

28443 - Zoonosis, Preventive Medicine and Health Policy

Syllabus Information

Academic Year: 2019/20

Subject: 28443 - Zoonosis, Preventive Medicine and Health Policy

Faculty / School: 105 - Facultad de Veterinaria

Degree: 451 - Degree in Veterinary Science

ECTS: 8.0

Year: 5

Semester: First semester

Subject Type: Compulsory

Module: ---

1.General information

1.1.Aims of the course

- Students should visualize, in the context of the biodiversity of existing ecosystems, the wide range of biotic factors that condition the appearance and evolution of epidemic processes that are contagious or transmissible for both animals and the human species.
- Students should be aware of the economic, social and cultural conditions that influence the appearance of the disease and that condition the possibilities of their control and eradication.
- Students should acquire the necessary ability in the handling of sanitary tools, theoretical or methodological, to identify situations of sanitary risk and to react before them by means of strategies of prevention.
- Students should develop the capacity to make decisions, fundamentally of a sanitary nature, in the face of the emergence of animal diseases, with implications for animal health or public health, within the range of existing possibilities for intervention.

1.2.Context and importance of this course in the degree

The World Organisation for Animal Health (OIE) makes very clear the role of veterinarians: they are responsible for ensuring the health and welfare of animals, related populations and the ecosystem? Within this responsibility, the implications of animal health on human health makes the veterinary profession a component of the strategy of GLOBAL HEALTH (One World One Health).

The contagious and communicable diseases have a potential of very fast propagation what makes necessary that we must be prepared to anticipate, by means of the PREVENTION, to that risk of propagation, and to react, CONTROL and ERRADICATION, before the evidence of its appearance, since this diffusion can be fatal as much for the animal production of which the supply to the human populations is sustained, as for the public health by the fact that some of these diseases are transmissible to the man himself.

On many occasions, the appearance of some of the diseases that affect animals, and therefore the implementation of control measures, has implications at national or international level and therefore it is necessary to consider legal aspects in these actions. Therefore, the availability of knowledge regarding these legal aspects and how to manage them from a veterinary perspective is another key element that will condition the results of the proposed control measures.

To this situation must be added another aspect that complicates veterinary intervention: the insertion of people into the environment where they interact with domestic and wild animals constitutes an element of sustenance, development, service and affection, but also exposes the human species to contracting pathologies common to both.

These diseases shared by humans and animals are called zoonoses and have been defined by a Joint WHO/FAO Expert Committee as "those diseases that are naturally transmitted from vertebrate animals to humans and vice versa". More than 200 zoonoses have been described so far.

Zoonoses have, in addition to an economic aspect, an evident impact on human health whose valuation in socio-economic terms is difficult to quantify. This means that the veterinarian, as a health professional, has a special responsibility in the surveillance of all animal diseases that can be transmitted to humans. Therefore, knowing these pathogenic agents their presentation and evolution, in the context of the interaction between animals, humans and the environment, is essential to avoid their EMERGENCY. The knowledge acquired will make it possible to decide on the most appropriate control measures both individually and in the animal community and in the other RISK ELEMENTS that characterise this interaction.

The role of the veterinarian in the face of the appearance of diseases implies the implementation of health actions which, when applied inappropriately, become an obstacle to guaranteeing animal health and public health. This requires veterinarians to be trained to discern the usefulness and disadvantages of each of the health tools available to decide on their use in each case.

Furthermore, when zoonoses are considered, it can be seen that expert reports, endorsed by international bodies such as

the WHO or the OIE, advise that for a better and quicker solution to public health problems, it is essential to have highly coordinated health structures and health professionals specialised in the field, who deal with crises in an integrated manner, that is to say, with the participation of all the health professions competent in each of the fields of action (doctors, veterinarians, biologists, nurses, etc.).

For this reason, it is necessary to assume that, in a global world, health has a global perspective in which the veterinary profession must interact with many other professions involved in this global context in order for an effective response to emerge from this interdisciplinarity, where the importance of the One World One Health concept comes into play.

