UNIVERSITY OF SASKATCHEWAN

Memorandum

To: Kenneth Fox, Chair, Academic Programs Committee (APC) of University Council

CC: Tasha Epp, Professor, Department of Large Animal Clinical Sciences

From: Office of the Associate Dean, College of Graduate and Postdoctoral Studies (CGPS)

Date: September 25, 2018

Re: New project-based Master of Science in Field Epidemiology

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The College of Graduate and Postdoctoral Studies is recommending approval of a new project-based Master of Science in Field Epidemiology. The proposed program would provide a unique and innovative training opportunity for veterinarians seeking advanced training in applied epidemiology skills, such as disease outbreak investigation and risk assessment. While the new program is unique, the programmatic requirements are consistent with existing project-based master's degrees in veterinary sciences at the UofS and comparator institutions.

The Graduate Programs Committee supported the program proposal on September 6, 2018, and the CGPS Executive Committee supported the program proposal on September 21, 2018. Consistent with the Academic and Curricular Changes Authority Chart, we are now seeking to have the program approved by APC.

Attached please find:

- A copy of the memo from the Executive Committee of CGPS recommending the proposal
- A copy of the memo from the Graduate Programs Committee of CGPS recommending the proposal
- The full proposal, including appendices
- A copy of the response to the Notice of Intent
- A copy of the Notice of Intent
- The Consultation with the Registrar Form

If you have any questions, please contact Kelly.clement@usask.ca (306-966-2229).

:kc

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Memorandum

To: Academic Programs Committee of Council (APC), Dr. Kenneth Fox, Chair

From: Executive Committee of CGPS, Dr. Trever Crowe, Chair

Date: September 21, 2018

Re: Proposal for new project-based Master of Science in Field Epidemiology

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At the September 21, 2018, meeting of the Executive Committee (CGPS), the committee considered a proposal to for a new project-based Master of Science in Field Epidemiology. The Executive Committee supports the new program as proposed.

A member commented that this program would be a good contribution to OneHealth – and committee agreed to recommend that this program should be noted as such. No further questions or comments were heard.

"The Executive Committee approves the new Master of Science in Field Epidemiology."
Pollack/Ferrari CARRIED

If you have any questions, please contact Lori Lisitza at lori.lisitza@usask.ca or 306-966-5759.

/ll

UNIVERSITY OF SASKATCHEWAN

Memorandum

To: Executive Committee, CGPS

Copy: Tasha Epp, Professor, Department of Large Animal Clinical Sciences
Cheryl Waldner, Graduate Chair, Department of Large Animal Clinical Sciences

From: Graduate Programs Committee, CGPS

Date: September 14, 2018

Re: Proposal for new project-based Master of Science in Field Epidemiology

On September 6, 2018, the Graduate Programs Committee considered a proposal for a new project-based Master of Science in Field Epidemiology. The proposed program would provide advanced veterinary training for animal disease outbreaks. The proposed program would be an innovative offering in North America.

The proposal had been well-prepared for establishing the new program. The program would require 30 credit units of coursework, a research project, ethics and safety training.

The committee noted that the proposed program was rigorous with a significant research component, though the proponents had indicated the proposed program was less research-intensive than the thesis-based Master of Science program in the department.

While the program indicated low enrolment, it was noted that the resources for program delivery were already in place, and activities were being formalized through new course delivery.

Members appreciated that the proposed program could provide opportunity for program transferability.

The following motion passed unanimously:

"*To recommend approval of the new Master of Science in Field Epidemiology.*" McNair/Wu CARRIED

If you have any questions, please contact Kelly Clement at kelly.clement@usask.ca or 306-966-2229.

:kc

UNIVERSITY OF SASKATCHEWAN

Proposal for Academic or Curricular Change

PROPOSAL IDENTIFICATION

Title of proposal: Project based (non-thesis) Master of Science for students of the Department of Large Animal Clinical Sciences, WCVM

Degree(s): **Master of Science (project based)**

Field(s) of Specialization: **Field Epidemiology (within Large Animal Clinical Sciences)**

Level(s) of Concentration: **Field Epidemiology**

Option(s): **Project-based (non-thesis) Master of Science**

Degree College: **College of Graduate and Postdoctoral Studies**

Contact person(s) (name, telephone, fax, e-mail):

Martha Smith, Acting Associate Dean, CGPS, 306-966-2229, kelly.clement@usask.ca

- **Tasha Epp, Associate Professor and Director of Centre for Applied Epidemiology, 306-966-6542 (T), 306-966-7159 (F), email: tasha.epp@usask.ca**
- **Cheryl Waldner, Professor and Graduate Chair (incoming July 2018), 306-966-7169 (T), 306-966-7159 (F), email: cheryl.waldner@usask.ca**
- **John Campbell, Professor, 306-966-7158 (T), 306-966-7159 (F), email: john.campbell@usask.ca**

Proposed date of implementation: **September 1, 2019**

Proposal Document

Please provide information which covers the following sub topics. The length and detail should reflect the scale or importance of the program or revision. Documents prepared for your college may be used. Please expand this document as needed to embrace all your information.

1. **Academic justification:**

a. *Describe why the program would be a useful addition to the university, from an academic programming perspective.*

The department of Large Animal Clinical Sciences (LAC) and the Centre for Applied Epidemiology (CAE) want to initiate a project-based (non-thesis) Master of Science graduate degree program with a specific focus on "field epidemiology".

There are currently a number of Field Epidemiology Training Programs (FETPs) around the world that are focused on human disease outbreak training, with a few in Asia and the Pacific focused solely on veterinarians. Two local field epidemiology training program examples are the Canadian Field Epidemiology Training Program (FETP) through Public Health Agency of Canada in Ottawa, Ontario and the Epidemic Intelligence Officer program through the Center for Disease Control and Prevention in Atlanta, Georgia, USA. The Canadian FETP has accepted at most 1 veterinarian in each yearly cohort, but with a focus on human health outbreaks. This new non-thesis based Master's program would be the first of its kind focused towards veterinarians and animal health disease outbreaks within North America.

b. *Giving consideration to strategic objectives, specify how the new program fits the university signature areas and/or integrated plan areas, and/or the college/school, and/or department plans.*

Epidemiology was identified in the Third Integrated Plan of the Western College of Veterinary Medicine (WCVM) as one of its strengths to be promoted and supported. Over the last 15 years, the faculty and non-faculty contingent dedicated to epidemiology (research and teaching) within the WCVM has changed and grown, but the focus of field (applied) epidemiology has remained consistent. Expertise in epidemiology within the college exists within the department of Large Animal Clinical Sciences; however, application of epidemiology occurs across all species: domestic companion animal or livestock, and wildlife.

