Universidad Zaragoza

Year : 2020/21

28435 - Ecology and the Environment

Syllabus Information

Academic Year: 2020/21
Subject: 28435 - Ecology and the Environment
Faculty / School: 105 - Facultad de Veterinaria
Degree: 451 - Degree in Veterinary Science
ECTS: 3.0
Year: 2
Semester: First semester
Subject Type: Optional
Module: ---

1.General information

1.1.Aims of the course

The course provides the basic contents of Ecology and the Environment and the necessary vision for its use in the different areas of the veterinarian's professional development http://titulaciones.unizar.es/veterinaria/descripcion_detailed.html,

In the Ecology field, the purpose of the course is that students know the abiotic and biotic factors and interactions that explain the abundance and distribution of organisms and the functioning of the following levels of organization of life: populations, communities, ecosystems, landscape-territory and biosphere.

As far as the Environment is concerned, some problems will be tackled, such as climate change, problems deriving from pollutants coming from livestock farming, etc.

All this will allow: (i) address the resolution of environmental problems by reference to the functioning of natural systems; (ii) become aware of Global Change and of the bases provided by Ecology to mitigate it;

(iii) address scientific problems in the ecology field through the rigorous application of the scientific method.

1.2.Context and importance of this course in the degree

The subject is linked to numerous subjects of the Veterinary Degree such as the aforementioned Epidemiology and Biostatistics, Agronomy, Toxicology, Parasitology and Wildlife.

It should be noted that Ecology is a scientific discipline and is not the same as the Environment. Ecology aims to know the abundance and distribution of organisms and their interactions with each other and with the environment. The Environment is a scientific-technical discipline that aims to solve environmental problems in the natural environment most directly transformed by humans.

1.3.Recommendations to take this course

It is highly recommended to attend theoretical and practical classes, to document yourself before going to classes, to work throughout the four-month period, to organize your own individual work time and to take advantage of the tutorials with the teachers of the subject. For the best monitoring of the subject it is recommended to have passed the following subjects: Epidemiology, Biostatistics and Biochemistry. The field practices imply the fulfillment of the rules of the Ecology Area that appear in the Moodle platform of the subject.

It is also convenient to have a basic knowledge of English for the comprehension of technical and scientific texts and to have the equipment for field work.

2.Learning goals

2.1.Competences

Cross-cutting generic competences

Students must know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated by developing and defending arguments and solving problems within their area of study.

They must have the ability to gather and interpret relevant data to make judgments that include a reflection on relevant social, social, scientific or ethical issues.

To be able to transmit information, ideas, problems and solutions to a specialized public or not. Generic competences

C1. Analyze, synthesize, solve problems and make decisions in the professional areas of the veterinarian.

C6. Search and manage information related to the veterinarian's activity.

C7. To know and apply the scientific method in professional practice including evidence-based medicine.

C8. Know how to get professional advice and help.

C10. Have a basic knowledge of a second language, especially in technical aspects related to Veterinary Sciences.

C11. To be aware of the need to keep the knowledge, skills and attitudes of professional competences updated through a process of continuous training.

Specific competences

CCSA18 Zoonoses and Public Health

CCSA20 Technical measures and regulations for the prevention, control and eradication of animal diseases.

PA08 Sustainable development

HTSA12 Dynamics and demography of infection and intoxication HTSA13 Epidemiology and diagnosis

HTSA14 Monitoring and surveillance system.

2.2.Learning goals

If students complete the course successfully, they should be able to

1. Evaluate and interpret the role of abiotic factors in the structure and functioning of ecological systems at different levels of organization.
2. Recognize in the field the cycle of organic matter in terrestrial ecosystems. Identifies key ecosystem services
3. Know critically the main syndromes of Global Change Analyzes ecological information critically.
4. Know the meaning and applies the methods for estimating biological diversity.
5. Interpret communities and ecosystems over time, incorporating the concept of disturbances.

2.3.Importance of learning goals

The learning results obtained will make possible to address the understanding of environmental problems and interactions produced by the main human activities, taking as reference the functioning of natural ecosystems and knowing the framework of Global Change.

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The student, in order to pass the course, will have to show his competence in the following activities.

The assessment will be comprehensive and will consist of a written test with multiple-choice questions with only one right answer. This written test will represent 90% of the total score.

Teamwork on relevant questions related to the subject. It will be delivered as a written report. The degree of clarity, and precision in language use, content relevance, synthesis capacity and references quality, will be evaluated. The evaluation of this report will represent 10% of the total score.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

Participative master lectures. Practical lectures will be devoted to the recognition of theoretical aspects in the field and in the classroom.

4.2.Learning tasks

The subject implies a dedication of 75 hours of work by the student: 15 hours of master lectures; 4 hours of practical lectures in a classroom; 11 hours of special practices; 40 hours of study and autonomous work and 3 hours of evaluation.

4.3.Syllabus

Theory program

Participative theory lectures in which students pose doubts regarding the information they have received previously by the teacher. This information is available on Moodle platform since the beginning of the term.

Week 1. Ecology 1. Introduction.

Week 2. Ecology 2. Populations.

Week 3. Eco 3. Communities.

Week 4. Eco 4. Ecosystems.

Week 5. Eco 5. Conservation Biology.

Week 6. MA 1. Abiotic Environmental Impact.

Week 7. MA 2. Biotic Environmental Impact and Environmental Education.

Week 8. MA 3. Environmental Microbiology.

Week 9. Global assessment.

Practices program

Week 3. Demography.

Week 5. Practice in the field 1. Natural Environments

Week 6. Environmental Education.

Week 7. Practice in the field. Extensive farming and Natural Environments.

4.4.Course planning and calendar

Calendar, timetable, tutorials and exams will be adjusted to the general academic calendar of Zaragoza University and its Faculty of Veterinary.

The information on the subject will be available on Moodle platform from the beginning of the course.

Calendar of face-to-face sessions.

This subject implies an average dedication of 75 hours by the student:

Lectures	15
Practice Sessions	4
Fieldwork	11
Study and autonomous work	40
Assessment	2
Total	75

4.5.Bibliography and recommended resources