1.3.Recommendations to take this course

In order to take this subject, it is recommended that the student has taken all the subjects of the previous courses and especially the subjects corresponding to the integrations of animal species on which the work will be based in the blocks of Preventive Medicine and Zoonosis.

2.Learning goals

2.1.Competences

On successful completion of this course, students will be able to:

- Understand the importance of their intervention in the face of animal population diseases, the possibility of their spread among communities and the risk they pose to public health.
- Respond, through health decisions, to the possible appearance of an outbreak of disease and to understand its implications for human populations.
- Apply the different legal aspects of national and international policy in the face of special actions affecting animals and people related to them and whose objective is the prevention, control or eradication of diseases.

2.2.Learning goals

Is students complete the course successfully, they should be able to:

- Know the factors that define the emergence and evolution of contagious and communicable diseases in domestic and wild animals and their role in the transmission process between them and the human species.
- Understand the importance of interaction between animals, humans and the environment in the emergence of animal diseases with an impact on animal and public health.
- Know the mechanisms for assessing the risk and impact of disease in a population and its economic, health and ecological implications, both from a spatial and temporal perspective.
- Use the tools that Preventive Medicine provides to act against the risk of the appearance of the disease, or to minimize its impact if it already exists.
- Know the advantages and disadvantages of the use of these tools in animal populations and have the ability to discern when to use them in each pathological context presented.
- Understand and know the legal aspects that condition veterinary intervention when faced with the risk or appearance of diseases from both an animal health and a public health perspective.
- Be familiar with the structure and functioning of veterinary services in Spain and in the context of the European Union, as well as with the functioning of international health organisations.
- Understand the role of the veterinarian and his intervention in the context of global health as a basis for the protection of world populations.

2.3.Importance of learning goals

The knowledge obtained constitutes the basis of the training of the health worker responsible for the action in the event of the appearance of a disease with implications both for the productive system and for the people who live with the animals or are supplied with them.

In the same way, some of the knowledge acquired will be basic to understand to what extent the veterinarian will be involved in making health decisions from a purely clinical, environmental, legal or public health perspective.

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that has achieved the expected learning outcomes through the following assessment activities

The learning evaluation process will be based, on one hand, on a theoretical exam (60% of the total score, 6 of the 10 total points) and on the other hand, the evaluation of the group activities developed in the different practical sessions with a value of 40% of the total score, (4 of the 10 total points):

1. THEORETICAL EXAM

In the theoretical exam the contents of the complete subject will be assessed, that is, the achievement of learning objectives 1 to 8. Its value is 60% of the total score of the subject.

The exam will be written, it will contain between 10 and 20 short answer questions based on the theoretical concepts presented in class or a case application of the concepts. Each question will have a value of 1 point.

Students must get, at least 40% of the points in this theoretical exam in order to continue with the evaluation (practical activities).

1. EVALUATION OF PRACTICAL ACTIVITIES

Students must complete the portfolio of practical activities developed together with other students working in a groups (official groups generated by the centre). Its value is 40% of the final grade distributed as follows:

2.1. PREVENTIVE MEDICINE AND HEALTH POLICY (MPyPS)

The ELABORATION OF THE POSTER (practical 2) is scored, which is evaluated in its contents by the students themselves and by the teacher in charge. This qualification is completed with the assessment by the teaching staff of the WORK and PRESENTATIONS of the other practices of the block (practice 3,4 and 5).

It is equivalent to 20% of the final grade of the subject.

The poster will be exhibited in a class session where the evaluation will be carried out, an evaluation that will be carried out, on the one hand, by the classmates of other different groups, and on the other hand by the teacher responsible for the activity.

This note will be adjusted to what was observed by the teacher from the operational point of view and the interest shown in the set of the 5 practical sessions that make up this block.

2.2. ZOONOSIS (Z):

Evaluate the achievement of learning objectives 1, 2, 3, 6 and 8.