The LAC department's mission is to "***educate veterinarians and veterinary students, conduct research, and publish scholarly work on health and management of large animals with the ultimate goal of improving the health and prosperity of Canadian society***". This program would further graduate veterinary training and research that would directly impact the health of animals. In addition, the department houses the long standing 'Disease Investigation Unit' (DIU) which provides epidemiologic and laboratory support for veterinary practitioners in the field with disease outbreaks of unknown origin. The DIU would be integral to the hands-on learning in this new graduate training program.

The WCVM, whose mandate is to "***act as a centre of veterinary expertise and centre of veterinary research***", is poised to lead training in applied epidemiology with the creation of the Centre for Applied Epidemiology (CAE). The Centre's mandate is "***to provide leadership for education, research and practical application of applied***

epidemiology for improvements in public and animal health". Currently the Centre provides a "virtual place" for all Centre members who practice applied epidemiology within the College to come together but seeks to make our network of members more visible and recognizable as leaders in applied epidemiology nationally and internationally. The Centre has recently hired its first full-time employee, dedicated to bio-statistical consultation and furthering centre-related epidemiological initiatives.

c. Is there a particular student demographic this program is targeted towards and, if so, what is that target? (e.g., Aboriginal, mature, international, returning)

This program will be specific to veterinarians who have graduated from a Canadian or international recognized veterinary college; specifically, those who want graduate training with a specific focus on applied epidemiology skills (outbreak investigation, evaluation of a surveillance program, risk assessment, risk communication, design of epidemiologic studies for outbreak investigations, and statistical analysis for outbreak investigations). These skills are useful for practicing veterinarians but also for practice of animal or public health at provincial or federal government levels.

d. What are the most similar competing programs in Saskatchewan, and in Canada? How is this program different?

There are no similar or competing programs in the province or within Canada. There are 4 other veterinary colleges across Canada all with different focuses on teaching epidemiology but none specific to applied or field epidemiology. This veterinary field epidemiology training would be unique to Saskatchewan, and within Canada and North America.

The only other training programs in North America that are similar focus solely on human outbreaks – these include the Centre for Disease Control (CDC) in Atlanta's Epidemic Intelligence Services (EIS) training and Public Health Agency of Canada's (PHAC) Field Epidemiology Training Program (FETP). The goal of this new training program would be to connect with other FETP training programs, particularly across North America.

2. Admissions

a. What are the admissions requirements of this program?

- Doctor of Veterinary Medicine (DVM) or equivalent, from a recognized college or university, contingent on acceptance by CGPS
- A cumulative weighted average of at least a 70% (U of S grade system equivalent) in the last two years of study (i.e. 60 credit units)
- Proof of English proficiency for international applicants and for applicants whose first language is not English.
- Eligibility for restricted, educational SVMA licensure to practice veterinary medicine in Saskatchewan.

3. Description of the program

a. What are the curricular objectives, and how are these accomplished?

The goal of the proposed project-based (non-thesis) MSC program is to provide training in applied epidemiology skills or competencies (see subsequent descriptions for what these competencies are). The program's goal will be to provide specific emphasis on the knowledge and application of an epidemiologic skill set in real life disease occurrences. Each student will be assigned a single supervisor to ensure the students have completed the required course work and specific epidemiologic competencies.

The competency based projects will be applied and specific to animal disease outbreak investigations and/or animal health surveillance systems. Size and scope of the competencies required will allow completion of the program within 2 years of full time work. The program competencies and completion timeline are consistent with the human focused training programs within North America and abroad.

b. Describe the modes of delivery, experiential learning opportunities, and general teaching philosophy relevant to the programming. Where appropriate, include information about whether this program is being delivered in a distributed format.

In general, the teaching philosophy of the program is one of experiential, mentored learning with the development of practical self-directed learning skills in addition to required epidemiologic competencies. The graduate training program will combine self-directed learning, formal and informal instruction with a focus on application of epidemiologic skills in real life situations. As this is an applied program, preference for all learning will be in face-to-face format with very little option for distributed or distance learning.

Formal instruction will include lectures, workshops, or seminars. Informal learning will include mentor reading modules and self-directed learning opportunities. Applied or field opportunities will focus on building practical skills using real world examples. Students will be required to take an active role in the delivery and direction of their programs but in consultation of an advisory committee and within the purview of successful completion of the required competencies.

c. Provide an overview of the curriculum mapping.

As part of their graduate training, students will complete the following required courses:

Mandatory non-credit courses:

- GSR 960 and either GSR 961 or GSR 962 (online)
- Safety Orientation for Employees (Safety Resources online)
- Biosafety (Safety Resources online)
- VLAC 992 (enrolment in each academic term of program)
- VLAC 990 (enrolment in each academic term of program)

Credit courses (30 cu total)

- **Field Epidemiology competencies I and II (VLAC 809.9 and 810.9 , 18 cu): (see new course proposal forms)**

Completion of a new course covering the basic competencies of applied epidemiology in action called “Field Epidemiology Competencies I and II” respectively (9 cu per between September and June x 2 years with an interim grade given in December of each year (term 1) and a final grade at the end of June (within term 3) of each year). The 2 courses would cover 6 core competencies that all applied/field epidemiology graduates would need to master to be successful in the field. Students in the 2 year program must complete all of the following required competencies:

- Students will be required to at minimum evaluate an **animal health surveillance program**, however, this could be augmented to design, revision or implementation of an animal health surveillance system (year 1).
- Students will be required to **analyse and interpret a dataset** which may be a simulated dataset or part of an on-going research project conducted by another researcher (year 1).
- Students will be required to practice their **risk communication** skills by presenting an oral presentation for a scientific audience at a conference, workshop or seminar, in addition to the peer-reviewed publications previously mentioned. Students will also be required to communicate complex scientific concepts to a lay audience through an industry meeting or public session (year 1).
- Students will participate in **field investigations** undertaken by the Disease Investigation Unit within the department (minimum of 2 investigations) with the expectation that they write a report on every investigation they participate in (year 2).
- Students will be required to understand the process of **risk assessment**, qualitative or quantitative and complete a risk assessment project (year 2).
- Students will be required to perform a **diagnostic test evaluation** at the population level; this may be applied to a laboratory diagnostic test or a questionnaire (year 2).

