Liverpool John Moores University

Title:	Epidemiology and Pathological Diagnostic Techniques
Status:	Definitive
Code:	**5506YAUZOO** (127960)
Version Start Date:	01-08-2021
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Yunnan Agricultural University

Team	Leader
Rachael Symonds	Y

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	156
Total Learning Hours:	200	**Private Study:**	44		

Delivery Options
Course typically offered: Semester 2

Component	Contact Hours
Lecture	84
Practical	64

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Written exam covering biological products material	18	2
Test	Test	Practical experimental test covering biological products material	7	
Exam	Exam	Written exam covering epidemiology material	18	2
Test	Test	In class test covering diagnostic techniques for veterinary pathology material	9	
Exam	Exam	Written exam covering diagnostic techniques for veterinary pathology material	16	2
Test	Test	In class test covering epidemiology	7	

Category	Short Description	Description	Weighting (%)	Exam Duration
Test	Test	In class test covering imaging	7	
Exam	Exam	Written exam covering imaging	18	2

Aims

Veterinary epidemiology is an key course in animal medicine, the aim of this module is to enable students master the principles and concepts of epidemiology by determining the distribution of diseases in groups, collecting, analyzing of data, risk factors and causes of animal diseases. Epidemiological studies are used to develop an understanding of prevention, control and eradication methods for animal diseases. Experimental diagnostic techniques will be studied to make accurate disease diagnosis combining observations of pathological changes with the analysis of disease characteristics. Practical applications of imaging techniques will provide students with and understanding of the technology used in diagnosis. The theory of biological products manufacturing, production process, quality inspection and control, storage and usage, will enable students to master relevant principles, concepts and techniques, to enhance animal immunity.

Learning Outcomes

After completing the module the student should be able to:

1 Understand and analyse the characteristics, uses, basic manufacturing theories and technological processes of veterinary biological products.
2 Understand the new manufacturing technology of veterinary biological products and the quality management and control of the research, production and use of veterinary biological products.
3 Understand the methods of describing the distribution of diseases and understand the population phenomena, distribution and influencing factors of the disease.
4 Understand the methods of exploring the cause or risk factors of disease from a group perspective and the factors of the occurrence of the disease, and have the view of epidemiological multiple causation.
5 Understand the epidemiological study methods and screening and diagnostic test, and correctly identify research methods to design of the investigation program, understand the bias and its control methods.
6 Master the diagnostic techniques commonly used in veterinary pathology experiments and the pathopathic procedure of common animals.
7 Understand the imaging principles and image features of various new imaging technologies how to analyze pathological changes of the disease which reflected in image according to pathological changes and imaging features

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Written exam 1 2 3

Experimental Test 1 2 3

Written exam	3	4	6	5	7
Test	3	4	6	5	7
Written Exam	3	4	6	5	7
Test	3	4	6	5	7
Test	3	4	6	5	
Written Exam	3	4	6	5	7

Outline Syllabus

The main teaching content of this course includes two parts, one is the main basis of vetinary biological products and the second is the related content animal disease biological products process. An understanding of the history, definition, role and applications of veterinary epidemiology and the calculation and application of common indicators of disease distribution and disease distribution, will be covered. The development of causal concepts, the model of causal and the multiple causation of disease, the correlation between statistical correlation and causality, the principle of causal determination will be covered. The characteristics and uses of descriptive research, the concept and use of prevalence study, the types and characteristics of sampling methods, and the analysis and design analysis methods of analytical epidemiological data such as cohort study and case control studies. Definition, principle, characteristics and use of epidemiological experiments; Screening and diagnostic test evaluation and the method of establishing epidemiological models. The course also includes the concept, content and brief development history of veterinary radiology, problems that should be paid attention to during study. X-ray imaging principle and image features, generation of scattered lines and its impact on X-ray films, representation methods of X-ray quality and quantity, quality evaluation standards of X-ray film. Special photography technology. A number of three harmful X-rays and related protection methods; the harm to the human body caused by radiation; acute reactions, early-onset reactions, delayed reactions, genetic effects, etc. The principle and process of film washing as well as precautions. X-ray examination on bones and joints, thorax and abdomen. The main contents of the experimental course include the introduction of various components of the X-ray machine, the usage of machine, the darkroom supplies and application methods, and the film procession. Positioning methods and projection conditions of limbs and joints, thorax, the spine and pelvis.

Learning Activities

This course is based on theoretical teaching, supplemented by experimental teaching, thus promoting the achievement of learning objectives through training and assessment in many stages.

Notes

This module is for individuals to develop an understanding of the veterinary epidemiology methods and developments, principles and application in determine of disease risk factors in animal medicine. Individuals will also develop basic practical skills in establishment and assessment of disease control methods. Students in major of veterinary medicine will learn to diagnose the common clinical diseases with the basic theories and skills of veterinary imaging. Students will learn to apply the method of pathological diagnosis, not only for animals with diseases but also to control the development of the disease, and also to quickly determine the pathological changes of animal diseases and analysis of the causes. Students will master the manufacturing methods and processes of veterinary biological products, and have the basic skills of manufacturing, transporting and using veterinary biological products.