

Veterinary Epidemiology

MSc

Full-time course for one year
Part-time course over two years

Offered in conjunction with the London School of Hygiene and Tropical Medicine

In a world experiencing rapid technological change and with evolving patterns of international trade, the need to protect human and animal health and consequently the recognition of the importance of veterinary epidemiology have increased. The course draws upon the strengths of the London School of Hygiene and Tropical Medicine (LSHTM) in epidemiological principles and communicable disease epidemiology, and those of the RVC in all aspects of animal health and production. It also receives generous support from the Biological Sciences Research Council (BBSRC) in the form of scholarships for UK applicants.

The course presents an excellent opportunity to learn from veterinary epidemiologists and policy makers working at the heart of government (in the UK Government Department for Environment, Food and Rural Affairs and its executive agency, the Veterinary Laboratories Agency (VLA), Weybridge). The majority of the teaching will be delivered using the excellent facilities of the LSHTM in London. Selected lectures will be delivered at both our London and Hertfordshire Campuses. The course also includes visits to the VLA.

Career prospects

With a shortage of trained veterinary epidemiologists, there are excellent opportunities in a variety of organisations involved in disease control at national, regional and international level, as well as in teaching, research and various parts of the food-related industries.

Former students of this course have been enrolled in PhD studies at different universities worldwide including the RVC Epidemiology Division, Cornell University and Massey University, New Zealand. In the UK, our graduates are employed by government agencies including the Department for Environment, Food and Rural Affairs, and the Centre for Epidemiology and Risk Analysis at the Veterinary Laboratories Agency, as well as in research centres and pharmaceutical companies. Past graduates

now work for the United Nations' World Health and Food and Agriculture Organisations. Further afield they are working for government departments in New Zealand, Thailand, Vietnam, Singapore, Spain, Bangladesh, Ethiopia, Croatia, Ireland, Switzerland, Pakistan, Iceland, Norway and France.

Entry requirements

Applicants should have a first or second class university honours degree. Individuals with degrees in veterinary science, biological science, medicine, mathematics or statistics, and relevant postgraduate and veterinary work experience, are all encouraged to apply. Applicants from overseas will be required to provide evidence of proficiency in spoken and written English, including scientific usage and comprehension.

The course is appropriate for those working in the state veterinary service and to anyone with an interest in veterinary epidemiology. As this is a multidisciplinary subject, we welcome people with different backgrounds.

Funding

The course has attracted the award of a prestigious Masters Training Grant from the BBSRC, which will fund four scholarships (fees and stipend) for UK students. These are awarded competitively. A scholarship application form is published on our website for submission with your course application.

Aims and objectives

The course will provide students with an understanding of the conceptual basis of veterinary epidemiology and with training in essential methodological skills for the conduct of epidemiological studies in animal populations. On completion, students will be able to:

- demonstrate an understanding of the key concepts underpinning the discipline of veterinary epidemiology
- select an appropriate study design when confronted

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with an epidemiological research question and develop a detailed study protocol capable of answering the research question

- analyse and interpret epidemiological data derived from cross-sectional, case-control and follow-up studies
- review critically the published epidemiological literature
- apply epidemiological principles to surveillance and infection and disease control within animal and human populations
- communicate effectively with researchers from different disciplinary backgrounds
- communicate effectively with other people with an interest in human and animal health, including the general public and key policy makers.

Course content

The course comprises:

- a taught component occupying three academic terms leading to examinations in June
- an individual research project occupying 10 weeks

Term One

All students take the core units and usually the recommended units. Students are advised to take at most one optional unit unless they are very familiar with the content of several core or recommended units.

Core units

Extended Epidemiology; Statistics for EPH; Epidemiological Aspects of Laboratory Investigation; Surveillance of Animal Health and Production; Data Management using Epi-Data; Communication Skills in Epidemiology

Recommended units

Public Health lecture series

Optional units

Epidemiology in Context; Introduction to Computing

Term Two

Compulsory study units

Animal Health Economics, Epidemiology and Control of Communicable Diseases; Statistical Methods in Epidemiology; Applied Risk Assessment and Management

Recommended units

Public Health lecture series

Term Three

Compulsory study units

Advanced Statistical Methods in Veterinary Epidemiology

Recommended units

Modelling and Dynamics of Infectious Diseases; Genetic Epidemiology; Methods of Vector Control

Optional units

Bayesian Statistics and Computationally Intensive Methods; Epidemiology and Control of Non-communicable Diseases

Project report

Students spend the last two months of the course working full-time on an individual project, with the guidance of a member of staff. The project report consists of two components, one being a literature review and the other a scientific report. The aim is to give students an opportunity to apply knowledge and skills gained during the course to a substantial individual piece of work. Students sponsored by an employer may undertake a project related to their work, and students from overseas are encouraged to bring data to London for this purpose, when possible.

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Assessment

The Veterinary Epidemiology MSc examination consists of three components:

- two three-hour written examination papers in June.
Paper One examines the content of Term One teaching; Paper Two is a synthesis of the whole year, examining skills, concepts and methods related to course objectives
- in-course assessment: candidates will complete six in-course assignments, one for each of the study units taken in the second and third terms of the programme.
The marks for the candidate's six assessments are averaged to give an overall mark
- assessment of a project report with oral examination in September

Duration

The course can be undertaken on a full-time basis over one calendar year starting in late September, or on a part-time basis over two years. Part-time study necessitates full-time attendance from October to December in Year One, followed by classes during one half of the week from January to May. Normally, the balance of Term Two study units will be completed in Year Two with two written examinations in June and a research project from July to August, with oral examination in September. However, the part-time study option can be tailored to meet the specific requirements of the student in agreement with the course director.

Apisit Prakarnkamanant

MSc Veterinary Epidemiology 08

'As there are some newly emerging infectious diseases like Avian Influenza (H5N1), I decided to study the MSc in Veterinary Epidemiology. Since joining in September 07, I am not only learning the technical knowledge in epidemiology, but also the culture of various nationals and building networks with my friends on the course. I am learning the core principles, the advanced knowledge and relevant techniques which are practical and offer broader perspectives. These are very useful for me to systematically approach the disease problem and determine the feasible control measures efficiently, economically and appropriately. As I am a government officer, I will grow more confident in communicating to all related governmental authorities the economically suitable options which are possibly satisfied with all related stakeholders.'

Chitwambi Makungu

MSc Veterinary Epidemiology 08

'As a state veterinarian, my work involves addressing animal health issues at a population level; this presented me with a lot of challenges that my clinical training could not fully address. An MSc in Veterinary Epidemiology was a necessity for me, and choosing to pursue one at the RVC/LSHTM was a natural decision because the degree they offer has a rich and broad coverage well endowed with courses covering all areas of the discipline. The components on study design and risk analysis will be especially useful in my line of work. I am confident that this MSc will equip me for any field or academic challenges ahead.'

Ricardo Soares Magalhaes
Senior Clinical Training Scholar
MSc Veterinary Epidemiology 04

'I came to the RVC for the experience of working with its renowned epidemiology group, and the chance to be involved in research activity at a national and an international level. Our investigations and the intensity of our workload should enable me to fulfil the requirements of the European College of Veterinary Public Health in a relatively short time. Here in London, we are uniquely placed to liaise and build synergies with other top research institutions, and to create an extensive professional network.'