  These 2 course will entail a) reading module for background preparation for each competency, or b) engaging in a workshop or learning opportunity for each competency and c) completion of a practical application (deliverable) for each competency.

- **Foundational knowledge and expertise (12 cu):** Courses will be offered within the department, in other departments of the WCVM and other units on campus. Course(s) must equal 12 credit units and must include the following:
  - VLAC 808.3 Introduction to Veterinary Epidemiology, or equivalent introductory epidemiology class (3 cu) (year 1, term 1)

- VLAC 812.2 Clinical Research Statistical Analysis (2 cu, see course modification form) and VLAC 813.1 Advanced Clinical Research Statistical Analysis (1 cu, see course modification form), or equivalent introductory biostatistical class (3 cu total) (year 1, term 1 and/or 2).
- PUBH 809.3 Field Epidemiology (3 cu) (year 2, term 1)
- One elective (3 cu) to be decided by the student's committee

Informal Learning Environments

Students will be required to participate in rounds comprised of sessions in conjunction with other partner organizations of TEPHINET (Training Programs in Epidemiology and Public Health Interventions Network) on a monthly basis. These monthly rounds may include teleconference or webex participation with PHAC FETP or CDC EIS program seminar series, Animal Determinants of Emerging Diseases (ADED) or CDC Grand Rounds (Webinars).

Supervision and mentoring

Supervisory support is essential in the completion of any graduate degree. The student's committee will be comprised of the supervisor, the grad chair, and at least one other committee member. Each student will have two advisory committee meetings per year (May, Nov), each year of your program. One week prior to each meeting, the student will prepare and distribution of the updated LACS Grad Student Document outlining the progress they have made in the preceding 6 months, and their work plan for the subsequent 6 months.

In addition, students in year 2 of the program will be involved in mentoring students in year, specifically for field investigations. While year 2 students will be given the opportunity to take lead roles in outbreak investigations, year 1 students will only be allowed on 'accompanying role" to gain experience in a field investigation.

Manuscript and final program log defence

Students are required to prepare (at minimum) 1 publication-quality manuscript (preferably pertaining to an outbreak investigation). The manuscript must be at minimum properly formatted for an appropriate target journal at the time of completion of the program with the intent to publish.

Students will prepare a log of their program, details focusing on the skill set pertaining to applied epidemiology that they have developed during their program. A defence will consist of a public seminar pertaining to a competency or a summary of their program activities/competencies and an oral examination to follow. The oral defence will take the form of a critical review of competencies conducted by the student's committee plus an external examiner.

Timelines

Students are expected to complete MSc degree and all required applied competencies within two years.

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d. Identify where the opportunities for synthesis, analysis, application, critical thinking, problem solving are, and other relevant identifiers.

Students will acquire skills and knowledge in a number of learning environments, from formal classroom to informal or self-directed learning to experiential or field opportunities. Classroom sessions will prepare the students by providing instruction in basic and applied epidemiology, biostatistics and different types of assessments. Other than the 2 new "foundational" classes, all other epidemiology classes are already taught for graduate students across the University campus.

Informal or self-directed learning opportunities will help to solidify the competency concepts prior to attempting application with specific practical opportunities. The practical field opportunities will challenge the students to apply the theoretical knowledge in real world situations. Participation in epidemiological rounds will provide the students an opportunity to network and connect to other field epidemiology students around the world. A critical review of competencies will be conducted by an oral questioning by veterinary peers, supervisors/examiners (with or without external reviewers) at the end of the student's program.

e. Explain the comprehensive breadth of the program.

The program will first and foremost adhere to the structure and intent of the University of Saskatchewan's project-based Master of Science programs. It has been structured to resemble the already existing project based Master of Science that exists within the department for the clinical residents.

The breadth of the program is intended to be similar to already established FETP programs around the world regarding competencies and experience. The intent will be to have the program recognized internationally by TEPHINET.

f. Referring to the university "Learning Charter", explain how the 5 learning goals are addressed, and what degree attributes and skills will be acquired by graduates of the program.

Discovery Goals

While formal instruction will be an important part of the training program, a substantial focus will be on the development of self-directed learning by readings and other learning opportunities and involvement in field training opportunities. This will lead to self-assessment, redirection, and refinement of critical thinking skills, as well as independent thought.

Knowledge Goals

The combination of formal and informal instruction and applied field opportunities will provide comprehensive specialty training in veterinary field epidemiology. A thorough understanding of the scientific literature is expected as part of their post-graduate degree. Veterinary medicine, by nature, provides ample opportunity for cross-species and cross-disciplinary training. Judgement, especially when under pressure, will be a fact of life for students dealing with outbreak situations.

Integrity Goals

Veterinary medicine is a highly regarded profession, largely because of the high standards of trust and integrity that are maintained by the self-regulating profession. Maintenance of high moral and ethical standards is the guiding principle interwoven into most daily clinical activities. The Saskatchewan Veterinary Medical Association will serve as an external organization through which ethical standards and morals will be assessed if called into question.

Skills Goals

There are 6 recognized competencies or skill sets that every veterinary field epidemiology graduate should master: outbreak investigation, data analysis, risk communication, risk assessment, surveillance assessment and diagnostic test evaluation. The competency deliverables identified in the Field Epidemiology competencies course are designed to ensure that a graduate develops each of these skills within their program.

Communication skills will be developed and assessed on an ongoing basis as it is a founding competency of field epidemiology. Students must communicate directly with lay personnel in outbreak situations, Canadian Food Inspection Agency employees in case of foreign animal diseases and other veterinarians involved in the outbreaks. Through this, they will learn to communicate (oral and written) effectively at a level appropriate for the individual or group they are addressing.

