



UNIVERSITY  
OF LONDON

INTERNATIONAL  
PROGRAMMES

## Programme Regulations 2018

Livestock Health and  
Production *and* Veterinary  
Epidemiology and Public  
Health

MSc

Postgraduate Diploma  
Postgraduate Certificate  
and Individual modules

**Important document – please read**  
This document contains important  
information that governs your  
registration, assessment and  
programme of study



## Contents

Important information regarding the Programme Regulations .....	2
1 Structure of the programmes .....	4
2 Registration .....	5
3 Recognition of prior learning .....	7
4 Module selection .....	7
5 Assessment for the programme .....	7
6 Number of attempts permitted at an examination .....	10
7 Progression within the programme .....	11
8 Schemes of award.....	13
<b>Appendix A – Structure of the programmes.....</b>	<b>16</b>
Postgraduate Certificate in Livestock Health and Production .....	16
Postgraduate Diploma in Livestock Health and Production .....	16
MSc in Livestock Health and Production.....	16
Postgraduate Certificate in Veterinary Epidemiology and Public Health .....	17
Postgraduate Diploma in Veterinary Epidemiology and Public Health .....	17
MSc in Veterinary Epidemiology and Public Health .....	18
Individual modules .....	18
<b>Appendix B – Module Outlines .....</b>	<b>20</b>
Postgraduate Certificate, Postgraduate Diploma, MSc degree and 240-hour Individual modules ....	20
50-hour Individual modules .....	24
35-hour Individual modules .....	27
<b>Appendix C – Assessment Criteria – Essay questions.....</b>	<b>29</b>
<b>Appendix D – Assessment Criteria – MSc Research Project Oral examination .....</b>	<b>36</b>
<b>Appendix E – Assessment Criteria – Short answer questions and problem solving .....</b>	<b>39</b>

## Important information regarding the Programme Regulations

### About this document

Last revised 30 November 2017

As a student registered with the University of London you are governed by the General Regulations and Programme Regulations associated with your programme of study.

The Programme Regulations are designed and developed by the Lead College responsible for the programme and they normally take account of the associated arrangements within the Lead College. Programme Regulations, together with the Programme Handbook, will provide the detailed rules and guidance for your programme of study. Further information about how to use the Programme Regulations and Programme Handbook can be found in the [Student Guide](#).

In addition to Programme Regulations you will have to abide by the General Regulations. These regulations apply to all students registered for a programme of study with the International Academy and provide the rules governing registration and assessment on all programmes; they also indicate what you may expect on completion of your programme of study and how you may pursue a complaint, should that be necessary. Programme Regulations should be read in conjunction with the General Regulations.

Further information about your programme of study is outlined in the Programme Specification which is available on the relevant Courses page of the website. The Programme Specification gives a broad overview of the structure and content of the programme as well as the learning outcomes students will achieve as they progress.

If you have a query about any of the programme information provided please contact us. You should use the *ask a question* tab in the student portal <https://my.londoninternational.ac.uk>.

### Note

Throughout the Regulations, 'we' 'us' and 'our' mean the University of London; 'you' and 'your' mean the student, or where applicable, all students.

### Significant changes made to 2018 Programme Regulations

The regulations for retaking assessments have been clarified (see 6.2-6.11)

From the current academic year a maximum of two Tutor Marked Assignments may be submitted per module (see 5.3).

From 2017-18, retaking an element of assessment will result in the overall module mark being capped at 50% (see 6.10)

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## Programme specific terminology

For the Livestock Health and Production, and Veterinary Epidemiology and Public Health programmes you should note the following terminology:

**Module:** Individual units of a programme are called course or module. Each unit is a self-contained, formally structured learning experience with a coherent and explicit set of learning outcomes and assessment criteria

**TMA:** A Tutor Marked Assignment. These are a component of each module other than the research project. They take the form of a written assignment, as specified by each module, and carry a weighting of 20% of the overall pass mark for the module.

## 1 Structure of the programmes

See [Appendix A](#) for the structure of the MSc degrees, Postgraduate Diplomas, Postgraduate Certificates and the full list of Individual modules that may be taken on a stand-alone basis.

See [Appendix B](#) for the module outlines (syllabuses).

### MSc degrees, Postgraduate Diplomas and Postgraduate Certificates

#### 1.1

The MSc degree in Livestock Health and Production consists of seven modules, as follows:

- three compulsory core modules
- four further optional modules from a selection.

#### 1.2

The Postgraduate Diploma in Livestock Health and Production consists of four modules, as follows:

- one compulsory core module
- one further core module
- two optional modules.

#### 1.3

The Postgraduate Certificate in Livestock Health and Production consists of two modules, as follows:

- one compulsory core module
- one further core module.

#### 1.4

The MSc degree in Veterinary Epidemiology and Public Health consist of seven modules, as follows:

- three compulsory core modules
- four further optional modules from a selection.

#### 1.5

The Postgraduate Diploma in Veterinary Epidemiology and Public Health consists of four modules, as follows:

- two compulsory core modules
- two optional modules.

#### 1.6

The Postgraduate Certificate in Veterinary Epidemiology and Public Health consists of two modules, as follows:

- two compulsory core modules.

## **Individual modules**

### **1.7**

You may apply to register for one or more Individual modules on a stand-alone basis, either instead of, or at the same as registering for the MSc, Postgraduate Diploma or Postgraduate Certificate in either Livestock Health and Production or Veterinary Epidemiology and Public Health.

### **1.8**

Each Individual module accommodates either 35, 50 or 240 notional study hours.

### **1.9**

You may take any number of Individual modules, but only two relevant 240-hour Individual modules may be counted as credit towards a Postgraduate Diploma or MSc degree, or one relevant 240-hour Individual module may be counted towards a Postgraduate Certificate.

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## **2 Registration**

### **Effective date of registration**

#### **2.1**

If you are registering for an MSc degree, a Postgraduate Diploma, a Postgraduate Certificate or a 240-hour Individual module your effective date of registration will be 1 January in the year that you initially registered. This allows you to sit your first examinations in October of the same year.

#### **2.2**

If you are registering for a 50- or 35-hour Individual module your effective date of registration will be the date that you complete registration.

#### **2.3**

If there is a limit to the number of students who can be registered each year, the registration of an applicant will only be confirmed if there is a place available for that study year. An applicant whose registration is not confirmed will be made an offer of registration for the following year.

### **Period of registration**

#### **2.4**

The minimum and maximum periods of registration, counted from your effective date of registration, are:

<b>Livestock Health and Production, and Veterinary Epidemiology and Public Health</b>	<b>Minimum</b>	<b>Maximum</b>
MSc degrees	2 years	5 years
Postgraduate Diploma	2 years	5 years
Postgraduate Certificate	1 year	5 years

240-hour Individual modules	1 year	2 years
50-hour Individual modules	None	1 year
35-hour Individual modules	None	1 year

## 2.5

We will only grant an extension to the maximum period of registration in exceptional circumstances. If we allow an extension to your period of registration we will review the currency of the modules that you have completed and decide whether to grant you credit for them.

### **Period of registration when progressing from a 240-hour Individual module**

## 2.6

If you successfully pass a 240-hour Individual module whilst registered under the regulations for Individual modules, and we allow you to progress and transfer your registration to a Postgraduate Certificate, a Postgraduate Diploma or an MSc degree, we will give you a new effective date of registration and a new maximum period of registration of five years.

### **Registering after accepting an award**

## 2.7

For both Livestock Health and Production, and Veterinary Epidemiology and Public Health, if you have:

- accepted the award of the Postgraduate Certificate, we will not allow you to register subsequently for, or be awarded, the Postgraduate Diploma or the MSc degree
- accepted the award of the Postgraduate Diploma, we will not allow you to register subsequently for, or be awarded, the MSc degree.

### **Registering afresh**

## 2.8

If you register afresh, we will not allow you to carry credit for any subjects previously passed, either to the programme concerned or, in the event of a subsequent transfer, to another programme.

## 2.9

If we terminated your registration because you exhausted the maximum number of examination attempts while registered previously for either the Livestock Health and Production or Veterinary Epidemiology and Public Health programme, we will not allow you to register again for either programme.

