainable animal husbandry, b) Precision animal farming, c) Milk production estimation models. (Lectures in electronic format)*