Communication skills also pertain to effective written communication. As such, publishable papers are a component of the deliverables at the end of the program.

Citizenship Goals

The WCVM is an ethnically diverse college that provides an opportunity to learn and work with experts from around the world. Moreover, the departmental faculty strives to reach out to the international community by way of conferences, research exchanges, and other work with industry and international groups. These, and our efforts strengthening the human-animal bond, contribute to a sense of satisfaction in society.

g. Describe how students can enter this program from other programs (program transferability).

Students entering this program will require a DVM or equivalent veterinary degree from a Canadian or internationally recognized veterinary institution. Application will be made directly to the department. Once accepted, students will be assigned or can choose a veterinary epidemiologist as a supervisor to ensure completion of the required components of the program effectively.

Opportunities for transfer into and out of the program from other Universities or colleges units are very limited. However, should students prefer to challenge themselves with more intensive research focus, they may request a transfer to the

thesis-based MSc program upon successfully identifying a supervisor and a research focus.

h. Specify the criteria that will be used to evaluate whether the program is a success within a timeframe clearly specified by the proponents in the proposal.

It is expected that a high proportion of students will be first (lead) authors on the manuscript that can be published in respected journals in their discipline. Follow-up with students will determine the successful integration of these highly trained individuals into respective employment opportunities, such as government public and animal health opportunities.

i. If applicable, is accreditation or certification available, and if so how will the program meet professional standard criteria. Specify in the budget below any costs that may be associated.

There is no accreditation or certification for this project-based MSc program, rather there is the possibility that the program can be recognized by other FETP within the international TEPHINET community.

4. Consultation

a. Describe how the program relates to existing programs in the department, in the college or school, and with other colleges. Establish where students from other programs may benefit from courses in this program. Does the proposed program lead into other programs offered at the university or elsewhere?

The proposed program is similar to other project based masters programs on campus. Compared to a regular thesis based MSc program, it is less research intensive, has a substantial requirement for applied or field epidemiology training, and requires publication ready project specific manuscript(s) rather than the completion of a thesis.

The program will mostly incorporate already existing or modified classes that are used by the WCVM MSc project-based residency program (LAC and SAC), WCVM MSc thesis-based programs in epidemiology within the department (LAC), Community Health and Epidemiology and the School of Public Health. Any of the classes that are used through the School of Public Health from an epidemiology perspective are currently taught by faculty within the veterinary school that act as joint faculty within the School of Public Health. Via this arrangement, our graduate students have access to these courses without the need for consultation about this new proposed program through our college. It should be noted that competency related modules will be accessible by non-program veterinary graduate students through a VLAC course called Special Field Experiences. However, students in any college other than veterinary medicine will not be able to access the program as it is specific to those with veterinary credentials. It is possible that competency specific workshop offerings by the Centre for Applied Epidemiology will be created and open to non-program students.

b. *List units that were consulted formally, and provide a summary of how consultation was conducted and how concerns that were raised in consultations have been addressed. Attach the relevant communication in an appendix.*

Consultation has been with the members of the department with specific focus on epidemiology, i.e. veterinary epidemiologists, the Disease Investigation Unit Director and the Centre for Applied Epidemiology Director and Assistant Director of Operations. IT was through a series of discussions that the Notice of Intent and now the formal proposal to the Graduate Academic's Committee was completed.

The LACS grad chair and the Dean of the WCVM have also been consulted. In addition, other departments within the WCVM that utilize epidemiology classes (i.e. particularly 811.1, 812.2 and 813.1) have been consulted as well. The consultation memos and any support letters have been attached as appendix 3 and 6.

c. *Proposals that involve courses or other resources from colleges outside the sponsoring unit should include evidence of consultation and approval. Please give special consideration to pre- and co-requisite requires when including courses from other colleges.*

Presently, all of the courses listed in the proposed plan are or will be taught by the veterinary epidemiologists or field service clinicians with epidemiology training employed within the LACS department. This includes epidemiology-related courses (PUBH 809 Field Epidemiology; PUBH 832 Infectious Disease Epidemiology; PUBH 800 Introduction to Epidemiology) offered through the School of Public Health. The only specifically trained epidemiologist (PhD specific to epidemiology) within the School of Public Health is a 50% joint member with primary appointment in the department of Large Animal Clinical Sciences. If these classes no longer be offered, other arrangements for equivalent courses would have to be finalized.

d. *Provide evidence of consultation with the University Library to ensure that appropriate library resources are available.*

No consultations at this time. The library has provided adequate support for the MSc thesis-based program, and no change is anticipated.

e. *List other pertinent consultations and evidence of support, if applicable (e.g., professional associations, accreditation bodies, potential employers, etc.)*

Consultation with outside organizations that might use the program for further training have occurred, i.e. Canadian Food Inspection Agency. The Agency was very supportive of opportunities to further train their personnel in field epidemiology specific competencies.

At an upcoming PHAC FETP meeting in June 2018, consultation with this program on how a partnership might look between their existing program and our new proposed program will be explored. This program development is not contingent on this partnership, so this meeting was not scheduled prior to this proposal finalization.

5. Budget

a. How many instructors will participate in teaching, advising and other activities related to core program delivery (not including distribution/ breadth requirements or electives)? (estimate the percentage time for each person).

There are currently 2 full time veterinary epidemiologists within the department that cover the majority of graduate level epidemiology courses within the department and the School of Public Health (100% each specific to epidemiology teaching and research). Whether this training program is created or not will not change the teaching level of these 2 faculty as the classes already exist. The existing assistant Director of the Centre for Applied Epidemiology is a resource that can be utilized to offset teaching load as this would fulfil the job description of supporting epidemiological initiatives.

There are a number of field service clinicians with training in epidemiology (2 -3) that will also contribute time through the Disease Investigation Unit and the offering of the Clinical Statistics courses (10-25%). There are approximately 20 outbreak investigations within a year, with different department faculty involved depending on species and outbreak circumstances. In addition, the Centre for Applied Epidemiology has a full time employee that provides bio-statistical consultation for the college (50%) and epidemiology expertise in project management (50%).

Any of these faculty (epidemiology or field service clinicians with epidemiology training) will be capable of supervising students in the program.

b. What courses or programs are being eliminated in order to provide time to teach the additional courses?