### **Transferring registration between the programmes**

## 2.10

If you satisfy the rules of progression you may transfer your registration from the:

- MSc degree in Livestock Health and Production to the MSc degree in Veterinary Epidemiology and Public Health and vice versa
- Postgraduate Diploma in Livestock Health and Production to the Postgraduate Diploma in Veterinary Epidemiology and Public Health and vice versa

- Postgraduate Certificate in Livestock Health and Production to the Postgraduate Certificate in Veterinary Epidemiology and Public Health and vice versa.

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### **3 Recognition of prior learning**

See the [Glossary](#) for definitions of 'recognition of prior learning', 'accreditation of prior learning' and 'credit transfer'.

To be read in conjunction with the General Regulations, Section 3.

#### **Accreditation of prior learning**

##### **3.1**

We will consider applications for accreditation of prior learning on a discretionary basis.

#### **Credit transfer**

##### **3.2**

We will consider applications for credit transfer from students and graduates of the University of London on a discretionary basis.

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### **4 Module selection**

#### **Changing modules**

##### **4.1**

We will consider applications to change an optional module(s) on an individual basis. It may not be possible to allow you to change your choice of module, particularly after we have despatched study materials.

##### **4.2**

If you are registered for the Postgraduate Diploma or the MSc degree, and you have entered the examination for a module which you then wish to change, we will not consider your request to change the module until the results for that session are published.

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### **5 Assessment for the programme**

#### **MSc degree, Postgraduate Diploma, Postgraduate Certificate and 240-hour Individual modules**

##### **5.1**

Each module, except for the Research project, will be assessed by one three-hour unseen written examination (80%) and by one Tutor marked assignment (TMA) (20%).

#### **Tutor marked assignments (TMAs)**

##### **5.2**

TMAs will take the form of written work specified in the study materials for each module.

### 5.3

A maximum of two TMAs may be submitted for assessment per module, excluding a re-sit (see 6.5).

### 5.4

If you submit more than one TMA, the mark for the best TMA will count when calculating the overall mark for the module.

### 5.5

TMAs must be submitted according to the dates and guidelines provided in the Programme handbook, with at least one TMA being submitted by the Compulsory deadline, in order for a student to be eligible for examination entry. However, the TMA and written examination do not have to be attempted in the same year, as students can apply to defer the examination.

### 5.6

We strongly advise that all TMAs should be new pieces of work. However, should you choose to re-use previously submitted work in a subsequent TMA you must reference the original use of that work, and comply with the regulations governing plagiarism.

## Research project

You are strongly encouraged to study Research design, management and grant application writing [LVM014] prior to undertaking the Research project [LVM200].

### 5.7

The Research project (MSc degree only) is assessed by a research paper written in the style required by an identified scientific journal (80%) and an oral examination (20%).

The research proposal will not form part of the final assessment. However, if you do not submit a research proposal we will not allow you to carry out the Research project.

### 5.8

Students taking the research project will be required to take an oral examination conducted either face-to-face or by Skype or telephone in November/December; there is no requirement to come to London.

### 5.9

The following dates apply to the research project:

- By 30 September – in the year prior to undertaking the research project – a student is required to submit to the Programme Director for approval, a research outline of approximately 800 words in length.
- By 1 December – in the year prior to undertaking the Research Project – a student will be advised of the outcome of their research outline. If the Programme Director approves the outline, then the student may then register and prepare a detailed research proposal (1500 words). If the proposal is not approved, the Programme Director will offer guidance as to how to revise it accordingly for approval.
- By 2 January – a student must submit their research proposal for review by the Programme Director and an appropriate subject expert.

- By 31 January – once the proposal has been approved, a supervisor will be selected. In all cases, there will be an RVC supervisor and an attempt will be made to identify and obtain guidance from a local university or research institute.
- Between February and August – a student will be expected to conduct their research.
- During May – the supervisor will conduct a mid-term assessment of a student's progress. A student will be expected to write up their research in the form of a literature review and a scientific report for publication.
- By 31 October - the completed research paper must be submitted electronically by this date and sent post or courier to the Distance Learning Office at the Royal Veterinary College with a postmark no later than this date. A paper sent after the deadline will not normally be considered. An extension to the research project will be at the discretion of the Programme Director.

### **Deadlines and late submission of a TMA or Research project**

The deadlines for the TMAs and Research project are in the Programme handbook, available in the VLE.

If you think that you might miss the deadline for submitting a TMA or a Research project, follow the advice in the Programme handbook.

#### **5.10**

If you submit a TMA or a Research project after the deadline, penalties for late submission will be applied as described in the Programme handbook.

#### **5.11**

If we receive a TMA after the Optional TMA deadline given in the Programme handbook, the mark and feedback for the TMA may not be available before you have taken the related written examination.

#### **5.12**

In order to take an examination, you must submit at least one TMA before the Compulsory TMA deadline for that year. Failure to do so will result in your examination entry for that year being withdrawn. However, if you submitted a TMA in a previous year and then deferred your entry to the written examination, you do not have to submit a further TMA in order to take the examination.

### **Date of examinations**

See the website for the [list of examination centres](#).

#### **5.13**

Written examinations take place in October each year.

### **Passing Assessments**

#### **5.14**

To pass a module, including the research project, you must attempt all elements of assessment. You will pass the module if the combined weighted mark for all elements is at least 50%.

## **35- and 50-hour Individual modules**

### **5.15**

Each 35-hour individual module will be assessed by a short answer paper or written TMA.

### **5.16**

Each 50-hour Individual module will be assessed by a written TMA.

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## **6 Number of attempts permitted at an assessment**

### **Maximum number of attempts**

#### **6.1**

The maximum number of attempts permitted at any assessment is two.

### **Retaking an element of assessment**

#### **6.2**

If you do not achieve the combined weighted mark of at least 50% for a module, you may retake any failed elements of assessment, provided you have not exceeded the maximum number of attempts for that examination.

#### **6.3**

You may not retake any element of assessment that you have passed. The marks of any passed element of assessment will be carried forward and used for classification.

#### **6.4**

If you retake an assessment, your most recent mark will be used for classification.

### **Retaking an examination**

#### **6.5**

If you are required to retake an examination you may reuse the mark you received for the TMA. Alternatively, if you have not already submitted two TMAs for the module, you may submit one further TMA, up to the maximum number permitted.

See regulation 5.3 for the maximum number of TMAs that you may submit per module.

### **Retaking a TMA**

#### **6.6**

If you do not achieve an overall pass mark of at least 50% for the module due to failure of the TMA element, but you pass the examination element, you may submit one further TMA.

### **Retaking a Research Project**

#### **6.7**

If you submit a research project which is awarded between 0.0 - 49.9%, it will be at the discretion of the Board of Examiners to determine whether you will be required to amend, redraft, extend your original project submission or whether you will be required to undertake an entirely new project. See handbook for further guidance.

## **Capping of marks for retakes**

### **6.8**

If you make a second attempt at an element of assessment, the overall mark given for the module will be capped at 50%. This capping applies to the overall mark for the module and not to the individual marks given for the written examination, TMA, Research Project or oral examination.

## **Failure at a second attempt**

### **6.9**

If you fail to achieve an overall combined mark of 50% for any module at your second attempt, your registration will cease and you will not be permitted to re-register for further study on this programme.

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## **7 Progression within the programme**

### **General rules of progression**

#### **7.1**

You do not have to enter examinations every year. Within the limits set by the regulations and the minimum and maximum registration periods, you may decide:

- when to be examined,
- the number of modules to attempt each year and
- the order in which modules are examined.

#### **7.2**

If you enter written examinations in any year you may attempt examinations in a minimum of one module and a maximum of four modules, excluding re-sits.

#### **7.3**

If you are allowed to progress, in either the Livestock Health and Production or the Veterinary Epidemiology and Public Health programmes, you will be credited with the modules successfully passed.

