Universitat Autònoma de Barcelona

2022/2023

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: english (eng)

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

- Sociology and Health

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

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
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:

- Class attendance and active participation (20%)

- Oral presentation risk analysis work (25%)

- Workshop on diagnostic methods (5%)

- Synthesis exam (50%). It will include questions about all the topics covered throughout the module. It will be required to obtain a minimum grade of 4 out of 10 so that it 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

Bibliography

Economía de la Salud (Health economics).

Rushton, J.; Bruce, M. (2016) Using a One Health approach to assess the impact of parasitic disease in livestock - how does it add value?. Parasitology

Rushton, J. (2015) Antimicrobial use in animals, how to assess the trade offs. Zoonoses and Public Health 62 (suppl. 1) (2015) 10-21

Babo Martins, S. and Rushton, J. (2014) Cost-effectiveness analysis - adding value to animal health, welfare and production assessment. OIE Revue Scientifique et Technique 33(3):681-9.

Rushton, J. Guest Editor (2012) A special edition on the Economics of Animal Health Eurochoices

Rushton, J. (2009) The Economics of Animal Health and Production. Foreward by Peter Ellis with contributions from Andrew James, Alexandra Shaw, David Leonard, Clem Tisdell, Joachim Otte,Alistair Stott, Hernan Rojas, Pascal Bonnet, C. Devendra, Liz Redmond, Harvey Beck, Ugo Pica-Ciamarra, Matthieu Lesnoff, Vinod Ahuja, Martin Upton & Rommy Viscarra. CABI Publishing, Wallingford, UK. Pages 364

Modelos cualitativos y estudios sociológicos (qualitative models and sociological studies).

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

Valles, M.S. 1997. *Técnicas cualitativas de investigación social. Reflexión metodológica y práctica profesional*. Madrid: Síntesis.

Prades, A.; Espluga, J.; Horlick-Jones, T. (2015) "Riesgos tecnológicos, conflictos sociales y políticas ambientales. Del estudio de las percepciones a la implicación pública". *Papers, Revista de Sociologia,* núm. 100 (4): 395-423. DOI: http://dx.doi.org/10.5565/rev/papers.2223

Renn, Ortwin (2008): *Risk Governance. Coping with Uncertainty in a Complex World*, London: Earthscan.

Slovic, Paul (2000): *The perception of risk*, London: Earthscan.

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).

Emerging zoonoses: Responsible communication with the media-lessons learned and future perspectives Article *in* International journal of antimicrobial agents 36 Suppl 1:S80-3 · November 2010 Impact Factor: 4.30 · DOI: 10.1016/j.ijantimicag.2010.06.028 · Source: PubMed

Infanti J, Sixsmith J, Barry MM, Núñez-Córdoba J, Oroviogoicoechea-Ortega C, Guillén-Grima F. A literature review on effective risk communication for the prevention and control of communicable diseases in Europe. Stockholm: ECDC; 2013

Interdisciplinary perspectives on the management of infectious animal and plant diseases Papers of a Theme issue compiled and edited by Philip Lowe, Jeremy Phillipson, Laura E. Green, Stephen Hunter, Michael J. Jeger, Guy M. Poppy and Jeff Waage

Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Goble, R., Kasperson, J. X. and Ratick, S. (1988), The Social Amplification of Risk: A Conceptual Framework. Risk Analysis, 8: 177-187. doi:10.1111/j.1539-6924.1988.tb01168.x

Luis González Vaqué, "La prevención y represión de los fraudes alimentarios en la Unión Europea". *Revista CESCO* (2015) 125-142: https://www.revista.uclm.es/index.php/cesco/article/view/873/695

Tetty Havinga y otros, "The Changing Landscape of Food Governance - Public and Private Encounters". Edward Elgar Publishing (2015) 288 págs.

Luis González Vaqué, "Lecciones de Derecho alimentario 2015-2016". Aranzadi (2015) 395 págs.

Matteo Ferrari, "Risk Perception, Culture, and Legal Change - A Comparative Study on Food Safety in the Wake of the Mad Cow Crisis". Routledge (2009) 216 págs

Software

No applicable