Not applicable, as the course being taught will be contributing to the training program being established.

c. How are the teaching assignments of each unit and instructor affected by this proposal?

Little to no impact. The teaching assignments will remain the same for graduate level epidemiology courses. The new Field Epidemiology Competencies course (VLAC 809.9 and 810.9) will mainly consist of self-directed reading modules, utilization of established workshops or other learning opportunities to augment the students' formal and informal instruction prior to application of theory into a practical experience. This will be supervised by their individually appointed MSc project-based supervisor which will be one of the two epidemiologists in the department or one of the field service clinicians with a field epidemiology focus. The supervision of a graduate student is part of all of these individuals' job descriptions. Students entering into a thesis-based MSc within the department have typically been high achieving individuals that are self-driven learners. A number of the thesis based students positions will be offset by these non-thesis based students instead. This is not expected to differ from the student(s) entering this project- based MSc.

d. Describe budget allocations and how the unit resources are reallocated to accommodate this proposal. (Unit administrative support, space issues, class room availability, studio/practice rooms laboratory/clinical or other instructional space requirements).

No impacts. The budget allocations will be similar to those of the MSc thesis-based or project-based MSc programs already in existence in the college. The space allocation in the college for class room availability is not an issue as the classes are either already scheduled classes or will be one-on-one with the student which can be accomplished in the supervisor's office space.

e. If this program is to be offered in a distributed context, please describe the costs associated with this approach of delivery and how these costs will be covered.

Not applicable.

f. If this is an interdisciplinary program, please indicate whether there is a pool of resources available from other colleges involved in the program.

Not applicable.

g. What scholarships will students be able to apply for, and how many? What other provisions are being provided for student financial aid and to promote accessibility of the program?

One primary scholarship/fellowship is available to the students and is managed through the WCVM Associate Dean Research. The Interprovincial Graduate Students Fellowship (IPGF) provides $30-35K per year for Canadian Veterinarians (or eligible Canadian residents with a veterinary degree from a recognized international institution) for the duration of the program.

All outbreak related costs (including travel for disease investigations) will be covered under the operating funds for the DIU.

h. What is the program tuition? Will the program utilize a special tuition model or standard tuition categories? (The approval authority for tuition is the Board of Governors).

Standard tuition rates established by CGPS for all Canadian and international graduate students apply.

i. What are the estimated costs of program delivery, based on the total time commitment estimates provided? (Use TABBS information, as provided by the College/School financial officer)

We do not anticipate any changes are required with regard to the tuition model that is currently used for other programs within the department, including the MSc project-based non-thesis clinical residency program.

j. What is the enrolment target for the program? How many years to reach this target? What is the minimum enrolment, below which the program ceases to be feasible? What is the maximum enrolment, given the limitations of the resources allocated to the program?

The enrolment target for this program will be 1 – 2 students per year. This will maintain a reasonable outbreak investigation case load for the students to participate in over the course of the program. It is expected that we would reach this target within the first year of offering and may have to turn students away. It is feasible to have no students apply for the program in any given year with the expectation that less than 1 student every 3 years would make the program potentially not feasible to maintain.

Over the past year, we have had a PHAC FETP individual training within our department, through a collaboration between the Centre for Applied Epidemiology and the Public Health Agency of Canada Zoonoses Division. It has provided a chance to gauge the inner workings of an existing FETP program within the University context as well as how the veterinary training program could benefit from existing PHAC learning modules.

k. What are the total expected revenues at the target enrolment level, separated into core program delivery and distribution/breadth requirements or electives? What portion of this expected revenue can be thought of as incremental (or new) revenue?

No change required (compared to MSc project-based non-thesis clinical residency program already within the department or the MSc thesis based within the department).

l. At what enrolment number will this program be independently sustainable? If this enrolment number is higher than the enrolment target, where will the resources come from to sustain the program, and what commitments define the supply of those resources?

The enrolment numbers of 1-2 students will be sustainable because the courses are already taught for other graduate programs, and the Disease Investigation Unit already exists and runs effectively. More than 3 students would be too onerous on the DIU and would dilute out the number of outbreaks any one graduate student would be able to assist with. Therefore the student enrolment has been capped at 1 - 2 students per year.

m. Proponents are required to clearly explain the total incremental costs of the program. This is to be expressed as: (i) total cost of resources needed to deliver the program: (ii) existing resources (including in-kind and tagged as such) applied against the total cost: and (iii) a listing of those resource costs that will require additional funding (including new in-kind support).

No change required (compared to MSc project-based non-thesis clinical residency program already within the department).

n. ***List all new funding sources and amounts (including in-kind) and the anticipated contribution of each to offsetting increment program costs. Please identify if any indicated funding is contingent on subsequent approval by a funding authority and/or future conditions. Also indicate under what conditions the program is expected to be cost neutral. The proponents should also indicated any anticipated surpluses/deficits associated with the new program***

No change required (compared to MSc project-based non-thesis clinical residency program already within the department).

College Statement

Please provide here or attach to the online portal, a statement from the College which contains the following:

- Recommendation from the College regarding the program
- Description of the College process used to arrive at that recommendation
- Summary of issues that the College discussed and how they were resolved

Related Documentation

At the online portal, attach any related documentation which is relevant to this proposal to the online portal, such as:

- Excerpts from the College Plan and Planning Parameters
- SPR recommendations
- Relevant sections of the College plan
- Accreditation review recommendations
- Letters of support (Deans Advisory group)
- Memos of consultation

It is particularly important for Council committees to know if a curriculum changes are being made in response to College Plans and Planning Parameters, review recommendations or accreditation recommendations.

Consultation Forms At the online portal, attach the following forms, as required

<u>Required for all submissions:</u>

- Consultation with the Registrar form - CGPS
- Complete Catalogue entry, if proposing a new program, or excerpt of existing program with proposed changes marked in red

<u>Required for all new courses:</u>

- New Course Proposal forms x2 (new and modifications)
- Calendar-draft list of new and revised courses

<u>Required if resources needed</u>:

- Information Technology Requirements form – N/A
- Library Requirements form – N/A
- Physical Resource Requirements form – N/A
- Budget Consultation form – CGPS

Appendix 1: Catalogue entry

Master of Science (M.Sc.) – Project-option; Focus in Field Epidemiology

Admission Requirements

- Doctor of Veterinary Medicine (DVM) or equivalent, from a recognized college or university, contingent on acceptance by CGPS
- A cumulative weighted average of at least a 70% (U of S grade system equivalent) in the last two years of study (i.e. 60 credit units)
- Proof of English proficiency for international applicants and for applicants whose first language is not English.
- Eligibility for restricted, educational SVMA licensure to practice veterinary medicine in Saskatchewan.