### **General rules of progression, if registered for the Postgraduate Certificate, Postgraduate Diploma or MSc**

Students are strongly advised to study Statistical Methods in Veterinary Epidemiology [VPM012] before taking Advanced Statistical Methods in Veterinary Epidemiology [VPM013].

Students are strongly advised to study Research Design, Management and Grant Application Writing [LVM014] before taking the Research Project [LVM200].

#### **7.4**

For the Postgraduate Diploma and MSc degree, we will not allow you to register for an optional module unless you have registered, or are registering, for all of the compulsory core modules.

#### **7.5**

Previous attempts at the assessments for modules of the Postgraduate Certificate or Postgraduate Diploma, will count towards the maximum number of attempts permitted for those modules, if you progress to the Postgraduate Diploma or MSc degree.

## **Progression from the Postgraduate Certificate to the Postgraduate Diploma or MSc degree**

### **7.6**

To progress from the:

- Postgraduate Certificate to the Postgraduate Diploma or MSc in Livestock Health and Production, or from the
- Postgraduate Certificate to the Postgraduate Diploma or MSc in Veterinary Epidemiology and Public Health,

you must pass each of the two Postgraduate Certificate modules and receive a recommendation from the Examiners that you may proceed to the remaining modules of the respective Postgraduate Diploma or MSc degree.

## **Progression from the Postgraduate Diploma to the MSc degree**

### **7.7**

To progress from the:

- Postgraduate Diploma to the MSc in Livestock Health and Production, or from the
- Postgraduate Diploma to the MSc in Veterinary Epidemiology and Public Health,

you must pass each of the four Postgraduate Diploma modules and receive a recommendation from the Examiners that you may proceed to the remaining modules of the MSc degree.

## **If you progress but do not complete**

### **7.8**

If you pass the Postgraduate Certificate and choose to progress to the Postgraduate Diploma or MSc degree, but do not subsequently satisfy the requirements of the Postgraduate Diploma or MSc degree, then the Board of Examiners may decide to award you the Postgraduate Certificate with effect from the year that you passed the requirements of the award.

### **7.9**

If you pass the Postgraduate Diploma and choose to progress to the MSc degree, but do not subsequently satisfy the requirements of the MSc degree, then the Board of Examiners may decide to award you the Postgraduate Diploma with effect from the year that you passed the requirements of Postgraduate Diploma. If you accept the award

### **7.10**

If you accept the award of the Postgraduate Certificate or the Postgraduate Diploma you will not be permitted to register at a later date for either the Postgraduate Diploma or the MSc degree for either of the programmes in Livestock Health and Production or Veterinary Epidemiology and Public Health.

### **7.11**

If you pass the Postgraduate Certificate or the Postgraduate Diploma, and are invited to transfer your registration to the Postgraduate Diploma or MSc degree, but do not notify us of your decision within your period of registration, you may be granted the award that you passed with effect from the year that you passed it.

## **Progression from 240-hour Individual modules**

### **7.12**

Progression may be permitted from a 240-hour Individual module(s) to one of the following related awards:

- Postgraduate Certificate in Livestock Health and Production
- Postgraduate Diploma in Livestock Health and Production
- MSc degree in Livestock Health and Production
- Postgraduate Certificate in Veterinary Epidemiology and Public Health
- Postgraduate Diploma in Veterinary Epidemiology and Public Health
- MSc degree in Veterinary Epidemiology and Public Health.

### **7.13**

If we allow you to progress from a 240-hour Individual module(s) to one of the related awards, you must apply for credit transfer within three years of completing the individual modules. If we grant you credit, the mark achieved for a credit bearing module may contribute to the related award.

### **7.14**

If we allow you to progress from an Individual module(s) to one of the related awards, we may grant you credit for a maximum of two 240-hour Individual modules if transferring to the Postgraduate Diploma or MSc degree or one 240-hour Individual module if transferring to the Postgraduate Certificate. A condition of granting you credit is that the Individual module(s) you have successfully passed forms part of the structure of the degree, diploma or certificate to which you wish to transfer.

### **7.15**

If we allow you to transfer and give you credit on the basis of modules previously passed, we will not allow you to re-enter the examination for those modules. The marks obtained for the assessments at which the modules were passed will contribute towards your final award as appropriate.

## **Progression from 35- and 50-hour Individual modules**

### **7.16**

There is no progression from the 35-hour Individual modules to the 50-hour or 240-hour Individual modules or the related awards, and there is no progression from the 50-hour Individual modules to the 240-hour Individual modules or related awards. Students of the 35- and 50-hour Individual modules who wish to register for the Postgraduate Certificate, Postgraduate Diploma or MSc should make an application in the normal way.

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## **8 Schemes of award**

### **MSc degree, Postgraduate Diploma and Postgraduate Certificate**

See the assessment criteria in [Appendix C](#) and [Appendix D](#) for information on how to achieve a particular mark. See section 6 (above) for capping of marks if you retake an assessment.

#### **8.1**

The Board of Examiners normally awards the MSc degree, Postgraduate Diploma or Postgraduate Certificate in accordance with the marks and ranges described in the Scheme of

Award. However, the Board of Examiners may also decide to consider a student's overall performance.

#### **8.2**

The overall mark for each module, except for the Research project [LVM200], is calculated using a ratio of the marks achieved for the unseen written examination (80%) and the TMA (20%). The highest mark of the submitted TMAs counts towards the overall mark.

#### **8.3**

The overall mark for the Research project [LVM200] is calculated using a ratio of the marks achieved for the research paper (80%) and the oral examination (20%).

#### **8.4**

The overall pass mark for each module is 50% or above.

#### **8.5**

To be considered for the award of the MSc degree, you must attempt and pass seven modules.

#### **8.6**

To be considered for the award of the Postgraduate Diploma, you must attempt and pass four modules.

#### **8.7**

To be considered for the award of the Postgraduate Certificate, you must attempt and pass two modules.

### **Distinction and Merit**

#### **8.8**

The MSc degree, Postgraduate Diploma and Postgraduate Certificate will be awarded with distinction if you receive an overall combined average mark of 75% or above, with no module having received a mark of less than 60%, at the first attempt.

#### **8.9**

The MSc degree, Postgraduate Diploma and Postgraduate Certificate will be awarded with Merit if you receive an overall combined average mark in the range of 65–74%, with no module having received a mark of less than 50%, at the first attempt.

### **Intermediate awards**

#### **8.10**

If you registered for the MSc degree in Livestock Health and Production, but do not pass in the seven modules that comprise the MSc, the Board of Examiners may decide to grant you either the Postgraduate Diploma or the Postgraduate Certificate in Livestock Health and Production provided that you have passed the four modules that comprise the Postgraduate Diploma or in the two modules that comprise the Postgraduate Certificate.

#### **8.11**

If you registered for the Postgraduate Diploma in Livestock Health and Production, but do not pass in the four modules that comprise the Postgraduate Diploma, the Board of Examiners may decide to grant you the Postgraduate Certificate in Livestock Health and Production provided that you have passed the two modules that comprise the Postgraduate Certificate.

**8.12**

If you registered for the MSc degree in Veterinary Epidemiology and Public Health, but do not pass in the seven modules that comprise the MSc, the Board of Examiners may decide to grant you either the Postgraduate Diploma or the Postgraduate Certificate in Veterinary Epidemiology and Public Health provided that you have passed the four modules that comprise the Postgraduate Diploma or in the two modules that comprise the Postgraduate Certificate.

**8.13**

If you are registered for the Postgraduate Diploma in Veterinary Epidemiology and Public Health, but do not pass in the four modules that comprise the Postgraduate Diploma, the Board of Examiners may decide to grant you the Postgraduate Certificate in Veterinary Epidemiology and Public Health provided that you have passed the two modules that comprise the Postgraduate Certificate.

**Individual modules**

See the assessment criteria in [Appendix C](#) for information on how to achieve a particular mark for 240- and 50-hour Individual modules.

See the assessment criteria in [Appendix E](#) for information on how to achieve a particular mark for 35-hour Individual modules.

**8.14**

The overall pass mark for a 50-hour or 240-hour individual module is 50%.

