Universidad Zaragoza

Academic Year/course: 2023/24

66851 - One Welfare: Environment, sustainability and animal-human boond

Syllabus Information

Academic year: 2023/24
Subject: 66851 - One Welfare: Environment, sustainability and animal-human boond
Faculty / School: 105 - Facultad de Veterinaria
Degree: 617 - Master's in Global Health: Integration of Environmental, Human and Animal Health
ECTS: 6.0
Year: 1
Semester: First semester
Subject type: Compulsory
Module:

1. General information

The course contributes to the training of professionals in the field of global health from a holistic point of view, integrating interdisciplinary aspects of human, animal and ecosystem welfare, taking into account environmental, economic and social visions. This training, which responds to the needs of 21st century society, will enable the training of professionals capable of designing, developing and managing projects in the field of global health, as well as working in multidisciplinary teams.

These approaches are aligned with the 17 Sustainable Development Goals (SDGs), mainly with SDG 3 Health and well-being of the United Nations Agenda 2030, so that the acquisition of the learning outcomes of the course provides training and competence.

2. Learning results

To pass this course, the student must demonstrate the following outcomes

- Understand how the One Welfare approach complements the One Health approach and identify examples encompassed by the concept.
- Know the potential of the agri-food sector for sustainable development.
- Explain the basic principles of environmental and health economics in relation to the concept of externalities.
- Understand the interrelationships that may exist between the circular economy and the bioeconomy.
- To know the concept of sustainability applied to socio-agro-ecosystems and to know how to apply the different methodologies.
- Analyze the problems associated with the current food system and its alternatives.
- Understand the functions and elements of ecosystems that provide services to society. Assess the health of ecosystems: diagnosis, conservation and restoration.
- Recognize the therapeutic value of nature.
- Know the basics of wildlife management in relation to health.
- Reflect on changes in the use of land, water, energy, and materials on a global scale and their impact on health in the context of the Anthropocene.
- Analyze the main drivers of global change, its origins, future scenarios and its relationship with global health, as well as adaptation and mitigation alternatives.
- Assess the contributions of agroecological management of agroecosystems to global health.
- Analyze resilience, agrobiodiversity, and other properties of agroecosystems: how to cope with disturbances.
- Understand the basis of ecotoxicology and its relationship to the concept of One Health. Know the possible sources and fate of toxic substances in the environment. Know the health consequences of exposure to environmental contaminants. To evaluate the importance of the diet of animal origin in human evolution and health.
- To know the determinants of the human-animal relationship.
- To analyze the advantages and disadvantages of extensive and intensive livestock production systems. To appreciate the need to preserve animal populations in their natural environment.
- To know the measures taken in animal production to maintain animal and human health. Understand the concept of animal welfare, how it is assessed and its implications in current animal production.

Think about consumption trends and the future of animal production.

3. Syllabus

- Introduction
- Human and animal welfare: the relationship between humans and animals. Concepts and indicators of human and animal welfare. Health and consumption of animal products. Biosecurity. Resilience and sustainability. Therapeutic

value of nature and farms.

- The environment: Global change. Health and ecosystem services. Diversity and Efficiency of Livestock Systems. Climate Change (Adaptation and Mitigation). Sustainable development. Bioeconomy and circular economy. Ecological footprint of the agri-food system. Livestock waste management. Wildlife and agroecosystems. Wildlife conservation, management and health monitoring. Animal genetic resources. Fundamentals of ecotoxicology. Agricultural Ecology and Integrated Pest Management. Local Food Systems and Organic Products.

4. Academic activities

Master Classes: 42 hours

Theoretical sessions given by professors from the University of Zaragoza and lectures by external experts.

Case presentations: 5 hours

Case studies presented in class and during visits to places of interest (biosecurity in broiler farms, equine therapy, examples of green care, round table final reflection).

Problems and cases: 13 hours

Time spent in class solving and critically analyzing problems and case studies (sustainability analysis, ecosystem services, carbon balance, water footprint, genetic resources).

Autonomous student work: 90 hours

Time outside of class for personal study and preparation of individual or group work (problems and cases).

5. Assessment system

Written Exam

It will consist of short descriptive questions and multiple-choice questions. You will be penalized one point for every four multiple-choice questions you answer incorrectly. A minimum score of 50% is required to pass the exam. The grade will count for 65% of your final grade in the subject. The following will be evaluated:

- Adequacy of the answers to the content presented in the theoretical and practical sessions.

- Clarity of the written presentation.

- Ability to relate the different concepts.

Practical work

The solution of problems and cases will represent 35% of the final grade of the course and will include the evaluation of the active participation of the student in class (15% of the grade of the activity). It will be evaluated:

- Presentation of the work in time and form.

- Correct use of the methods taught.

- Ability to work individually and in groups.

- Capacity for multidisciplinary analysis.

- Attendance and participation in class.

Global test

It includes the theoretical and practical content of the subject, which will represent 65% of the final grade, and the solution of a practical case, similar to those presented in class, but in situ (35% of the final grade).