

## COURSE OUTLINE

### 1. GENERAL

<b>SCHOOL</b>	AGRICULTURAL SCIENCES		
<b>ACADEMIC UNIT</b>	DEPT. OF ANIMAL PRODUCTION, FISHERIES AND AQUACULTURE		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	AS_600	<b>SEMESTER</b>	VI
<b>COURSE TITLE</b>	IMMUNOLOGY, NOSOLOGY & EPIDEMIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>	
	4	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> <i>general background, special background, specialised general knowledge, skills development</i>	Special background, Specialized general knowledge		
<b>PREREQUISITE COURSES:</b>	<u>Recommended:</u> Biochemistry, Genetics, Comparative Animal Anatomy - Physiology, Ichthyology, Microbiology, Cellular - Molecular Biology		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek, English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBSITE (URL)</b>	... to be constructed		

### 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

On successful completion of this unit, the students will be able to:

- ✓ **understand the fundamental principles and terms of Nosology and Epidemiology.**
- ✓ **appreciate the importance of the immune system while being familiar with its various parts and functions.**
- ✓ **analyze the ecological and population aspects of disease.**
- ✓ **describe and evaluate methods for the utilization of the immune mechanisms within the wider framework for disease prevention.**

### 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*

*Project planning and management*

*Adapting to new situations*

*Respect for difference and multiculturalism*

*Decision-making*

*Respect for the natural environment*

*Working independently*

*Showing social, professional and ethical responsibility and sensitivity to gender issues*

*Team work*

*Criticism and self-criticism*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*Others...*

*.....*

- **Search for, analysis and synthesis of data and information, with the use of the necessary technologies.**
- **Working independently.**
- **Team work.**
- **Working in an interdisciplinary environment.**
- **Production of free, creative and inductive thinking.**

### 3. SYLLABUS

- Disease-Health-Well-being. State of disease and immunity. Principles of Nosology: pathophysiology; attack, damage and reaction/adaptation at local/general level.
- Immunology: definition and essentials.
- The vertebrate immune system; its importance and relation to the entire organism.
- Parts and functions of the immune system; immunity and immunization processes.

- Comparative and developmental immunology. Immunology of invertebrates.
- Immunodepression and auto-immune disease.
- Study, classification and kinds of diseases. Zoonoses.
- Principles of Epidemiology; morbidity and mortality. Ambient and innate influences (susceptibility, predisposition, exposure and impact). Disease ecology.
- Population determinations and assessments (prevalence, (cumulative) incidence, risk); diagnostic criteria, sampling and statistical estimations. Epidemiological models, studies and analyses.
- Principles of prevention: physiological condition, protection, disinfection and hygiene, natural individual and herd immunity.
- Immunoprophylaxis, (immunity mechanisms, immunoenhancers, vaccine development, selection and application, immune response assessment).
- Vaccination strategies, efficacy, consequences and benefits. Possible side-effects of vaccination.

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;"><b>DELIVERY</b></p> <p style="text-align: center;"><i>Face-to-face, Distance learning, etc.</i></p>	<p style="text-align: center;">Face-to-face</p>	
<p style="text-align: center;"><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b></p> <p style="text-align: center;"><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p style="text-align: center;">Use of ICT in all teaching/learning activities.</p>	
<p style="text-align: center;"><b>TEACHING METHODS</b></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>	<i>Activity</i>	<i>Semester workload</i>
	<p><b>Lectures</b></p>	<p><b>39</b></p>
	<p><b>Tutorials (Study &amp; analysis of bibliography)</b></p>	<p><b>13</b></p>
	<p><b>Non-directed study</b></p>	<p><b>98</b></p>
	<p style="text-align: center;"><b>Course total</b></p>	<p><b>150</b></p>
<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b></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</i></p>	<p style="text-align: center;"><b>Language, Greek and/or English</b></p> <ol style="list-style-type: none"> <li>Oral examination (summative-conclusive) (A)</li> <li>Written final examination – Short-answer questions and/or multiple choice questions (conclusive) (B)</li> </ol> <p style="text-align: center;"><b>Each one to be graded in a 0-10 scale.</b></p> <p><b>Final grade (FG):</b></p> <p style="text-align: center;"><b>FG= 0,2A+0,8B when B≥5, else:</b></p>	

<p>examination of patient, art interpretation, other</p> <p>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</p>	<p><b>FG= B</b></p> <p><b>'A' is done concurrently with the teaching process; 'B' takes place in the examinations period as regulated.</b></p> <p><b>In case of failure the student should repeat the procedure.</b></p>
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## 5. ATTACHED BIBLIOGRAPHY

### Suggested bibliography:

- Cellular and Molecular Immunology (9th Edition): A.K. Abbas, A.H.H. Lichtman and S. Pillai (2017). Elsevier, 608 pages. ISBN: 978-0-323-47978-3
- Veterinary Epidemiology (4th Edn.): M.V. Thrusfield and R. Christley (2018). Wiley – Blackwell, 888 pages. ISBN: 978-1-118-28028-7
- Fish Vaccines: Alexandra Adams (2016). Springer, 180 pages. ISBN: 978-3034809788

### Related academic journals:

❖ **Fish and Shellfish Immunology: Elsevier, ISSN 1050-4648, (<https://www.journals.elsevier.com/fish-and-shellfish-immunology>)**