**8.15**

A mark or grade awarded for a 240-hour Individual module will not replace any mark or grade for a degree or diploma already awarded.

**8.16**

The mark awarded for the 35-hour Individual modules is based on completion of either a short answer paper or written TMA (100%).

**8.17**

The mark awarded for the 50-hour Individual modules is based on completion of the TMA only (100%).

## Appendix A – Structure of the programmes

A detailed outline of the syllabus for each module is provided on the course pages, under structure: [https://london.ac.uk/courses/member\\_institution/282](https://london.ac.uk/courses/member_institution/282)

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### Postgraduate Certificate in Livestock Health and Production

**One compulsory core module:**

- Animal disease (current concepts) [LHM001]
- +

**One further core module from:**

- Developing and monitoring of livestock production systems [VPM018]
- Principles of livestock production [LHM002]

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### Postgraduate Diploma in Livestock Health and Production

**One compulsory core module:**

- Animal disease (current concepts) [LHM001]
- +

**One further core module from:**

- Developing and monitoring of livestock production systems [VPM018]
  - Principles of livestock production [LHM002]
- +

**Two optional modules chosen from:**

- Developing and monitoring of livestock production systems (if not taken as a core module) [VPM018]
- Principles of livestock production (if not taken as a core module) [LHM002]
- Animal welfare [LHM016]
- Economics for livestock development and policy [LVM019]
- Epidemiology and animal health economics [LVM004]
- Management of infectious disease outbreaks in animal populations [LVM017]
- Reproduction and fertility – a species approach [LHM009]
- Research design, management and grant application writing [LVM014]
- Sustainable livestock farming in the environment [LHM020]
- Veterinary public health [LVM006]

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### MSc in Livestock Health and Production

**Three compulsory core modules:**

- Animal disease (current concepts) [LHM001]

- Developing and monitoring of livestock production systems [VPM018]
  - Principles of livestock production [LHM002]
- +

**Four optional modules chosen from:**

- Animal welfare [LHM016]
- Economics for livestock development and policy [LVM019]
- Epidemiology and animal health economics [LVM004]
- Management of infectious disease outbreaks in animal populations [LVM017]
- Reproduction and fertility – a species approach [LHM009]
- Research design, management and grant application writing [LVM014]
- Research Project in Livestock Health and Production [LVM200]
- Sustainable livestock farming in the environment [LHM020]
- Veterinary public health [LVM006]

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## **Postgraduate Certificate in Veterinary Epidemiology and Public Health**

**Two compulsory core modules:**

- Epidemiology and animal health economics [LVM004]
- Veterinary public health [LVM006]

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## **Postgraduate Diploma in Veterinary Epidemiology and Public Health**

**Two compulsory core modules:**

- Epidemiology and animal health economics [LVM004]
  - Veterinary public health [LVM006]
- +

**Two optional modules chosen from:**

- Advanced statistical methods in veterinary epidemiology† [VPM013]
- Developing and monitoring of livestock production systems [VPM018]
- Economics for livestock development and policy [LVM019]
- Management of infectious disease outbreaks in animal populations [LVM017]
- Research design, management and grant application writing [LVM014]
- Statistical methods in veterinary epidemiology [VPM012]
- Surveillance and investigation of animal health [VPM015]

† To study VPM013 you will need access to ArcGIS software (version 9 or higher). The cost of the GIS software is NOT included in your module fee and you will need to purchase if you do not have access to it.

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## **MSc in Veterinary Epidemiology and Public Health**

### **Three compulsory core modules:**

- Epidemiology and animal health economics [LVM004]
- Statistical methods in veterinary epidemiology [VPM012]
- Veterinary public health [LVM006]

+

### **Four optional modules chosen from:**

- Advanced statistical methods in veterinary epidemiology † [VPM013]
- Developing and monitoring of livestock production systems [VPM018]
- Economics for livestock development and policy [LVM019]
- Management of infectious disease outbreaks in animal populations [LVM017]
- Research design, management and grant application writing [LVM014]
- Research project in Veterinary Epidemiology and Public Health [LVM200]
- Surveillance and investigation of animal health [VPM015]

† To study VPM013 you will need access to ArcGIS software (version 9 or higher). The cost of the GIS software is NOT included in your module fee and you will need to purchase if you do not have access to it.

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## **Individual modules**

The following Individual modules are available to study on a stand-alone basis:

### **35-hour Individual modules**

- Animal disease modelling [LVM334]
- Principles of farm animal economic analysis [LVM319]
- Tools for economic analysis [LVM320]
- Diagnostic decision making and epidemiological disease information management [LVM323]
- Welfare issues in systems involving confinement [LVM303]
- Welfare issues in extensive farming systems [LVM304]
- Animal transport and slaughter – critical welfare considerations [LVM305]
- Animal health analysis and database management on farms (formerly known as Database management at farms). [LVM333]

### **50-hour Individual modules**

- Advanced risk analysis using @RISK software [LVM501]

- Herd health management [LVM502]
- Animal disease surveillance [LVM503]
- Introduction to veterinary public health, risk analysis and risk assessment [LVM506]
- Zoonoses of parasitic, bacterial and viral origin [LVM507]
- Principles of food safety control and 'farm to fork' concept [LVM508]
- Control of food safety: red meat, poultry, eggs, milk and milk products [LVM509]
- Development of a disease control programme: salmonella in pigs and bovine TB [LVM510]
- Introduction to statistics, hypothesis testing, study design and analysis of data [LVM511]
- Principles, methodology and sampling in epidemiological investigations [LVM512]
- Design and analysis of epidemiological investigations – observational and intervention studies [LVM513]
- Tools for economic analysis in epidemiology [LVM515].

### **240-hour Individual modules**

- Animal disease (current concepts) [LHM001]
- Principles of livestock production [LHM002]
- Developing and monitoring of livestock production systems [VPM018]
- Epidemiology and animal health economics [LVM004]
- Veterinary public health [LVM006]
- Reproduction and fertility – a species approach [LHM009]
- Economics for livestock development and policy [LVM019]
- Statistical methods in veterinary epidemiology [VPM012]
- Animal welfare [LHM016]
- Advanced statistical methods in veterinary epidemiology [VPM013]†
- Management of infectious disease outbreaks in animal populations [LVM017]
- Research design, management and grant application writing [LVM014]
- Surveillance and investigation of animal health [VPM015]
- Sustainable Livestock Farming in the Environment [LHM020].

† To study Advanced statistical methods in veterinary epidemiology you will need access to ArcGIS software (version 9 or higher). The cost of the GIS software is NOT included in your module fee and you will need to purchase if you do not have access to it.

## Appendix B – Module Outlines

### Postgraduate Certificate, Postgraduate Diploma, MSc degree and 240-hour Individual modules

#### **Advanced statistical methods in veterinary epidemiology [VPM013]**

You are strongly advised to study Statistical Methods in Veterinary Epidemiology [VPM012] before taking Advanced Statistical Methods in Veterinary Epidemiology [VPM013].

To study Advanced Statistical Methods in Veterinary Epidemiology [VPM013] you need access to ArcGIS software (version 9 or higher). The cost of the software is not included in the course fees.

This course will provide an introduction to advanced methods of statistical modelling of epidemiological data.

Subject areas:

- analysis of spatial data
- modelling of production data
- advanced aspects of multivariable regression analysis
- analysis of correlated data; meta-analysis and
- systematic reviews

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

#### **Animal disease (current concepts) [LHM001]**

This course will enable the student to appreciate the external and internal components of health-agents of disease and how animals respond to them, at an individual and population level.

Subject areas:

- Immunology
- Parasitology
- Microbiology
- Introduction to veterinary epidemiology
- Principles of veterinary pathology

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

#### **Animal welfare [LHM016]**

This course will provide a comprehensive appreciation of welfare and ethical issues connected with farm animal practice, animal breeding, transport and slaughter, companion animals, laboratory animals, animals used in competition and wildlife.

