EPIDEMIOLOGY

Code: 90020 Curricular Year: 2nd Semester: 4th Compulsory Credits: 3.0 ECTS

Lecturer(s): Prof. Dr. Virgílio Almeida and Dr. Telmo Nunes

1. Contact hours:
Lectures 14 **Practical** 14 **Total** 28

2. Objectives:
To train the students to use the key principles and methods used in epidemiological investigations such as descriptive and analytic techniques as well as mathematical modelling, and to understand their relevance for the prevention, control and eradication of transmissible diseases, and to improve animal welfare, production efficiency and animal product quality.

3. Programme:
Theoretical course:
Descriptive Epidemiology: types of population; major entry *vias* on the host and main mechanisms of transmission of agents within and between herds; disease ecology; agent defence mechanisms on the environment; exposition; monofactorial/multifactorial diseases; disease determinant factors associated the host, the agent and the environment; measuring disease frequency; time/space disease occurrence; epidemic curve; maps and geographical information systems.
Analytic Epidemiology: observational studies, risk factors, measures of association; sampling; screening and diagnostic tests; mathematical models; sources of data, data collection, storing and analysis; Risk Analysis; Economics of Animal Health.
Practical course:
National and international animal health databases; measuring disease occurrence in animal populations; sampling exercises; questionnaire design; a structured approach to data analysis; identification and ranking of risk factors; assessment of serological tests; GIS exercises; model-building strategies; Risk Analysis (applied to live animals imports); Economics of Animal Health.

4. Bibliography:
Veterinary Epidemiologic Research (Dohoo I., Martin W., Stryhn H., 2004)
Veterinary Epidemiology (M.Thrusfield, 2007, 3rd Edition)
Veterinary Epidemiology – Methods and principles (Martin S.W. *et al*, 1987)

5. Assessment:
Final written exam concerning theoretical and practical themes. Minimal mark is 10 out of 20.