



IDENTIFICAÇÃO

Disciplina obrigatória: Não

Docente: Prof. Jean-Loup Rault

Animal welfare concepts. Animal welfare indicators. Affective states in animals. Normal and abnormal behaviours. Human-animal relationship. Practical animal welfare assessment. Ethics and animal welfare.

1 – Deepen the knowledge of students on the theoretical bases of animal welfare with an emphasis on affective states in animals and on the ethical implications of animal welfare concepts, and apply practical approaches to animal welfare assessment in farm animals.

2 – Stimulate critical thinking on animal welfare topics, understanding of different views in regard to scientific concepts, and the elaboration of a scientific approach to animal welfare problems and solutions in practice.

3 – Strengthen the students' ability to exchange, present and discuss in English as a main scientific working language internationally.

This course could be delivered in English.

Proposed course schedule and content:

1- Scientific approaches to affective states in animals

- Functions of emotions: Basic emotional systems and how they help organise and integrate physiological, behavioural and psychological changes
- Overview of the different scientific disciplines used to assess emotions: behavior, physiology, neuroscience, comparative approach, qualitative approach
- Discussion of the most common approaches used for the assessment of emotions in animals: descriptive/categorical approach (e.g. prime emotions with Panksepp systems), componential approach (e.g. two-dimension 'valence-arousal' model, appraisal model), or social-constructivism (only in humans?), emotions vs. moods (transient affects), etc

2- Concepts of animal welfare

- History of the societal concerns and scientific approaches on animal welfare
- Progress in the assessment of how an animal feels
- Recent advances in animal welfare science

3- Animal welfare indicators

- Animal welfare indicators
- Dimensions of welfare and inter-relationships
- Link of physical health and emotions
- Welfare dimensions and welfare indicators (behaviour, physiology, pathological indicators, production; outcome - input)
- Negative & positive indicators (i.e. indicators for negative emotional states and positive emotional states)
- Preferences and motivation tests
- Cognitive bias: judgement bias, attention bias, etc.

4- Normal and abnormal behaviours

- What are normal and abnormal behaviours?
- General overview
- Types of abnormal behaviours

- How to differentiate between normal and abnormal behaviour
- Causes and emergence of abnormal behaviour
- Video examples of different species
- Discussion with students: Behaviour normal/abnormal? Possible causes?

5- Ethics and animal welfare

- Current debates about animal use regarding animal welfare
- Ethical problems concerning animal welfare
- Welfare issues in animal agriculture and the general community

6- Practical animal welfare assessment

- Introduction of the Welfare Quality Protocol system for on-farm welfare assessments
- Discussion of on-farm welfare assessment protocols and environment-based vs. animal-based indicators
- Conduct an animal welfare assessment on pig, dairy cattle, or another species

7 – Writing and individual oral presentation of a short grant proposal on an animal welfare topic of the student's choice

Metodologia:

Lectures, group discussion, self-reading and critical review of scientific papers (in English language), practical exercises, literature search, writing of a short grant proposal (in English), oral presentation.

Modos e meios de avaliação:

Aspects that will be evaluated: initiative and interest, critical thinking, scientific reasoning, scientific knowledge, oral presentation and communication skills, English skills, scientific writing skills.

Instrumentos de avaliação: active participation, written report, oral presentation.

Bibliografia:

Scientific articles:

- Dawkins M. 2006. A user's guide to animal welfare science. *TRENDS in Ecology and Evolution*, 21(2), 77-82. (<https://doi.org/10.1016/j.tree.2005.10.017>)
- Duncan I. 2005. Science-based assessment of animal welfare: farm animals. *Rev. sci. tech. Off. int. Epiz.*, 24 (2), 483-492.
- Fraser D. 2009. Animal behaviour, animal welfare and the scientific study of affect. *Applied Animal Behaviour Science* 118, 108–117 (<http://doi.org/10.1016/j.applanim.2009.02.020>)
- Fraser D, Weary D, Pajor E, Milligan B. 1997. A scientific conception of animal welfare that reflects ethical concerns. *Animal Welfare*, 6: 187-205 (<http://doi.org/10.1017/S0962728600019795>)
- Gygax L. 2017. Wanting, liking and welfare: The role of affective states in proximate control of behaviour in vertebrates. *Ethology* 123, 689–704 (<http://doi.org/10.1111/eth.12655>)
- Hötzel MJ, Pinheiro Machado Filho LC. 2004. Bem-estar animal e agricultura. Bem-estar Animal na Agricultura do Século XXI. *Revista de Etologia* 6 (1), 03-15.
- Main D, Whay H, Leeb C, Webster A. 2007. Formal animal-based welfare assessment in UK certification schemes. *Animal Welfare* 16, 233-236 (<http://doi.org/10.1017/S0962728600031419>)
- Mendl M, Paul ES. 2020 Animal affect and decision-making. *Neurosci. Biobehav. Rev.* 112, 144–163 (<http://doi.org/10.1016/j.neubiorev.2020.01.025>)
- Paul ES, Mendl MT. 2018 Animal emotion: Descriptive and prescriptive definitions and their implications for a comparative perspective. *Appl. Anim. Behav. Sci.* 205, 202–209. (<http://doi.org/10.1016/j.applanim.2018.01.008>)
- Palmer C, Sandoe P. 2025. “Animal Ethics” (Book chapter, in “Animal Welfare”, edited by Olsson A, Chou J-Y, Galindo F, Marchant J, CABI, 4th edition, Wallingford, UK, pp. 1-12)

Book:

- Fraser D. 2023. *Understanding Animal Welfare: The Science in its Cultural Context*. Wiley Blackwell, 2nd edition, 376 pp.