The elaboration of a TECHNICAL REPORT (pract 6) and the EXHIBITION (pract 7) are punctuated. Both activities will be evaluated by teachers. It constitutes 20% of the final grade of the subject.

This part of the evaluation will be based on assessing the quality of the report, risk analysis carried out, review of the disease (s) with which these risks are explained and the proposals for action and their justification.

It is necessary to have attended the 5 practical sessions of Preventive Medicine and 2 of Zoonosis to be able to pass the subject: Those students who have some practice without performing, must submit to a practical examination of those sessions that have not attended. The exam, which will be written, will consist of solving a case study of the same type as the one in the practice in which it was absent. In it there will be between 3 and 5 short questions (depending on the specific case) where the student must explain specific aspects of the origin of the problem and proposed solutions.

FINAL NOTE: Cumulative grade of the theoretical assessment (6 points) and the two parts of the practical activity (2 points Preventive Medicine and 2 Zoonosis points).

This final grade may be INCREASED with various voluntary activities that are offered to students at the beginning of the course as activities of the XALOC CLUB for preventive medicine. They consist of PRESENTATIONS of health topics in Secondary Education centers, DEBATES development, elaboration and COMICS contest for social information or presentation of cases in TECHNICAL DAYS of Preventive Medicine. Participation is voluntary and each student can sign up to a maximum of two. Each activity carried out increases between 0.5 and 1 point (according to the quality of work) the final grade obtained in the subject (theory and practices).

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The fact that it is an applicative subject (it uses the concepts and knowledge of other subjects), makes that the whole part of the time we are working with case studies. This tool also allows the development of transversal skills such as leadership, decision making, ability to take decisions or the development of critical thinking.

4.2. Learning tasks

The proposed learning activities are presented in the program part of this guide

Subject:

ZONOSSES, PREVENTIVE MEDICINE AND HEALTH POLITICS

Activity	Groups	Hours/student	Description	
1	ZOONOSES THEORY	2	21	General concepts and zoonose types
2	PREVENTIVE M. THEORY	2	35	Preventive medicine and health politics concepts and tools
3	ZOONOSES 1 PRACTICES	6	6	Risk analysis and prevention strategies in public gardens: TECHNICAL REPORT
4	ZOONOSES 2 PRACTICES	12	3	Vector borne diseases transmission models
5	PREVENTIVE M. PRACTICES 1	12	3	Diseases outbreak investigation in the farm. Veterinary tools
6	PREVENTIVE M. PRACTICES 2	12	3	Biosecurity in the farm. POSTER
7	PREVENTIVE M. PRACTICES 3	6	3	Control programs at regional level (IBR / BVD)
8	PREVENTIVE M. PRACTICES 4	6	3	Eradication programs at national and international level (FMD, PPC)
19	PREVENTIVE M. PRACTICES 5	12	3	Vaccines and selection of the programs according to the population and objectives

4.3.Syllabus

All contents presented and developed activities are supported on material provided through the ADD of the University of Zaragoza. The materials included theoretical documents, multimedia presentations or documents provided by external partners (pharmaceutical laboratories, field specialists ...) and various examples of different case studies. These case studies present real situations that have been adapted to the training process developed specifically for this subject.

The subject is divided in two thematic parts:

Part 1 ZOONOSIS, divided into 3 clusters:

- A- Zoonose; general considerations
- B- The main zoonose models
- C- Zoonose response and Veterinary Public Health.

Part 2 PREVENTIVE MEDICINE AND HEALTH POLITICS, divided into four thematic clusters:

- A- Concepts to understand the disease from a Preventive Medicine point of view
- B- Main tools for decision making in Preventive Medicine
- C-Response strategies in Preventive Medicine
- D-Health Politics and health regulations

4.4.Course planning and calendar

The distribution of the program and de timetable of every lesson and practices are described in detail in the web site of the Faculty of Veterinary Medicine (link <http://veterinaria.unizar.es/gradoveterinaria/>) and in the calendar of the ADD. This links will be updated at the beginning of each academic year.

4.5.Bibliography and recommended resources

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=28443>