UNIVERSIDADE ESTADUAL DE MARINGÁ
CENTRO DE CIÊNCIAS AGRÁRIAS
PROGRAMA DE PÓS-GRADUAÇÃO EM ZOOTECNIA

DISCIPLINA	Special Topics – Comparative Nutrition					
CÓDIGO	DZO4240					
NÍVEL	Mestrado e Doutorado					
CARGA HORÁRIA	45					
NÚMERO DE CRÉDITOS	Teóricos:	2	Práticos:	1	Total:	3

EMENTA

Principles of nutrition, including the classification of nutrientes and the nutrients requirements of and metabolism by different species for health, growth, maintenance, and productive functions. Students will be able to identify and compare the digestive systems of different species in correlation to absorption and the use of nutrients and identify the basic ingredients relative to nutritional functionsin domestic species.

PROGRAMA

1. Introduction – Overview of the comparative nutrition

2. Characteristics of Digestive Tracts in Animals:
   2.1 Overview of the Comparative Nutrition;
   2.2 Different Aspects of Digestive Tract Anatomy;
   2.3 Digestive Physiology – Auto-enzymatic Digesters;
   2.4 Digestive Physiology – Allo-Enzymatic Digesters.

3. Nutrients, Absorption, and Metabolism:
   3.1 Water in Animal Nutrition, Blood, Electrolytes;
   3.2 Protein and Amino Acid Structure and Properties, Protein Digestion;
   3.3 Carbohydrates Structure, Digestion, and Absorption;
   3.4 Cellular Metabolism;
   3.5 Lipids Structures, Digestion, fat and Fatty Acid Metabolism;
   3.6 Lipid Peroxidation and Antioxidant Nutrients;
   3.7 Minerals and Vitamins;
   3.8 Energy Metabolism.

4. Importance of Nutrients in Animals Life:
   4.1 Disorders and Unique Aspects of Energy Metabolism;
   4.2 Feeding Behavior and Regulation of Feed Intake;
   4.3 Skeletal System: Calcium, Phosphorus and Vitamin;
   4.4 Nutrition and Reproduction;
   4.5 Nutrition and Immunity.

5. Feeding and Nutrition of Livestock and Specialty Animals

BIBLIOGRAFIA

CHEEKE, P. R.; DIERENFELD, E. *Comparative Animal Nutrition and Metabolism*. Cambridge, MA: CABI, 2010. 339 p.
CHEEKE, P. R. *Applied Animal Nutrition, Feeds and Feeding: Feeds and Feeding*. 2. ed. Upper Saddle River: Pearson Education do Brasil, 1999. 525 p.
PROSSER, C. L. *Environmental and Metabolic Animal Physiology*. 4. ed. New York: Wiley-Liss, 1991. 1 578 p.
FORBES, J. M. *The Voluntary Food Intake of Farm Animals*. London: Butterworths, 1986. [sem indicação de páginas]
GASS, G. H.; KAPLAN, H. M. *Handbook of Endocrinology*. Boca Raton, FL: CRC Press, 1982. 357 p.
JOHNSON, L. R. *Physiology of the Gastrointestinal Tract*. New York: Raven Press, 1987. Vol. I e II. v. I: 1-909 p.; v. II: 910-1 800 p.
STEVENS, C. E.; HUME, I. D. *Comparative Physiology of the Vertebrate Digestive System*. Cambridge; New York: Cambridge University Press, c1995. [uso de "c" antes do ano em caso de data aproximada]
GORDON, I. R. *Reproductive Technologies in Farm Animals*. Wallingford, Oxfordshire: CABI Publishing, 2004. 346 p.
SCANES, C.; DRIDI, S. *Sturkie's Avian Physiology*. 7. ed. London: Academic Press, 2022. 1409 p.
Journals:
Journal of Dairy Science - https://www.journalofdairyscience.org/
Poultry Science https://www.sciencedirect.com/journal/poultry-science
Animal https://www.mdpi.com/journal/animals
Journal of Animal Physiology and Animal Nutrition- https://onlinelibrary.wiley.com/journal/14390396

METODOLOGIA

Classes will take place in a virtual Google meeting environment, with each class lasting 4 hours of interaction between teacher and students, according to the course schedule. The synchronous meetings will be divided into traditional classes (lecture-dialog) followed by moments of discussion, clarification of doubts and interaction between students and teachers.
Activities to prepare for the classes, such as references for reading, will be sent in advance via e-mail.

CRITÉRIO DE AVALIAÇÃO

The evaluation will be continuous and integrative, assessing both conceptual appropriation and the communicative skills.
Individual Class participation (weight: 50%): Relevant interventions, contributions to discussions and analysis;
Oral presentation (50%): presentation of a subject related to the syllabus.

Aprovado em reunião do Conselho do Programa de Pós-graduação em Zootecnia, realizada no dia 11/08/2025, conforme Ata 05/25-PPZ