

**Methodologies Applied to the Multidisciplinary
Environment of One Health**

Code: 43756
ECTS Credits: 9

Degree	Type	Year	Semester
4315915 Zoonoses and One Health	OB	0	1

Contact

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Use of Languages

Principal working language: spanish (spa)

Prerequisites

As a requirement for admission you must be in possession of any of the titles listed below:

Graduates, Graduates or Diploma in the field of Health Sciences (Veterinary Medicine, Nursing, Pharmacy, Food Science and Technology, Animal Science and Health, Biomedicine, Psychology ...) and Life Sciences (Biology, Biochemistry, Biotechnology, Zoology, Botany, Ecology, Biodiversity, Environmental Sciences, Agronomic Engineering, Forestry ...) or equivalent.

Objectives and Contextualisation

The basic tools necessary to work with the One Health approach will be complemented taking into account interactions with different sectors, such as risk analysis, environmental health (climate change and its repercussions on the distribution of diseases), human behavior (socio-economic and cultural change of civilizations) and the impacts of globalization as future threats to the health of all its inhabitants.

Work will be carried out in detail on disease surveillance through this integrated approach to health in humans, animals, the environment and the ecosystem. It will provide a series of theoretical and technical knowledge useful for the development of protocols for action and contingency in the face of health problems as well as the fundamentals in risk management and communication.

Competences

- Act in accordance with the code of ethics of the profession.
- Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
- Continue the learning process, to a large extent autonomously.
- Display understanding and familiarity with using the methodologies and tools of zoonotic risk assessment based on the concept of One Health.
- Manage and report on the risk of zoonoses in special situations, health emergencies or biological threats.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Take decisions on the establishment of zoonosis surveillance and containment plans.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
- Work alone or in a multidisciplinary team within the area of study, showing critical reasoning and creativity, and the ability to analyse, interpret and synthesise the data generated.

Learning Outcomes

1. Apply the methodologies used in sociological and economic studies in the context of One Health.
2. Apply the technical bases for developing and implementing surveillance and contingency programmes.
3. Find information on health alerts through the available online resources.
4. Interpret the tools for laboratory diagnosis of diseases.
5. Know and interpret the tools for laboratory diagnosis of infectious diseases.
6. Know the fundamental principles of risk management and communication in special situations and in biological emergencies or threats.
7. Know the fundamental principles of risk management and communication in the different levels of society.
8. Know the methodologies used in Environmental Health and wildlife in the context of One Health.
9. Know the methodologies used in sociological, economic, environmental health and ecological studies in the context of One Health.
10. Know the profession and the political, economic, social and cultural contexts in which it will be practised.
11. Know the technical bases for developing and implementing surveillance and contingency programmes for zoonoses.
12. Work alone or in a multidisciplinary team within the area of study, showing critical reasoning and creativity, and the ability to analyse, interpret and synthesise the data generated.

Content

- Risk assessment, management and communication
- Environmental Health and Ecology
- Methods of laboratory diagnosis: microbiology and molecular biology
- Health economics

Methodology

Directed activity:

Master classes / Exhibition classes
Problem-based learning
Debates
Problem solving classes / cases / exercises

Supervised activity:

Tutorials
Resolution of cases / exercises / problems in a virtual way

Autonomous activity:

Realization of works / reports
Reading articles / reports of interest
Personal study

Activities

Title	Hours	ECTS	Learning Outcomes
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Type: Directed

Classes of problem solving, cases and exercises	30	1.2	2, 1, 5, 10, 12
Debates	4	0.16	2, 7, 6, 11, 12
Master classes / Exhibition classes	15	0.6	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Problem-based learning	4	0.16	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Seminars	5	0.2	7, 6, 8
Type: Supervised			
Resolution of cases, exercises and problems in a virtual way	35	1.4	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Tutorials	10	0.4	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Type: Autonomous			
Personal study	52	2.08	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Reading articles and reports of interest	30	1.2	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Realization of works / reports	40	1.6	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3

Assessment

A. The final grade will be calculated based on the following criteria or parts:

Attendance to class and active participation (20%)

Oral exhibition of works (20%)

Risk analysis study

Written works (20%)

Diagnostic methods workshop (5%)

Communication in emergency situations (15%)

Synthesis exam (40%). It will include questions about all the topics covered throughout the module. You will need to obtain a minimum grade of 4 out of 10 so that you can weigh with the rest of the grades.

B. To overcome this module, it is required:

- Minimum compulsory attendance of 80% of the contact hours of the module

- The final average mark of the module must be equal to or greater than 5 out of 10

- Have presented ALL the works.

C. The recovery in case of not exceeding any of the requirements exposed, will be made by repeating the synthesis exam in which you must obtain at least 5 out of 10.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance and active participation in class	20	0	0	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3

Delivery of reports / works	20	0	0	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Oral exposure risk analysis	20	0	0	2, 1, 7, 6, 5, 10, 11, 9, 8, 4, 12, 3
Synthesis test	40	0	0	2, 1, 6, 10, 11, 9, 8, 4

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Azofra Márquez, M.J. (1999) *Cuestionarios*. Cuadernos Metodológicos, núm. 26. Madrid: Centro de Investigaciones Sociológicas.

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Salud Ambiental y Ecología (Environmental Health and Ecology).

Mark J. Nieuwenhuijsen. (2003). *Exposure Assessment in Environmental Epidemiology*

Vigilancia epidemiológica

Mo Salman (2003) *Animal Disease Surveillance and Survey Systems: Methods and Applications*

Comunicación del riesgo (Risk Communication).

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Article in *International journal of antimicrobial agents* 36 Suppl 1:S80-3 · November 2010 Impact Factor: 4.30
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