

VetMB Research Project, 2017-2019

Course Organiser: Alun Williams

Lecturers: see list of project supervisors, below

Term: Easter 4th year to Easter 6th year

Aims:

- to expand the evidence based veterinary medicine theme to the clinical years of the course
- to highlight the essential link between clinical research and the practice of evidence based veterinary medicine
- to provide clinical veterinary students with the opportunity to apply research skills in a student-selected clinical or clinically-related research setting.

Objectives:

Develop knowledge and experience in research skills and demonstrate competence in ability to:

- define the scope of a research project through appropriate review and analysis of published literature
- develop and define an appropriate research hypothesis
- identify, evaluate and apply appropriate research methodology
- apply appropriate techniques for the analysis of research results
- interpret and discuss research findings in the appropriate professional and scientific context
- collate and present research findings in written, visual and/or oral format.

Preparation

Preparatory teaching material will be presented as part of the Evidence Based Medicine course lectures, including lectures on designing a research project and implementing and completing a research project.

Procedure and timeline

All stages must be certified in the students' 'Research Project Log' signed at each meeting of student and project supervisor and submitted as part of the requirements for successful completion of the course.

1. By middle of Easter term of 4th year: students will be supplied a list of possible project areas and research interests from teaching staff willing to act as project supervisors.
2. During Easter term of 4th year: students discuss possible projects with teaching staff and identify a supervisor and project title they wish to undertake.
3. By end of Easter term of 4th year/beginning of Michaelmas Term of 5th year: students notify project title and name of supervisor to Tutorial Office via signed notification form. This submission should include dates when the project 'field work' is likely to be conducted.
4. Before project work is conducted, and not later than end of week 8 of Michaelmas term of 5th year: with the input of their project supervisor, students write a detailed proposal including a research plan – a literature review and the materials and methods. (Note: a possible template for this in Appendix A). Research supervisors should provide students with detailed feedback on one draft of the research proposal and plan, and advise on the possible need for further applications to bodies such as Ethics Committee etc

A mark will be awarded for the Project Plan (10% of overall mark for the research project by the project supervisor. NO marks will be awarded to late submissions.

6. Between end of Easter term of 4th year and end of Easter vacation term of 6th year: Research work to be carried out with guidance from supervisor.

VSCSs will check on progress of the conduct of the research project, compiling and writing up the results section (and possibly the discussion section also) at the termly VSCS meetings.

Meetings with supervisors should be logged (see attached form) and signed (pass/fail requirement)

7. By end of Easter vacation of 6th year: A draft analysis of results and write up of the results to be submitted to the Tutorial Office

A mark will be awarded for the draft Results section (see below) by the project supervisor.

8. By end of Wednesday of last week of Easter term of 6th years – and before oral presentation of the project: completed final version of project to be submitted to Tutorial Office.
9. Last 2 days of Easter term of 6th year: each student formally presents their project findings in an oral presentation

Summative assessments will be carried out by academic staff for both the written report (45% of overall mark) and oral presentations (45%).

NOTE: A talk from the from Electives Co-ordinator (preferably with individual elective organisers present) regarding choices for the post-exams elective period will be given during Michaelmas term of 5th year. Students to have chosen their preferred post-exams elective subject area and notified Tutorial Office (via 'Choice' on Moodle) by end of week 8. Confirmation of each student's post-exams elective area will be given before the Part II exams in 5th year.

Research Project Log

To be signed at each meeting of student and project supervisor

Student name:

Supervisor name:

Meeting	Date	Supervisor's signature	Student's signature
Lent term of 4th year			
1. Initial discussion of possible projects			
2. Follow-on discussion of specific project			
By end of Easter term of 4th year: students notify project title and name of supervisor to Tutorial Office via signed notification form			
3. Provision of detailed feedback on research proposal and plan.			
4. Further feedback on modified proposal, plan and possible further applications (e.g. Ethics Committee etc)			
Before start conducting the project and by end of week 8 of Michaelmas Term in 5th year: detailed Research Project Plan to be submitted to Tutorial Office - a mark will be awarded (by the supervisor) for the Project Plan			
Between end of Easter term of 4th year and end of Easter vacation of 6th year:			
5. Guidance from supervisor on execution of research work.			
6. Further guidance from supervisor on execution of research work			
7. Guidance on analysis of project results and write up.			
8. Further guidance on analysis of project results and write up.			
By start of Easter term of 6th year: draft Results section to be submitted to Tutorial Office.			
During Easter term of 6th year: each student completes the written dissertation (to be handed in before oral presentations of projects) and presents their project findings in an oral presentation to the Department at end of Easter Term.			