Degree Requirements

Students must maintain continuous registration in the 992 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- a minimum of 30 credit units:
    - 18 cu pertaining to epidemiology skill-competency (Field Epidemiology Competencies 1 and 2)
    - 12 cu pertaining to skill development and discipline-specific, foundational knowledge/expertise
- VLAC 992.0
- VLAC 990.0

Appendix 2: Responses to the University of Saskatchewan Planning and Priorities Committee comments

The excerpts are from the Memorandum dated April 24, 2018 from the Planning and Priorities committee response to the Notice of Intent for a Master of Science (non-thesis) in Field Epidemiology

"The inclusion of a cost-benefit analysis in the full program proposal is recommended, given the planned low student enrolment of one to two students per year. The analysis should include the technical and other related support costs. An indication that the program is an institutional priority for the WCVM is also suggested for inclusion in the full program proposal. The value of the program to those individuals registered in the program is not questioned, and the committee understands that enrolment numbers are by necessity small, due to the program requirement that students engage in a disease outbreak investigation in the field. However, the committee was concerned about the capacity of the faculty instructors to offer the program on an individualized basis as planned, and that the draw on faculty resources will likely be greater than anticipated."

While it is recognized that it does not seem possible to add an additional program without increasing the workload of faculty, we truly feel that this is possible in this circumstance. Over the past year, the Centre for Applied Epidemiology has staffed its first full time employee dedicated to bio-statistical consultation and epidemiological support. This supportive was crucial to the development and broadening of the epidemiology initiatives within the LACS department. In addition, faculty within this department may prefer to take on non-thesis based students instead of thesis-based students. Most of our students take on projects with real world focus for which there is significant engagement of their supervisors or other supportive faculty or organizations in the data collection. In conclusion, this program will work to capitalize on existing FETP programs, existing formal and informal learning opportunities for students and supportive positions within and outside of the college that do not further tax the epidemiology faculty within the LACS department. We have begun this process through the collaborative FETP PHAC placement that exists between the Centre for Applied Epidemiology and the Public Health Agency of Canada Zoonoses Division. It is through partnerships such as this that this program will be possible to undertake without substantial draw on the current and future faculty.

"The committee also asks that proponents consider how they might fill the gap for epidemiologically-trained veterinarians in North America, given that the program appears to be intended for Canadian-educated veterinarians and focused regionally on applicants from the Canadian Food Inspection Agency on campus. Although similar programs exist for human health, the proposed program presents a unique opportunity to offer a program of this type in North America for animal health."

The proposed pool of applicants for this program is not just aimed at North America nor specifically Canada. Any veterinarian with a degree from a recognized veterinary school internationally will be capable of applying to the program. English proficiency will be required for those where english is not their first language. There was particular reference to the Canadian Food Inspection Agency as this agency would be a potential pool of applicants but in no way is this the sole applicant pool of focus.

Appendix 3: Letter of recommendation from the WCVM Deans

Appendix 4: Draft syllabi – (new) Field Epidemiology Competencies 1 and 2

UNIVERSITY OF SASKATCHEWAN	**New Course Proposal Form**

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean:

2. Information required for the Catalogue

2.1 Label & Number of course: VLAC 809.9

2.2 Title of course: Field Epidemiology Competencies I

2.3 Total Hours: Lecture Seminar Lab Tutorial Other

2.4 Weekly Hours: Lecture Seminar Lab Tutorial Other

2.5 Term in which it will be offered: T1 T2 T1 or T2 **T1 and T2**

2.6 Prerequisite: A DVM or equivalent, and enrolment in the MSc project-based (non-thesis) focused on applied/field epidemiology training.

2.7 Calendar description:

This course provides applied epidemiology training for graduate students enrolled in the first year of field epidemiology focused project-based (non-thesis) MSc degree. The goal is to prepare students though applied opportunities to master skills in applied epidemiology and complete the required list of competency outcomes. In addition to field training opportunities, students will receive formal and informal instruction in the form of weekly epidemiologic rounds in conjunction with other Field Epidemiology

Training Program (FETP) groups across North America (human health focused). Grading is based on the graduate students' completion of the required competencies, their participation and performance in structured learning opportunities and their ability to communicate appropriately with peers, veterinarians, and the lay public involved in outbreak investigations.

2.8 Any additional notes

3. Rationale for introducing this course.

Students taking the MSc project-based (non-thesis) in field epidemiology have a set of competencies that are required to be completed in order to showcase the learning of applied skills throughout their program. This course provides the setting to complete 3 of those competencies and receive formal grading for their attempts.

4. Learning Objectives for this course.

By the completion of the course, students are expected to:

1. Demonstrate the ability to summarize, analyse and interpret the output from a research dataset.
2. Demonstrate an understanding of design, implementation and evaluation of an animal health surveillance system.
3. Demonstrate the ability to communicate risk to various audiences, from peers to lay public.

5. Impact of this course.

Are the programs of other departments or Colleges affected by this course? No

If so, were these departments consulted? (Include correspondence)

Were any other departments asked to review or comment on the proposal? No

6. Other courses or program affected (please list course titles as well as numbers).

Course(s) to be deleted? None

Course(s) for which this course will be a prerequisite? None

Is this course to be required by your majors, or by majors in another program? No

7. Course outline.

(Weekly outline of lectures or include a draft of the course information sheet.)

This course will run from September to June with an interim assessment at the end of term 1 and a final assessment at the end of June..

Students will receive a formal training session within the first week detailing the procedures of the Disease Investigation Unit, how to submit samples to the laboratory and how to complete the skills self-assessment.

The majority of time will be spent completing the competencies listed in the objectives and grading section. Other formal and informal educational opportunities will be sought out to gain the theoretical background required to complete the competencies.

