This course will provide you with an overview of the different methods suitable for designing surveillance programmes as well as the tools that can be used to assist decision making in relation to control and prevention. During the course, we will cover the topic of risk analysis which has now become a standard component of policy development in animal health. The concepts of disease surveillance at national and farm level will be examined in some detail. The use of computer technology has become an important feature of animal health management: as you work through the course you will have an opportunity to use software packages designed especially for this purpose. Database development and use for simple analyses will be introduced and you will then explore the basic principles of simulation modelling for optimizing disease control strategies.

What will you learn from this course?

By the end of this course you should be able to:

describe the methods involved in risk analysis of animal health problems
explain the components of disease surveillance and control at regional and farm level
discuss the use of farm-level health and production information systems
describe selected approaches to database design and data manipulation
outline how simulation modelling can be used as part of policy development in animal health.

Course structure

The course consists of nine units of study, all of which you should complete. They make up the following three modules.

Module 1: Risk Analysis

In this module (Units 1 3) risk analysis is introduced, with a particular emphasis on its use for trade policy decisions. It begins with a thorough discussion of the generic framework underlying this methodology. Both qualitative and quantitative risk assessment methods are presented in some detail, and models are developed actively using @RISK computer software. An introduction to probability theory is included as it is required in the design of quantitative risk assessment models.

Module 2: Herd Health Surveillance and Management

The second module (Units 4 7) covers various aspects of design and implementation of regional and farm-level production and disease surveillance programmes. It includes the specific requirements for dealing with epidemic, exotic and emerging disease problems. The methods and the necessary infrastructure are discussed, and control strategies for handling disease outbreaks are introduced. This module also provides background on the use of farm-level herd health and production programmes.

Module 3 Introduction to Data Management and Simulation Modelling

The third module (Units 8 and 9) provides an introduction to database design and related methods for more effective manipulation of data collected as part of surveillance or research activities. The basic principles of simulation modelling as a tool in animal health decision making are then introduced.

Tutor-marked assignments

In addition to your work on the nine units, you are required to complete and submit at least one tutor-marked assignment (TMA) for assessment. If you submit more than one and you may submit up to two your best TMA will be used in the calculation of your final mark. Full information on how to approach and submit TMAs is provided in the Programme Handbook and in the assignments themselves. You should bear in mind that your TMA will count for 20% of your final mark for the course.

Study time

The entire course, including revision and examination, is designed to take approximately 240-300 hours to 20 hours for the TMA(s) and the remaining time for personal study and revision.

You may find that some units will take you more or less time than estimated, depending on your familiarity with the subject.

Assessment

Your work for this course will be assessed by means of an unseen written examination paper* which will take the form of essay questions. In addition, you must submit at least one and up to two TMAs. There are TMA submission deadlines and for details please refer to the Programme Handbook.

The grade awarded will be based on the mark obtained in the written examination (80%) and on the mark for the compulsory assignment (20%).