Possible Project Supervisor 'theme teams' (further names and email addresses to be added)

Anaesthesia:	Jackie Brearley (jcb78@cam.ac.uk) Matthew McMillan(mwm32@cam.ac.uk)
Animal Welfare:	Gareth Pearce (gpp28@cam.ac.uk) Peter Fordyce (psf23@cam.ac.uk)
Bacteriology:	Piero Mastroeni (pm274@cam.ac.uk) Andrew Grant (ajg60@cam.ac.uk) Mark Holmes (mah1@cam.ac.uk)
Clinical Pathology:	Joy Archer (ja331@cam.ac.uk) Tim Williams (tlw27@cam.ac.uk)
Diagnostic Imaging:	Mike Herrtage (mhl000l@cam.ac.uk) Marie-Aude Genain (mag72@cam.ac.uk)
Diagnostic Pathology:	Fernando Constantino-Casas (fc307@cam.ac.uk) Alun Williams (aw510@cam.ac.uk) Kate Hughes (kh387@cam.ac.uk)
Educational Research:	Clare Allen (lcva2@cam.ac.uk)
Epidemiology:	James Wood (jlnw2@cam.ac.uk) Andrew Conlan (ajkc2@cam.ac.uk) Mark Holmes (mah1@cam.ac.uk) Olivier Restif (or226@cam.ac.uk) Caroline Trotter (clt56@cam.ac.uk)
Equine Studies:	Kate Smith (ks629@cam.ac.uk) Vikki Scott (vhls2@cam.ac.uk) Nicky Holdstock (nbh10@cam.ac.uk) Fran Henson (fmdh1@cam.ac.uk)
Farm Animal Studies:	Ian McCrone (ism27@cam.ac.uk) Gareth Pearce (gpp28@cam.ac.uk)
Genetics	Elizabeth Murchison (epm27@cam.ac.uk) David Sargan (drs20@cam.ac.uk)
Immunology:	Clare Bryant (ceb27@cam.ac.uk) Raymond Bujdoso (rb202@cam.ac.uk)

Neurology: Lisa Alves (la382@cam.ac.uk)
Paul Freeman (pf266@cam.ac.uk)

Oncology: Jane Dobson (jmd1000@cam.ac.uk)
Sarah Mason (sm2164@cam.ac.uk)
Elizabeth Murchison (epm27@cam.ac.uk)

Ophthalmology: David Williams (dlw33@cam.ac.uk)

Parasitology: Cinzia Cantacessi (cc779@cam.ac.uk)

SA Medicine: Mark Reading (mr480@cam.ac.uk)
Penny Watson (pjw36@cam.ac.uk)
Barbara Skelly (bjs1000@cam.ac.uk)

SA Surgery: Matthew Allen (mja1000@cam.ac.uk)
Heidi Radke (hr264@cam.ac.uk)
Jane Ladlow (jfl1001@cam.ac.uk)
Laura Owen (lo247@cam.ac.uk)
Richard Whitelock (rgw20@cam.ac.uk)

Veterinary Public Health: Dan Tucker (awt1000@cam.ac.uk)
Milorad Radakovic (mr412@cam.ac.uk)

Virology: Jonathan Heeney (jlh66@cam.ac.uk)
Barbara Blacklaws (bab2@cam.ac.uk)
Simon Frost (sdf22@cam.ac.uk)
Laurence Tiley (lst21@cam.ac.uk)

Appendix A

RESEARCH PROJECT PROPOSAL TEMPLATE

Student Name:

Supervisor Name:

Supervisor's Position in the Department of Veterinary Medicine:

Associated External Supervisors Name:.....

Associated External Supervisors Institution:.....

1. Project Title	A clear, concise statement of the subject of the research: the title should give a good indication of what the project is about when seen by itself.
2. People involved in the project	<p>Please list all people to be involved in the conduct of the project and their expected role.</p> <p>(Please also indicate which people are expected to be involved in any publication of the work - the sequence may change by the time of publication, but consideration should be given to this now in order to avoid any ambiguity later)</p> <p>Example:</p> <ol style="list-style-type: none"> 1. Joe Bloggs: student: ideas for design of project, collection of data, analysis, write up: first author 2. Fred Brown: supervisor: advice on design of project and analysis: last (senior) author 3. Bert Jones: collaborating vet: help with data collection: third author 4. Harry White: statistician: advice on experimental design, data collection and analysis: second author 5. Sally Smith: vet nurse: help with techniques: non author
3. Conflict of Interest Statements	Please declare for each team member any potential conflict of interest based on industry support or affiliation, or any other for profit enterprise that they may be affiliated with. When no conflict is perceived, please record "no conflict declared". If unsure, please contact Elective Organiser and Supervisor to discuss.
4. Abstract	<p>Draft of the abstract to your project (max 250 words). Although you will not have Results or a Conclusion, it should at least be possible to include the following sections at this stage.</p> <p>Introduction/Background: In about two to four sentences, summarise the content from Box 5 below.</p> <p>Objectives: In one or two sentences, or a bulleted list, summarise the content from Box 6 below.</p> <p>Methods:</p>