Subject areas:

- An introduction to veterinary ethics; the physiology of pain, distress, fear and anxiety
- The effects of genetics on animal welfare
- Specific welfare issues in companion, farmed, laboratory, wild and competitive animals
- Welfare issues in animal husbandry systems transport and slaughter

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Developing and monitoring of livestock production systems [VPM018]**

This course will adopt a farming systems approach to permit the student to place livestock production within the context of the utilisation of resources. This will allow a critical consideration of appropriate husbandry for different animals in diverse environmental and socio-economic conditions.

Subject areas:

- An introduction to farming systems
- Details of major livestock production systems
- Developing and monitoring of functioning livestock systems with farmers, including organic farming
- Environmental, welfare and breeding issues in sustainable livestock husbandry

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Economics for livestock development and policy [LVM019]**

The objectives of this course are to stimulate awareness of the socio-economic, political and environmental issues that will affect future livestock development and to provide the tools to analyse the issues confronting producers, their advisers, planners and policy makers.

Subject areas:

- Basic concepts of the economics of livestock production
- Extensive, medium intensity and intensive systems of livestock production
- Marketing and policy
- Further economics for the analysis of livestock development
- Tools for livestock economists

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Epidemiology and animal health economics [LVM004]**

This course will enable students to understand the role of epidemiology and economics in the design and delivery of effective veterinary services aimed at improved animal health and productivity.

Subject areas:

- Introduction to statistics
- Introduction to veterinary epidemiology – basic principles, descriptive epidemiology, study design, sampling, quantitative aspects of diagnostic testing
- Animal health economics – principles, partial budgets, decision tree analysis, cost benefit ratio, economics and project planning

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Management of infectious disease outbreaks in animal populations [LVM017]**

This course will provide both the theoretical and practical information required for the management of a major infectious disease outbreak of farm animals.

Subject areas:

- Epidemiology of infectious viral diseases
- Risk and cost-benefit analysis
- Surveillance

- Diagnosis and vaccination strategies before and during an outbreak
- Contingency planning and case studies are used to illustrate how disease outbreaks could be better managed

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Principles of livestock production [LHM002]**

This course will enable the student to understand how feeding, breeding, management and interaction with the environment influence animal production and disease.

Subject areas:

- General principles of nutrition
  - Specialised areas of nutrition. Students will select 3 of the following options:
    - Feeding dairy cows
    - Feeding dual purpose, beef and draught cattle
    - Feeding sheep and goats
    - Pig nutrition
    - Poultry nutrition
  - Nutrition of horses, camelids & rabbits
- In all the above cases, consideration will be given to the different resources available in temperate and tropical/subtropical regions.
- Environmental studies, including climatic effects and housing
  - Genetics
  - The physiology of growth and lactation; the relevance of reproduction on livestock production

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Reproduction and fertility – a species approach [LHM009]**

This course will enable students to gain a comprehensive insight into the physiology of reproduction and the management and manipulation of fertility to optimise animal productivity.

Subject areas:

- General principles of reproduction
- Introduction to reproductive anatomy and physiology
- Control of breeding
- Fertilisation, conception and pregnancy
- Reproductive disorders and disease
- Embryo transfer and assisted reproduction
- Reproduction management

Students will be required to specialise in three of the following: cattle, small ruminants, pigs, camelids, rabbits and poultry, equids.

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Research design, management and grant application writing [LVM014]**

This course will enable students to undertake a research project, with an appropriate study design to validate a hypothesis and analyse the data, including the presentation of results and writing a grant application.

Subject areas:

- Introduction to scientific research and how to formulate a hypothesis
- Literature search, critical analysis of papers and writing a scientific review
- Experimental and statistical design in project planning;
- Project management
- Preparing data for analysis - qualitative data, quantitative data; statistical analysis and analysing the validity of findings
- Report writing, presentation of data and writing a scientific paper
- Introduction to grant application writing, planning the project and budget
- Guidelines to writing a good grant proposal

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Research project (MSc degree only) [LVM200]**

*You are strongly advised to study Research design, management and grant application writing [LVM014] before taking the Research Project [LVM200]. The Research project [LVM200] is only available to MSc students and not as a 240 hour Individual module.*

The objective of this course is to enable the students to conduct a research project and prepare a scientific paper for publication in a peer-reviewed journal. Students are given guidance and supervision from a distance in the following:

- Deriving a suitable hypothesis to base the research project
- Writing a critical literature review
- Designing the appropriate study with experimental and statistical details
- Costing the project and conducting experiments
- Managing the project to obtain relevant data
- Documenting and analysis of results to achieve a conclusion
- Selecting an appropriate scientific journal to publish the findings
- Preparing a paper for publication according to author guidelines of the selected journal.

*Assessment: A paper suitable for publication in an identified scientific journal (80%) and an oral examination (20%).*

### **Statistical methods in veterinary epidemiology [VPM012]**

The objectives of this course are to introduce statistical methods used in veterinary epidemiology to enable students to conduct multivariable analysis and statistical modelling of epidemiological data.

Subject areas:

- Introduction to measures of effect
- Analysis of cohort studies and case-control studies
- Likelihood, Multivariable analysis and statistical modelling
- Simple logistic model, Logistic regression, Poisson regression and Cox regression

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Surveillance and investigation of animal health [VPM015]**

This course will provide in-depth knowledge of qualitative and quantitative risk analysis, animal health surveillance programmes and introduce students to disease modelling.

Subject areas:

- Qualitative and quantitative risk analysis

- Design and evaluation of animal health surveillance and control programmes involving multiple herds
- Disease control methods involving multiple herds
- Farm-level animal disease and production surveillance
- Disease modelling using Deterministic and Stochastic modelling

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Sustainable livestock farming in the environment [LHM020]**

This new course aims to provide an understanding of the threats presented by changes in the environment on livestock production and wildlife population, and explains the ways in which global and regional environmental change can impact on sustainability of farming systems, conservation of ecosystems and animal health. It will outline approaches that can be used to minimize unwanted environmental impacts of modern farming and land use systems, as well as consider the values academics, researchers, veterinarians and livestock specialists attach to the environment and to conservation issues. The course will also guide students in the approach they take in future when considering animal–environment interactions.

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

### **Veterinary public health [LVM006]**

The course will examine the role of veterinarians and other related professionals in the protection of human health through the safe production of foods of animal origin, control of zoonotic disease and environmental contamination.

Subject areas:

- Disease surveillance recording and risk analysis
- Zoonoses and their control
- Disseminating information on veterinary public health
- Quality and safety assurance in food production (meat, milk and eggs)
- Development of disease control programmes

*Assessment: one three-hour unseen written paper containing essay and/or short answer questions (80%) and a TMA (20%).*

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## **50-hour Individual modules**

### **Advanced risk analysis using @RISK software [LVM501]**

Risk analysis is being used increasingly in animal health, particularly in relation to trade. It therefore has become essential for people working in animal health policy to have a basic understanding of the terminology and methods used in risk assessment. This course aims to give you that basic understanding, with particular emphasis on qualitative and quantitative risk assessment. The final part of the course explores quantitative risk analysis and demonstrates how you can use the frameworks and probability theory to build a simple quantitative model. To do this you will be working with a software package called @RISK.

*Assessment: one TMA*

### **Animal disease surveillance [LVM503]**

Animal disease surveillance is one of the key functions of animal health services. It has become more important in the last twenty years with the increasing concern for food safety and the emergence of new and exotic diseases, along with the traditional role of measuring disease and

monitoring the control of endemic diseases. The evaluation of surveillance is another integral part of any system and must be considered at design stage. This course will introduce you to the principles of disease control, the components of such programmes and their implementation and evaluation, focused on infectious diseases. The detailed description of the traditional disease control strategies will provide you with a deep understanding of the complexity of the decision-making process and how epidemiological tools can help in the control and eradication of animal diseases at regional and national level.

*Assessment: one TMA*

### **Control of food safety: red meat, poultry, eggs, milk and milk products [LVM509]**

This course is concerned primarily with microbiological aspects of food safety in the production of red and poultry meat, eggs, milk and milk products. Methods to reduce microbiological contamination in meat during the entire production chain, from farm to slaughterhouse to the retail outlet, are discussed. The course also enables students to understand the importance of contaminated shell eggs, and products derived from them, as vehicles for human infection, principally that caused by salmonella enterica serovar enteritidis. In the final part of the course infections that may be transmitted to the human population via milk and milk products and methods to reduce such contamination are described.

