COURSE OUTLINE

1. GENERAL

SCHOOL	Agricultural Sciences		
ACADEMIC UNIT	Animal Production, Fisheries & Aquaculture		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE		**SEMESTER**	**1th**
COURSE TITLE	Biostatistics		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background
PREREQUISITE COURSES:	There are no prerequisite courses.
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek. Teaching may be performed in English in case of foreign students
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (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*

The student, at the end of the relevant Learning Process, is able:

- To understand the basic concepts of Biostatistics.
- To summarize data with descriptive statistical methods.
- To understand the impact of statistical methods in the biological research.
- To use biostatistical methods in the analysis of biological and ichthyological data.

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…*
	…….

Generally by the end of this course the student will have developed the following general abilities (from the above list)

- 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
- Respect for the natural environment
- Criticism and self-criticism

3. SYLLABUS

- Basic concepts. Population and Sample. Sampling Techniques. Types of variables.
- Data representation. Frequency tables (frequency distributions).
- Graphs.
- Descriptive measures. Measures of central tendency. Mean, Median, Mode. Properties of central tendency measures.
- Measures of dispersion. Range, Percentiles. Quartiles, deciles and interquartile range. Mean Deviation. Variance and standard deviation. Coefficient of variation.
- Measures of Shape. Skewness. Coefficient of skewness. Kurtosis of a distribution. Coefficient of kurtosis.
- Measures of central tendency for grouped data.
- Measures of dispersion for grouped data.
- Boxplots, stem and leaf plots, scaterplots.
- Method of least squares. Interpretation of least squares line.
- Introduction to probabilities
- Definition of odds, odds ratios and relative risk.
- Review of descriptive biostatistical techniques and use in case studies.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	**ICT in teaching and communication with students**
TEACHING METHODS *The manner and methods of teaching are described in detail.* *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.* *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*	***Activity*** / ***Semester workload*** Lecture: 39 Final examination: 3 Private study time of the students for the final examination: 83 **Course total (25 work load for each ECTS credit)**: ***125***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Written final examination (B) *Each case is graded on a scale of 0-10* Final grade FG = B *Minimum passing grade: 5 (Grade: 0-10)* Greek language is used. For foreign students (e.g. Erasmus students) it can be done in English

4. ATTACHED BIBLIOGRAPHY

Suggested Bibliography:

- Gnardellis C. "Applying Statistics", Papazisis Editions, Athens, 2019.
- Gnardellis C. "Data Analysis with IBM SPSS 21", Papazisis Editions, Athens 2013.
- Marcelo Pagano, Kimberlee Gauvreau, “Principles of Biostatistics”, Second Edition. Duxbury, Pasific Grove, CA (2000).
- Zar J.H. “Biostatistical Analysis”, Fifth Edition,Pearson Education, Hoboken, New

Jersey, 2010.