UNIVERSIDADE DE LISBOA

Faculdade de Medicina Veterinária

ANIMAL NUTRITION

Study programme: MIMV **Curricular Year: 3th** **Semester: 5th** **Compulsory** **ECTS: 4,5**

Lecturers: Luis M A Ferreira, José PC Lemos (CCP, R), Carlos MGA Fontes, Virgínia MR Pires.

1. **Contact hours:** Lectures – 26, Practical – 18, Field work - 1

2. **Objectives:**

Students should be able to:
- Understand the mechanisms of transformation of energy and nutrients in animal products;
- Evaluate the nutritional needs of animals;
- Assess the nutritional quality of foods and learn to diagnose situations of nutritional deficiencies.

3. **Programme:**

Introduction: Importance of animal nutrition in the context of modern agriculture. Basics of animal nutrition. Current methods for analysis of foods and nutrients. Review of the anatomy and physiology of the gastrointestinal tract of domestic animals. Nutrients and metabolism: water, energy, protein and amino acids, carbohydrates, lipids, vitamins and minerals. Evaluation of the nutritional value of foods and the nutritional needs of animals. Digestibility of the feed. Energy and protein assessment. Nutritional requirements. Voluntary food intake. Feeding standards. Food processing. Feeding strategies. Sampling technique for food analysis. Determination of gross energy by adiabatic bomb. Proximate analysis of food. Forage evaluation by the method of Van Soest. "In vitro" digestibility measurement by the method of Tilley and Terry. Fibrolytic activity of rumen fluid.

4. **Bibliography:**.

Class handouts, lecture notes, scientific and technical papers.
Macdonald, P, Edwards, R.A., Greenhalhg, J.D.F., Morgan, C.A., Sinclair, L.A. & Wilkinson, R.G. (2011). *Animal Nutrition*. Prentice Hall. 2011.
Forbes, J.M. (1995). *Voluntary Food Intake and Diet Selection in Farm Animals*. CAB International, Wallingford, UK.
Taylor, R. E. & Field, T. G. (2004). *Scientific farm animal production - An introduction to Animal Science*. Pearson Prentice Hall, New Jersey, USA.
National Research Council (várias datas). *Nutrient Requirements of Domestic Animals (*Todas as espécies animais). National Academy Press. Washington DC

5. **Assessment:**

Theoretical and practical subjects are evaluated with a written examination including short answer questions, multiple-choice questions, true and false and incomplete sentences.