*Assessment: one TMA*

### **Design and analysis of epidemiological investigations – observational and intervention studies [LVM513]**

This course will introduce you to observational and intervention studies that are conducted on populations. The course will demonstrate techniques for measuring association between disease and risk factors from these studies. You will learn about the subtle but important differences between the measures of association and the most suitable application for each measure. The strengths and weaknesses of these studies will be presented and the statistical testing requirements will be discussed.

*Assessment: one TMA*

### **Development of a disease control programme: salmonella in pigs and bovine TB [LVM501]**

This course will allow you to analyse two examples of national disease control programmes in veterinary public health, namely the salmonella control programme in pig herds in Denmark and the tuberculosis control programme of cattle in the UK. Examples from these two programmes will be used extensively to illustrate the important elements of a disease eradication programme. At the end of this course you will be encouraged to develop your own strategies for combating similar chronic farm animal diseases.

*Assessment: one TMA*

### **Herd health management [LVM502]**

The management of information that relates to production, animal health, reproduction and financial records is the foundation of food animal production-oriented health programs. Good information allows managers to make appropriate decisions for the day-to-day operation of their farms, identify shortfalls in performance, and to monitor the effectiveness of interventions. This course will introduce you to herd health programmes and describe the economic principles which should be applied in the design and delivery of these programmes. The programmes that operate in dairy cattle herds, sheep flocks, pig herds and poultry flocks are explored with examples. In the last part of the course the role of computers in herd health management are described in detail, using the CamDairy software package, which is designed to manage dairy farms as an example.

*Assessment: one TMA*

### **Introduction to statistics, hypothesis testing, study design and analysis of data [LVM511]**

This course is designed to explain the basic concepts of statistics and provide a basic introduction to statistical analysis in veterinary and animal health fields. You will also learn about the principles of hypothesis testing, concepts of sampling, study design and parametric and nonparametric methods of data analysis. It is assumed that you have not previously attended any statistics courses, so that the whole subject of statistical analysis is new to you.

*Assessment: one TMA*

### **Introduction to veterinary public health, risk analysis and risk assessment [LVM506]**

In this course the diverse nature of Veterinary Public Health (VPH) is explored and your perceptions of what constitutes VPH are challenged. This introductory course to VPH will introduce you to the concept that food can constitute a hazard to human health, and will show you how to measure the risk to consumer health. It is aimed to give a basic understanding of risk analysis, with particular emphasis on qualitative and quantitative risk assessment.

*Assessment: one TMA*

### **Principles, methodology and sampling in epidemiological investigations [LVM512]**

This course is intended to provide you with an overview of the scope of modern epidemiology and to introduce the basic concepts of epidemiological investigations. The course will introduce methods for describing the frequency of disease occurrence in animal populations, including risks and rates. During the course you will examine the technique of making inferences about large populations on the basis of examination of a sample. You will learn about the techniques required for the effective sampling of populations and examine the statistical assumptions that underpin sampling theory. The course emphasises the practical use of sampling theory to answer epidemiological questions, giving examples of how sampling techniques may be used effectively in epidemiological investigations.

*Assessment: one TMA*

### **Principles of food safety control and 'farm to fork' concept [LVM508]**

This course will introduce the concept that foods can be hazardous and examines how to control food safety hazards throughout the chain of production, storage and distribution. Suitable control measures to avoid food poisoning bacteria and viruses that may contaminate ready-to-eat food are also identified. In the second part of the course an overview of the controversial subject of the veterinary use of antibiotics, the associated problem of antibiotic resistance, and the implications for public health is discussed. The course will provide you with the necessary tools to make an objective judgement of this topic.

*Assessment: one TMA*

### **Tools for economic analysis in epidemiology [LVM515]**

This course will introduce the principles of economic analysis and a number of tools used to aid decision-making in the field of animal health economics. This is a very practical module, throughout which you will learn how to use the tools in a number of activities and case studies at the same time as gaining an appreciation of the issues involved so as to be able to critically review the work of others. It is assumed that you have not previously studied animal health economics, so that the whole subject is new to you.

*Assessment: one TMA*

### **Zoonoses of parasitic, bacterial and viral origin [LVM507]**

This course will provide an overview of some major zoonotic diseases, their epidemiology and their control. It considers some emerging and re-emerging zoonoses that are of importance to human health. The course is subdivided to allow separate coverage of parasites, bacteria, and finally viruses, rickettsia and prions.

*Assessment: one TMA*

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## **35-hour Individual modules**

### **Animal disease modelling [LVM334]**

Simulation models have become an important component of decision making in relation to control of infectious diseases, as had been demonstrated during recent epidemics of FMD and SARS. Models provide the facility to examine 'what if' questions regarding contemplated management choices in the context of current disease control and herd production performance. They also provide a mechanism for generating hypotheses about the important components of an epidemiological system. The course represents an introduction to the concepts of deterministic and stochastic disease modelling.

*Assessment: TMA*

### **Animal health analysis and database management on farms (formerly known as Database management at farms) [LVM333]**

In this course you will learn what is meant by database management and how computer software can be used to interrogate and handle databases to gain meaningful information from them, including summary statistics and graphs. You will become acquainted with some of the technical language used to describe databases, and you will gain an understanding of the important points to consider in designing them.

*Assessment: TMA*

### **Animal transport and slaughter – critical welfare considerations [LVM305]**

In this course you will learn about the animal welfare issues involved in the handling, transport, and slaughter of livestock. You will learn about the behavioral principles of animal handling, animal welfare issues that arise during transport and the importance of well-designed and managed pre-slaughter handling systems. At the end of the course you will be able to provide advice on the design and management of facilities for loading and unloading animals, lairages, races, stockyards, and restraint equipment to prevent transport-related animal welfare problems. Implementation of auditing systems to maintain high levels of welfare during transport, handling and slaughter is an essential component of the knowledge gained.

*Assessment: short answer paper*

### **Diagnostic decision making and epidemiological disease information management [LVM323]**

This course will introduce you to diagnostic decision-making, a process which most clinicians deal with by combining factual knowledge, experience and intuition. The application of epidemiology to the improvement of livestock health and production requires responsible management of disease information. From collecting data on milk production from a single dairy

farm to using country-wide disease data to determine national livestock import policies, careful and appropriate data management is essential. This course will introduce you to the types of data you might encounter, methods of collecting and storing those data, and some of the many epidemiological tools available to extract as much information as possible for production and disease management decisions.

*Assessment: short answer paper*

### **Principles of farm animal economic analysis [LVM319]**

This course on farm animal health economics will provide you with an introduction to the role that economics plays in decision making in the field of animal health. You will start by looking at the sorts of issues that might be involved, and the different perspectives from which issues can be considered. You will then go on to learn about important concepts used in animal health economics before preparing for the practical work in the course by reading about the tools used by animal health economists. The final part is a very practical session which will take you through the steps involved in calculating the output of livestock enterprises.

*Assessment: short answer paper*

### **Tools for economic analysis [LVM320]**

This course concentrates on the methodologies used for decision making in the field of animal health and production. The emphasis will be to explain the basic principles involved and will enable you to familiarise yourself with the techniques of partial and benefit-cost analysis through a series of exercises. The course will also provide you with knowledge to critically assess work done by others. Finally the course will present some of the economic tools that can be used to analyse the risk and uncertainty associated with livestock production.

*Assessment: short answer paper*

### **Welfare issues in extensive farming systems [LVM304]**

The welfare of extensively farmed animals is influenced by a number of characteristic factors, such as climate, food availability, handling, parasites, predators, etc. Uniquely, these factors interact in a complex way to ensure there are no simple answers to questions of animal welfare. The six sections in this course will help you to understand the complex interplay between the different factors and will provide insights into interpreting the dilemmas they bring.

