

SYLLABUS

1. COURSE DESCRIPTION

Degree:	Environmental Sciences
Course:	Sampling Methods in Ecology
Module:	
Department:	Physical, Chemical and Natural Systems
Academic Year:	2017/18
Term:	Second
ECTS credits:	6
Year:	4th year
Type:	Optional
Language:	Spanish

Course Model:	C1	
a. Basic learning (EB):		50%
b. Practical learning (EPD):		50%

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2. LECTURERS

Coordinator	
Name:	Juan Carlos Linares Calderón
School:	School of Experimental Sciences
Department:	Physical, Chemical and Natural Systems
Area:	Ecology
Category:	
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3. TOPICS

TOPIC 1. Introduction to sampling methods for plant and animal populations in terrestrial ecosystems.

Unit 1. Introduction to experimental design. General aspects of field sampling.

Unit 2. Types of sampling. Sampling methods; transects, quadrants, line-intercept sampling, line-point intercept.

TOPIC 2. Quantification of sampling.

Unit 3 Statistical analysis of ecological data. Qualitative methods of sampling: presence-absence, appreciative quantification, density, abundance, coverage.

Indirect sampling.

Unit 4. Plant sampling: abundance and dominance, density, coverage, biomass, other types of measures.

Unit 5. Estimation of the sample size. Curves of accumulation of species.

Unit 6. Sampling of animal populations: indices of abundance, itineraries and Census stations, parcels, captures, direct count.

TOPIC 3. Design and conduct of field samplings and / or laboratory experiments.

Practice 1: Field sampling of plants.

Practice 2: Measurement of plant growth.

Practice 3: Field sampling of animal populations.

Practice 4: Estimation of diversity, similarity and importance.

Practice 5: Estimation of the density of animal populations. Capture method- marking and recapture.

Practice 6: Edaphic sampling to determine the soil texture.

Practice 7: Population growth in *Daphnia magna*.

Practice 8: Temperature effect on the development of living organisms.

Practice 9: Analysis of climate data.

Practice 10: Bird census.

Practice 11: Relation species-factor.

Practice 12: Landscape perception.

TOPIC 4. Data treatment, analysis and interpretation.

Unit 7 Scientific work: elaboration and presentation.