Sampling Design, Environmental Data Analysis and Ecological Models

SCHOOL	NATURAL SCIENCES		
ACADEMIC UNIT	BIOLOGY		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	**GBIO_OKYA1**	**SEMESTER**	1st
COURSE TITLE	**Sampling Design, Environmental Data Analysis and Ecological Models**		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures, Laboratory Exercises	13	9

COURSE TYPE	Specialised general knowledge, 2) skills development
PREREQUISITE COURSES	NO. Formally, there are no prerequisite courses. Nevertheless, a good knowledge of ecology and some expertise of basic statistics is recommended
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO
URL	

Learning outcomes

At the end of the course, students should be able to: (1) formulate valid scientific questions and hypotheses about the ecology of organisms, (2) understand sampling methods and strategies, (3) to design ecological experiments and sampling, (4) to analyze ecological data according to query and data type, (5) understand the concepts and types of ecological models, (6) to construct ecological models.

General Competences

At the end of the course, students will have developed the following skills: (1) ability to design simple yet valid experiments to study the ecology of organisms, (2) ability to analyze primary ecological data, (3) ability to evaluate and present ecological analyses.

Teaching and Learning Methods-Evaluation

DELIVERY	In person
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	(1) Use of computers and special software during the course by the instructors and the students. (2) Support of educational procedure with use of the e-class electronic platform.

TEACHING METHODS	**Activity**	**Semester workload**
	Lectures and Laboratory Exercises	39
	Home study	186
	Course total (25 hours per one ECT)	**225**

STUDENT PERFORMANCE EVALUATION	Preparation and Presentation of Laboratory Exercises (at the end of the semester) Grading scale: 1-10. Passing grade: 5 Grading: 3 corresponds to ECTS grade F. Grade 4 corresponds to ECTS grade FX. Passing grades correspond to ECTS grades as follows: 5=E, 6=D, 7=C, 8=B, 9=A

Attached bibliography

- Chalmers N, Parker P (1989) The OU Project Guide: Fieldwork and Statistics for Ecological Projects. Field Studies Council, Open University.
- Dytham C (2003) Choosing and Using Statistics. Blackwell Science.
- Fowel J, Cohen L, Jarvis P (1998) Practical Statistics for Field Biology. John Wiley & Sons.
- Gotelli NJ, Ellison AM (2004) A Primer of Ecological Statistics. Sinauer Associates.
- Krebs CJ (1999) Ecological Methodology. Addison-Welsey.
- Quinn GP, Keough MJ (2002) Experimental Design and Data Analysis for Biologists. Cambridge University Press.
- Ruxton CD, Colegrave N (2003) Experimental Design for Life Sciences. Oxford University Press.
- Zar JH (1998) Biostatistical Analysis. Prentice Hall.