1. OVERVIEW

Subject Area	Epidemiology and Biostatistics
Degree	Bachelor's Degree in Veterinary Medicine
School/Faculty	Biomedical and Health Sciences
Year	First
ECTS	6 ECTS
Type	Core
Language(s)	Spanish
Delivery Mode	On-campus
Semester	Second semester

2. INTRODUCTION

The aim of this subject is to provide students with basic knowledge in epidemiology and biostatistics, to enable them to learn the scientific method, the ability to distinguish between this method and other forms of acquiring knowledge, to study diseases based on their prevalence and distribution among different populations and samples, to consider the factors that affect them and the methods that reveal how they behave.

Therefore, this subject area will provide the foundations for acquiring the skills and knowledge needed to conduct research.

3. SKILLS AND LEARNING OUTCOMES

Basic skills (CB, by their acronym in Spanish):

- CB2. Students can apply their knowledge to their work or vocation in a professional manner, and possess the relevant skills which may be demonstrated by forming and justifying opinions, and problem-solving within their study area (Application of Knowledge).
- CB3. Gather and interpret relevant data (usually within their study area) to form opinions which include reflecting on relevant social, scientific or ethical matters (Research).
- CB4. Communicating information, ideas, problems and solutions to both specialist and non-specialist audiences (Communication).

Cross-curricular skills (CT, by their acronym in Spanish):

- CT2. Independent learning. Employ appropriate strategies needed to search for, analyse, evaluate and manage information from different sources, and to learn and put into practice what has been learnt independently.
- CT5. Analysis and Problem-solving. Assess information critically, address complex situations by breaking them down into their various parts, identify patterns, and consider other alternatives, approaches and perspectives in order to reach the best solutions and effective arrangements.
- CT6. Adaptability. Assume, appreciate and integrate different roles, adapting your approach to the specific situation at hand, and work effectively in situations of uncertainty.

General skills (CG, by their acronym in Spanish):

- G8. Acquire knowledge and skills in research.

Specific skills (CE, by their acronym in Spanish):

- CE1. Knowledge and application of the principles and foundations of:
  a. biometry and statistics applied to veterinary sciences.

- CE13. Knowledge and application of:
  a. the concept of evidence-based veterinary medicine, the scientific research method and stages of research applied to improving healthcare and production.

Learning outcomes (RA, by their acronym in Spanish):

- RA1. Describe the methodology of statistics applied to veterinary medicine.
- RA2. Describe the epidemiological methodology and terminology applied to veterinary medicine.
- RA3. Use different techniques in statistics for the retrieval and analysis of data, parameter estimation and hypothesis testing, including probability distributions.
- RA4. Interpret the results of hypothesis testing.
- RA5. Identify major statistical errors and biases.
- RA6. Distinguish between scientific knowledge and other forms of knowledge.

The following table shows how the skills developed in the subject area relate to the intended learning outcomes:

Skills (CE)	Learning outcomes (RA, by their acronym in Spanish)
CE1	RA1, RA2, RA3, RA4
CE13a	RA3, RA4, RA5, RA6

4. CONTENT

The subject area is divided into two units:

Unit in Epidemiology

Unit in Biostatistics

5. TEACHING/LEARNING METHODS (MD, by their Spanish acronym)

The types of teaching/learning methods are as follows:

- MD1: Lecture / Web conference
- MD2: Case studies
- MD3: Problem-based learning

6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

On campus:

Learning activity	Number of total hours	Number of hours on campus
AF1: Master lectures	32	32
AF3: Case studies and problem-solving	25	12
AF4: Oral presentations	4	4
AF5: Independent working	65	0
AF6: Workshop activities	6	6
AF9: Research	8	0
AF10: Tutorials	8	4
AF11: Assessment tests	2	2
TOTAL	**150h**	**60h**

7. ASSESSMENT

The assessment methods, plus their weighting in the final grade for the course, are as follows:

On campus:

Assessment system	Weighting
SE1: On-campus theory exams	60%
SE4: Case study/problem	10%
SE5: Oral presentations	10%
SE6: Research projects (statistical report)	20%

On the Virtual Campus, when you open the subject area, you can see all the details of your assessment tasks, including the deadlines and assessment procedures for each task.
At the professor's discretion, an oral exam may be arranged to make up for the justified absence of an exam.

8. BIBLIOGRAPHY

The works of reference for following up this subject area are:

- Villarroel, A. Practical clinical epidemiology for the veterinarian. Willey Blackwell, 2015.

The recommended bibliography is indicated below:

- Milos Jenicek, Robert Cléroux. Epidemiología: principios, técnicas, aplicaciones. Barcelona, Salvat, 1990.
- Hernández Aguado, I. Manual de epidemiología y salud pública: en ciencias de la salud. Ildefonso Hernández-Aguado. Editorial Médica Panamericana, cop. 2009.
- Aviva Petrie, Paul Watson. Statistics for Veterinary and Animal Science, 3rd Edition. Wiley-Blackwell, 2013