Other structured sessions within this course consist of:

- weekly rounds in conjunction with another FETP program (depending on the content and availability to join electronically)
- weekly epidemiology outbreak case discussions with peers (fellow epidemiology students within the MSc project based or MSc thesis-based stream focusing on epidemiology

8. Enrolment.

Expected enrollment: 1-3 students per year

From which colleges? Only the Western College of Veterinary Medicine specifically the MSc project-based (non-thesis) in field epidemiology within the department of Large Animal Clinical Sciences

9. Student evaluation.

Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

The following competency outcomes will be graded accordingly:

- Data analysis and presentation –35%
  - Students will be graded on their descriptive and analytical evaluation of the dataset. They will be expected to write up the materials and methods and results section as for a peer-reviewed publication in conjunction with the researcher from whom the dataset was supplied.
- Surveillance assessment – 35%
  - Students will be expected to either evaluate, revise or design a surveillance system for an animal health disease or condition of interest. In the event that a real life example is available, the student will have to liaise with the respective organization making the request.
- Risk Communication – 30%

- Students will be required to give and oral presentation on an outbreak, surveillance project or other topic of interest to a lay public meeting and to a peer-group within an academic setting.

There are no midterm or final examinations for this course. Student performance is assessed on an ongoing basis with opportunities for students to do more than the minimum required elements. Many of the components of the required competencies involved team environments, as such participation and ability to work in groups will be evaluated within those specific tasks.

Students are expected to take an active role in their education and there is an expectation for a fair amount of independent study. Students will be expected to complete a self-assessment at the beginning and end of every term to assess if they are meeting their goals of acquiring the necessary applied epidemiologic skills and knowledge. A suitable self-assessment guide is attached as reference.

Information on literal descriptors for grading graduate students at the University of Saskatchewan can be found at: http://www.usask.ca/cgsr/policy-andprocedure/examinations.php – 1.

90-100 Exceptional	**A superior performance with consistent strong evidence of:** • a comprehensive, incisive grasp of subject matter; • an ability to make insightful critical evaluation of information; • an exceptional capacity for original, creative and/or logical thinking; • an exceptional ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • an exceptional ability to analyze and solve difficult problems related to subject matter
80-89 Very good to excellent	**A very good to excellent performance with strong evidence of:** • a comprehensive grasp of subject matter; • an ability to make sound critical evaluation of information; • a very good to excellent capacity for original, creative and/or logical thinking; • a very good to excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • a very good to excellent ability to analyze and solve difficult problems related to subject matter
70-79 Satisfactory to good	**A satisfactory to good performance with evidence of:** • a substantial knowledge of subject matter; • a satisfactory to good understanding of the relevant issues and satisfactory to good familiarity with the relevant literature and technology; • satisfactory to good capacity for logical thinking; • some capacity for original and creative thinking; • a satisfactory to good ability to organize, to analyze, and to examine the subject matter in a critical and constructive manner; • a satisfactory to good ability to analyze and solve moderately difficult problems related to the subject matter
60-69 Poor	**A generally weak performance, but with some evidence of:** • a basic grasp of the subject matter; • some understanding of the basic issues; • some familiarity with the relevant literature & techniques; • some ability to develop solutions to moderately difficult problems related to the subject matter; • some ability to examine the material in a critical & analytical manner
<60 Failure	**An unacceptable performance**

10. Required text:

    Include a bibliography for the course.

- **Epidemiology for Field Veterinarians: An Introduction. Even Sargeant and Nigel Perkins. CABI: Oxfordshire, UK, 2015.**
- Methods in Field Epidemiology. Pia DM MacDonald. Jones and Bartlett Learning: Burlington, MA, USA. 2012.
- Field Epidemiology. 3rd edition. Michael Gregg. Oxford University Press: New York, USA. 2008.

11. Resources.

    Proposed instructor:

- Tasha Epp, DVM, PhD; tasha.epp@usask.ca; 206-966-6542 (office)
- Cheryl Waldner, DVM, PhD; Cheryl.waldner@usask.ca; 306-966-7169 (office)
- Assisted by: Sarah Parker, DVM, MVetSc, PhD; sarah.parker@usask.ca, 306-966-1996 (office), manager DIU

How does the department plan to handle the additional teaching or administrative workload?

Are sufficient library or other research resources available for this course? Yes

Are any additional resources required (library, audio-visual, technology, etc.)? No

12. Date of Implementation:

To be offered: annually biennially other

FIELD EPIDEMIOLOGY COMPETENCIES I

VLAC 809.9

Course Coordinator: Dr. Tasha Epp, ext 6542; tasha.epp@usask.ca

Place and Times: September to June

Description:

This is a comprehensive course designed to provide background learning and experiential opportunities to apply the theoretical concepts in real life situations.

This course provides applied epidemiology training for graduate students enrolled in the first year of field epidemiology focused project-based (non-thesis) MSc degree. The goal is to prepare students though applied opportunities to master skills in applied epidemiology and complete the required list of competency outcomes. In addition to field training opportunities, students will receive formal and informal instruction in the form of weekly epidemiologic rounds in conjunction with other Field Epidemiology Training Program (FETP) groups across North America (human health focused). Grading is based on the graduate students' completion of the required competencies, their participation and performance in structured learning opportunities and their ability to communicate appropriately with peers, veterinarians, and the lay public involved in outbreak investigations.

Objectives

Students who complete this course should be able to:

- Demonstrate the ability to summarize, analyse and interpret the output from a research dataset.
- Demonstrate an understanding of design, implementation and evaluation of an animal health surveillance system.

- Demonstrate the ability to communicate risk to various audiences, from peers to lay public.

Course Approach

Field Epidemiology Competencies is offered as a semi-structured learning environment that encompasses formal and informal learning opportunities.

Prerequisites:

There are no specific prerequisites for this course; however, it is reserved for students enrolled in the Master of Science (Field Epidemiology) project-based program. If students outside of this program would wish to take or learn components listed in the syllabus, please consult with epidemiology faculty in the Large Animal Clinical Sciences about the Special Field Experiences course instead (VLAC 803.6).