*Assessment: short answer paper*

### **Welfare issues in systems involving confinement [LVM303]**

Intensive farming systems have reduced production costs and maximised outputs but have led to many animal welfare issues. Confinement of animals to smaller spaces leads to many psychological, behavioural and physical problems. Today these issues are debated and scientists and agricultural engineers have worked together to produce enclosures and environments which better meet the needs of animals. This course will explore these issues in detail and you will gain a better understanding of the economic and political ramifications that may be involved in improving husbandry systems.

*Assessment: short answer paper*

## Appendix C – Assessment Criteria – Essay questions

The assessment criteria for the MSc Research Project Oral examination are given in [Appendix D](#).

The assessment criteria for the 35-hour Individual modules are given in [Appendix E](#).

<b>MSc, PGDip, PGCert, 240 and 50 hour Individual modules</b>				
<b>Mark descriptor</b>	<b>Long Answer Questions</b>	<b>Research Project Reports</b>	<b>Mark (%)</b>	
<b>No answer</b>	<p><b>Selection and coverage of material</b> Nothing presented or completely incorrect information or containing nothing at all of relevance.</p> <p><b>Understanding</b> None evident. No evidence of wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b> None or extremely poor.</p>	<p><b>Selection and coverage of material</b> Nothing presented or completely incorrect information or containing nothing at all of relevance.</p> <p><b>Understanding</b> None evident.</p> <p><b>Structure, clarity and presentation</b> None or extremely poor.</p>	0	Fail
<b>Extremely poor answer</b>	<p><b>Selection and coverage of material</b> Hardly any information or information that is almost entirely incorrect or irrelevant.</p> <p><b>Understanding</b> No or almost no understanding evident. No, or almost no, evidence of wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p>	<p><b>Selection and coverage of material</b> Hardly any information or information that is almost entirely incorrect or irrelevant.</p> <p><b>Understanding</b> No or almost no understanding evident.</p> <p><b>Structure, clarity and presentation</b> None or very poor.</p>	15	Fail

	None or very poor.			
<b>Very poor answer</b>	<p><b>Selection and coverage of material</b></p> <p>Very limited amount of information that is correct and relevant.</p> <p><b>Understanding</b></p> <p>If any, extremely limited evidence of understanding. No, or almost no, evidence of wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>Very poor.</p>	<p><b>Selection and coverage of material</b></p> <p>Very limited amount of information that is correct and relevant.</p> <p><b>Understanding</b></p> <p>If any, extremely limited evidence of understanding.</p> <p><b>Structure, clarity and presentation</b></p> <p>Very poor.</p>	27	Fail
<b>Poor answer</b>	<p><b>Selection and coverage of material</b></p> <p>Little information that is correct and relevant.</p> <p><b>Understanding</b></p> <p>If any, very limited evidence of understanding. There may be evidence of very limited wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>Poor.</p>	<p><b>Selection and coverage of material</b></p> <p>Incomplete or inaccurate account of task with inadequate description of aims and methods of practical work and containing significant, and/or a large number of, errors.</p> <p><b>Understanding</b></p> <p>If any, very limited evidence of understanding with many unexplained observations or assertions likely. Little or no evidence of original/innovative thinking. Very limited reference to published work from authoritative sources.</p> <p><b>Structure, clarity and presentation</b></p> <p>Poor.</p>	35	Fail

<b>Clearly deficient answer</b>	<i>As for 45 but with a greater number, and/or more significant, omissions/inaccuracies/errors, flaws in understanding, presentation and/or communication of information. There may be less evidence of wider reading of an appropriate nature.</i>	<i>As for 45 but with a greater number, and/or more significant, omissions/inaccuracies/errors, flaws in understanding, interpretation, presentation and/or communication of information.</i>	42	Fail
<b>Deficient answer</b>	<p><b>Selection and coverage of material</b></p> <p>Superficial coverage of topic that is descriptive and flawed by many important omissions and/or significant errors.</p> <p><b>Understanding</b></p> <p>Some evidence of understanding but not of original thought or critical analysis. Evidence of limited wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>Some disorganisation in structure, lack of organisation, and deficiencies in clarity of expression.</p>	<p><b>Selection and coverage of material</b></p> <p>Superficial coverage with incomplete record of aims and methods of practical work and flawed by errors &amp;/or omissions. Little comment on most observations.</p> <p><b>Understanding</b></p> <p>Likely to be inaccuracies in data analysis and/or interpretation and unexplained observations or assertions. Little or no evidence of original/innovative thought. Very limited reference to published work from authoritative sources.</p> <p><b>Structure, clarity and presentation</b></p> <p>Adequate, although may not be entirely systematic</p>	45	Fail
<b>Marginally deficient answer</b>	<i>As for 45 but with fewer, and/or less significant, omissions/inaccuracies/errors, flaws in understanding, presentation and/or communication of information. There may be more evidence of wider reading of an appropriate nature.</i>	<i>As for 45 but with fewer, and/or less significant, omissions/inaccuracies/errors, flaws in understanding, interpretation, presentation and/or communication of information.</i>	48	Fail
<b>Adequate answer</b>	<i>As for 55 but with more numerous, and/or more significant omissions/inaccuracies/errors, flaws in understanding, presentation and/or communication of information. There may be less evidence of wider reading of an appropriate nature.</i>	<i>As for 55 but with more numerous, and/or more significant, omissions/inaccuracies/errors, flaws in understanding, interpretation, presentation and/or communication of information.</i>	52	Pass

<p><b>Sound answer</b></p>	<p><b>Selection and coverage of material</b></p> <p>Basic coverage of main aspects of topic but with some significant omissions/inaccuracies/errors.</p> <p><b>Understanding</b></p> <p>Statements supported by facts but limited evidence of critical ability or powers of argument. Evidence of sufficient wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>In general, organised and logical presentation with adequate clarity of expression.</p>	<p><b>Selection and coverage of material</b></p> <p>Systematic account of task with adequate record of aims and methods of practical work and no significant errors, omissions or inaccuracies. Appropriate speculation is unlikely or, if present, is likely to be unsubstantiated.</p> <p><b>Understanding</b></p> <p>Limited evidence of original/innovative thought.</p> <p>Sufficient reference to published work from authoritative sources. Data are largely accurate but there may be some unexplained observations or assertions.</p> <p><b>Structure, clarity and presentation</b></p> <p>Reasonably well organised and logically presented with adequate clarity of expression.</p>	<p>55</p>	<p>Pass</p>
<p><b>Very sound answer</b></p>	<p><i>As for 55 but with fewer, and/or less significant omissions/inaccuracies/errors and more evidence of critical ability and/or powers of argument and clarity of expression. There may be more evidence of wider reading of an appropriate nature.</i></p>	<p><i>As for 55 but with fewer, and/or less significant, omissions/inaccuracies/errors and more evidence of critical ability and/or powers of argument and clarity of expression.</i></p>	<p>58</p>	<p>Pass</p>
<p><b>Quite good answer</b></p>	<p><i>As for 65 but with more, and/or more significant, omissions/inaccuracies/errors and less evidence of critical ability. There may be less evidence of wider reading of an appropriate nature.</i></p>	<p><i>As for 65 but with less evidence of critical judgement and more, or more important, omissions/inaccuracies/errors. There is likely to be less evidence of wider reading through reference to published work from authoritative sources.</i></p>	<p>62</p>	<p>Pass</p>

<p><b>Good answer</b></p>	<p><b>Selection and coverage of material</b></p> <p>Good coverage of relevant material and clear evidence of critical judgement in selection of information. Few or no significant omissions or errors.</p> <p><b>Understanding</b></p> <p>Thorough grasp of concepts and evidence of synthesis of information and critical ability. Evidence of sufficient, or some more extensive, wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>Logical and organised structure with clarity of expression.</p>	<p><b>Selection and coverage of material</b></p> <p>Systematic and accurate account of task with full record of aims and methods of practical work and no significant errors or omissions. Some speculation, where appropriate, but may not be fully supported.</p> <p><b>Understanding</b></p> <p>Thorough grasp of concepts with reasonable comment on all observations with few unexplained findings or assertions. Some evidence of original/innovative thinking. Appropriate reference to published work from authoritative sources. Data manipulated and analysed correctly.</p> <p><b>Structure, clarity and presentation</b></p> <p>Logical and well-organised account with clarity of expression.</p>	<p>65</p>	<p>Merit</p>
<p><b>Very good answer</b></p>	<p><i>As for 65 but with fewer, and/or less significant, omissions/inaccuracies/errors. More evidence of critical judgement likely. There may be more evidence of wider reading of an appropriate nature.</i></p>	<p><i>As for 65 but with more evidence of critical judgement and fewer and/or less significant omissions/inaccuracies/errors. There is likely to be more evidence of wider reading through reference to published work from authoritative sources.</i></p>	<p>68</p>	<p>Merit</p>