	<p>In two to four sentences, summarise the content from Box 7 below.</p> <p>Keywords: List a minimum of three words or phrases that describe the project topic domain.</p>
<p>5. Previous Work / Background</p>	<p>A brief review (~ 2 pages) of the current state of knowledge on the issue(s) you wish to address and how the proposed work will extend present knowledge (literature citations should be listed at the end of the project proposal in section 12). The conclusion of this section should lead the reader directly into the next two subsections of justification of the need for further work and the statement of objectives for the proposed work.</p>
<p>6. Justification / Objectives</p>	<p>A concise statement of the importance of the problem at local, regional, national or international level, reasons for doing the work at the proposed location at this particular time and potential benefits to the scientific community, veterinary profession and / or others. This should be followed here by a clear, complete and logically arranged statement of the specific objectives of the project, each identified by number.</p>
<p>7. Methods, Approaches, Procedures</p>	<p>This section should be several pages in length and must include the following:</p> <ol style="list-style-type: none"> 1. A statement of the methods and procedures to be used in attaining each of the stated objectives (procedures should correspond to the objectives listed in section 6 and follow the same order). 2. Phases of the work to be undertaken. 3. The location of the work and the facilities and equipment available and needed. 4. An outline of how the data will be collected and analysed. 5. Justification of the scientific acceptance of the proposed methods established by citation of relevant literature. <p>Although the format of this section will be dictated by the specifics of the project, structuring under the following headings will help to organise this section.</p> <p>Study/Project Design: Specify the type of study or project proposed: e.g.</p> <ul style="list-style-type: none"> • Quantitative or qualitative or both? • Prospective or retrospective or both? • Blinded or unblinded? • Controlled or uncontrolled? • List of inclusion / exclusion criteria • List any study-specific protocols or procedures <p>Materials and People: Outline of materials and equipment needed to complete the project (including any capital expenditures and consumables and how they will be funded). List people being relied upon for participation in the study by category and role and specify if/how they will be reimbursed. Examples may include:</p> <ul style="list-style-type: none"> • Materials <ul style="list-style-type: none"> ○ Drug, medical supplies, etc. ○ Computers, cameras, or other hardware that must be purchased for the purposes of the project ○ Travel bursary (e.g. to allow investigator to attend research site

	<p>and / or conference or meeting)</p> <ul style="list-style-type: none"> • People <ul style="list-style-type: none"> ○ Students involved (principle and secondary) ○ Academic staff, Residents, Interns ○ Practicing vets, nurses ○ Clients, Farmers, Owners ○ Industry representatives ○ Statistical support <p>Outcome Measures: Specify the outcomes (primary, secondary and other) that you will measure during your project</p> <p>Data Collection and Analysis: Specify how data will be collected or extracted, and your prospective plan for analysing the data. (It is understood that this may develop further after approval of the application as access to a methodologist/statistician may influence this aspect of the project design but initial plans should be outlined here).</p> <p>Power Calculation/Sample Size: Where available, please include the power calculation that informs the number of animals or subjects needed for your project to meet statistical significance. Otherwise, please include the best estimate of the number of subjects that will be included in the project (again, this may have to be modified after access to a statistician has been obtained.)</p>
<p>8. Ethics Approval</p>	<p>Will the project involve live animals? If so, please list the ethical issues that need to be considered in conducting this project and indicate the stage that an application to the Departmental Ethics Committee has reached.</p>
<p>9. Project Timeline</p>	<p>Outline the timeline for your project.</p>
<p>10. Project Budget</p>	<p>If applicable, outline the projected expenditure and sources of funding for each aspect of you project (this may be attached as a printout of an Excel spreadsheet).</p>
<p>11. Future Work</p>	<p>Outline further questions or project ideas that should be carried out after completion of this work. Please also specify your plans for presentation and publication of the present project and how carrying out this project will influence your long-term goals or objectives.</p>
<p>12. Cited References</p>	<p>All references referred to in this proposal should be listed here and formatted using the Harvard system (see Electives Guidelines Booklet for details)</p>
<p>13. Attachments</p>	<p>List any attachments associated with this project proposal, such as:</p> <ul style="list-style-type: none"> • Ethics Committee Application • Sample consent forms (if applicable) • Sample data collection forms, surveys, etc. (if applicable) • Applications for funding (if applicable) • Letter of support from collaborators