<p><b>Extremely good answer</b></p>	<p><b>Selection and coverage of material</b></p> <p>Question answered fully and accurately. Few errors and/or omissions and none of significance.</p> <p><b>Understanding</b></p> <p>Thorough grasp of concepts with evidence of powers of critical analysis, argument and original thinking. Evidence of extensive wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b></p> <p>Logical and organised structure with clarity of expression.</p>	<p><b>Selection and coverage of material</b></p> <p>Full and accurate account of task, aims and methods of practical work with few errors and/or omissions and none of significance. Where appropriate, sensible speculation, supported by evidence.</p> <p><b>Understanding</b></p> <p>Thorough grasp of concepts with some critical and/or comparative comment on all observations. Clear evidence of original/innovative thinking. Published work from authoritative sources used extensively and appropriately. Data manipulated and analysed correctly.</p> <p><b>Structure, clarity and presentation</b></p> <p>Very well organised.</p>	<p>75</p>	<p>Distinction</p>
<p><b>Excellent answer</b></p>	<p><i>As for 75 but demonstrating an authoritative grasp of concepts with sustained powers of argument, and frequent insights. Virtually no errors or omissions and none of significance.</i></p>	<p><i>As for 75 but demonstrating an authoritative grasp of concepts with sustained powers of argument, frequent insights and much evidence of original/innovative thinking. Virtually no errors or omissions and none of significance.</i></p>	<p>82</p>	<p>Distinction</p>
<p><b>Outstanding answer</b></p>	<p><i>As for 82 but with strong evidence of independent thinking throughout and no omissions or factual errors.</i></p>	<p><i>As for 82 but with strong evidence of original/innovative thinking throughout and no omissions or factual errors. Would be of publishable standard with only minor modifications to content.</i></p>	<p>90</p>	<p>Distinction</p>

<p><b>Exceptional answer</b></p>	<p><b>Selection and coverage of material</b> Exceptional depth of coverage with no identifiable errors or omissions.</p> <p><b>Understanding</b> Exceptional powers of analysis, argument, synthesis and insight. Considerable evidence of extensive wider reading of an appropriate nature.</p> <p><b>Structure, clarity and presentation</b> Flawless.</p>	<p><b>Selection and coverage of material</b> Exceptional depth of coverage with no identifiable errors or omissions.</p> <p><b>Understanding</b> Exceptional powers of analysis, argument, synthesis and insight.</p> <p><b>Structure, clarity and presentation</b> Flawless. Of publishable standard with only amendments in style/formatting required.</p>	<p>100</p>	<p>Distinction</p>
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## Appendix D – Assessment Criteria – MSc Research Project Oral examination

The assessment criteria for the 240-hour and 50-hour Individual modules are given in [Appendix C](#).

The assessment criteria for the 35-hour Individual modules are given in [Appendix E](#).

The MSc Oral Project will be marked according to the following scheme:

Evidence of / understanding of:	0	1	2	3	4	5	6	7	8	9	10
(i) Research question (aims & objectives)	None	Very little	Little	Some but limited and superficial ; gaps in knowledge evident	Some but generally superficial ; gaps in knowledge may be evident	Generally adequate	Generally quite good	Mostly good; sometimes very good	Consistently very good	Consistently very good with examples of excellence	Consistently excellent
(ii) Wider context of work	None	Very little	Little	Some but limited and superficial ; gaps in knowledge evident	Some but generally superficial ; gaps in knowledge may be evident	Generally adequate	Generally quite good	Mostly good; sometimes very good	Consistently very good	Consistently very good with examples of excellence	Consistently excellent
(iii) Methodology used	None	Very little	Little	Some but limited and superficial ; gaps in knowledge	Some but generally superficial ; gaps in knowledge may be	Generally adequate	Generally quite good	Mostly good; sometimes very good	Consistently very good	Consistently very good with examples of excellence	Consistently excellent

				e evident	evident					e	
(iv) Data and data analysis	None	Very little	Little	Some but limited and superficial ; gaps in knowledge evident	Some but generally superficial ; gaps in knowledge may be evident	Generally adequate	Generally quite good	Mostly good; sometimes very good	Consistently very good	Consistently very good with examples of excellence	Consistently excellent
(v) Conclusions including context & literature cited	None	Very little	Little	Some but limited and superficial ; gaps in knowledge evident	Some but generally superficial ; gaps in knowledge may be evident	Generally adequate	Generally quite good	Mostly good; sometimes very good	Consistently very good	Consistently very good with examples of excellence	Consistently excellent
Overall quality of answers (depth, breadth & clarity)	Irrelevant or incomprehensible	Extremely poor	Generally very poor	Generally poor	Mixture of adequate and poor	Generally adequate	Generally quite good	Generally good; sometimes very good	Consistently very good	Consistently very good or excellent	Consistently excellent

## Interpretation of Marking Scheme for the oral examination for MSc Project

At the end of the oral, the examiners agree the appropriate wording for each of the 5 categories and then calculate the total as follows:

Criteria	Final Mark Calculation
5 categories given the same mark	That mark will be awarded
4 of 5 categories given the same mark and 1 category given a mark above or below, but not 0	The mark given for the 4 categories will be awarded
2 or 3 categories given the same mark	Calculate the average mark (round up if X.45 and above; round down if X.44 and below)
No category given the same mark	The median mark will be awarded
Note: A mark of zero in any category should result in the overall mark awarded being decreased by one.	

## Appendix E – Assessment Criteria – Short answer questions and problem solving

The assessment criteria for the 240-hour and 50-hour Individual modules are given in [Appendix C](#).

The assessment criteria for the oral examination for the MSc Project are given in [Appendix D](#).

The 35-hour Individual modules will be marked out of 10 according to the following scheme:

Mark out of 10 (Tutor-marked assignment)	Descriptor	Factual information and integration of knowledge	Understanding of concepts and critical ability	Presentation
10	Perfect	Factually flawless; excellent integration of knowledge	Full understanding; excellent critical ability	Excellent style and expression
9	Almost perfect	Factually, almost flawless; good integration of knowledge	Full understanding; good critical ability	Excellent style and presentation
8	Excellent: Distinction standard	Relevant factually information well covered and weighted appropriately; good integration of knowledge	Good understanding; good critical ability	Style and expression very good
7	Very Good: Merit Standard	Relevant factually information well covered; some integration of knowledge	Good understanding, good critical ability	Style and expression good
6	Convincing pass	Sufficient relevant factual information but lacking in depth; little or no integration of knowledge	Some understanding; moderate critical ability	Style and expression generally good

<b>5</b>	Minimum Adequate	Barely sufficient relevant factual information; no integration of knowledge	Some understanding; some critical ability	Style and expression adequate
<b>4</b>	Definite, but not bad failure	Some relevant factual information but lacking in breadth and/or depth; no integration of knowledge	Some limited understanding; no critical ability	Style and expression poor
<b>3</b>	Bad failure	Considerable defects in relevant factual information; no integration of knowledge	Considerable defects in understanding but not totally lacking; no critical ability	Style and expression very poor
<b>2</b>	Very bad failure	Only a few correct pieces of relevant factual information	Very little (or no) understanding; no critical ability	Style and expression terrible
<b>1</b>	Almost no competent response	At most, one or two pieces of relevant factual information	None	Not relevant
<b>0</b>	Not submitted/no answer	No relevant factual information	None	Not relevant