Epidemiology Competencies:

Students are expected to take an active role in their education and there is an expectation for a fair amount of independent study. Students will be expected to complete a self-assessment at the beginning and end of every year to assess if they are meeting their goals of acquiring the necessary applied epidemiologic skills and knowledge. A suitable self-assessment guide is attached as reference.

Students will be expected to complete either a reading module or a workshop/training opportunity to gather the required background learning of the theory behind each of the competencies. Assistance in planning the learning plan will be in consultation with the supervisor and/or instructor of this course.

- Summarize, analyse and interpret the output from a research dataset.
    a. Readings from: Dohoo I, Martin W and Stryhn H. Veterinary Epidemiologic Research, 2nd edition. VER:Charlottetown, PEI, 2009.
    b. Possible workshop opportunities:
- Design, implementation and evaluation of an animal health surveillance system.
    a. Readings from: Salman M (ed). Animal Disease Surveillance and Survey Systems: Methods and Applications. Iowa State Publishing: Ames, Iowa, 2003.
    b. Possible workshop opportunities:
- Communicate risk to various audiences, from peers to lay public.

a. Readings from: Lundgren RE and McMakin AH. Risk Communication: A handbook for communicating environmental, safety and health risk, 5th edition. IEEE Press:Piscataway, NJ, 2013.
b. Possible workshop opportunities:

Completion of the required competencies will result in a specific deliverable, tailored to each student in the course. Deliverables will be preferably developed based in real life situations and be accompanied by set timelines. Some situations will be developed within the University research environment while others may be developed in conjunction with outside organizations. Adherence to deadlines and deliverables is an essential component to completing the learning objectives for this course.

Evaluation Methods:

There are no midterm or final examinations for this course. Student performance is assessed on an ongoing basis with opportunities for students to do more than the minimum required elements. Many of the components of the required competencies involved team environments, as such participation and ability to work in groups will be evaluated within those specific tasks.

The following competency outcomes will be graded accordingly:

- Data analysis and presentation –35%
  - Students will be graded on their descriptive and analytical evaluation of the dataset. They will be expected to write up the materials and methods and results section as for a peer-reviewed publication in conjunction with the researcher from whom the dataset was supplied.
  - Adherence to specific deadlines will be incorporated into the final mark.
- Surveillance assessment – 35%
  - Students will be expected to either evaluate, revise or design a surveillance system for an animal health disease or condition of interest.
  - In the event that a real life example is available, the student will have to liaise with the respective organization making the request. Marks will reflect the professionalism of this interaction.
  - Adherence to specific deadlines will be incorporated into the final mark.
- Risk Communication – 30%
  - Students will be required to give and oral presentation on an outbreak, surveillance project or other topic of interest to a lay public meeting and to a peer-group within an academic setting.

- Students will also be graded on written communications and deliverables that accompany all other competencies in this course.

Information on literal descriptors for grading graduate students at the University of Saskatchewan can be found at: http://www.usask.ca/cgsr/policy-andprocedure/examinations.php – 1.

90-100 Exceptional	**A superior performance with consistent strong evidence of:** • a comprehensive, incisive grasp of subject matter; • an ability to make insightful critical evaluation of information; • an exceptional capacity for original, creative and/or logical thinking; • an exceptional ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • an exceptional ability to analyze and solve difficult problems related to subject matter
80-89 Very good to excellent	**A very good to excellent performance with strong evidence of:** • a comprehensive grasp of subject matter; • an ability to make sound critical evaluation of information; • a very good to excellent capacity for original, creative and/or logical thinking; • a very good to excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • a very good to excellent ability to analyze and solve difficult problems related to subject matter
70-79 Satisfactory to good	**A satisfactory to good performance with evidence of:** • a substantial knowledge of subject matter; • a satisfactory to good understanding of the relevant issues and satisfactory to good familiarity with the relevant literature and technology; • satisfactory to good capacity for logical thinking; • some capacity for original and creative thinking; • a satisfactory to good ability to organize, to analyze, and to examine the subject matter in a critical and constructive manner; • a satisfactory to good ability to analyze and solve moderately difficult problems related to the subject matter
60-69 Poor	**A generally weak performance, but with some evidence of:** • a basic grasp of the subject matter; • some understanding of the basic issues; • some familiarity with the relevant literature & techniques; • some ability to develop solutions to moderately difficult problems related to the subject matter; • some ability to examine the material in a critical & analytical manner
<60 Failure	**An unacceptable performance**

UNIVERSITY OF SASKATCHEWAN	**New Course Proposal Form**

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean:

2. Information required for the Catalogue

2.1 Label & Number of course: VLAC 810.9

2.2 Title of course: Field Epidemiology Competencies II

2.3 Total Hours: Lecture Seminar Lab Tutorial Other

2.4 Weekly Hours: Lecture Seminar Lab Tutorial Other

2.5 Term in which it will be offered: T1 T2 T1 or T2 **T1 and T2**

2.6 Prerequisite: A DVM or equivalent, and enrolment in the MSc project-based (non-thesis) focused on applied/field epidemiology training with successful completion of Field Epidemiology Competencies I.

2.7 Calendar description:

This course provides applied epidemiology training for graduate students enrolled in the second year of field epidemiology focused project-based (non-thesis) MSc degree. The goal is to prepare students though applied opportunities to master skills in applied epidemiology and complete the required list of competency outcomes. In addition to field training opportunities, students will receive formal and informal

instruction in the form of weekly epidemiologic rounds in conjunction with other Field Epidemiology Training Program (FETP) groups across North America (human health focused). Grading is based on the graduate students' completion of the required competencies, their participation and performance in structured learning opportunities and their ability to communicate appropriately with peers, veterinarians, and the lay public involved in outbreak investigations.

2.8 Any additional notes

3. Rationale for introducing this course.

Students taking the MSc project-based (non-thesis) in field epidemiology have a set of competencies that are required to be completed in order to showcase the learning of applied skills throughout their program. This course provides the setting to complete 3 of those competencies and receive formal grading for their attempts.

4. Learning Objectives for this course.

By the completion of the course, students are expected to:

4. Demonstrate appropriate knowledge and application of basic epidemiology, including outbreak investigation skills, within field investigations undertaken by the Disease Investigation Unit.
    a. Understand descriptive epidemiology of communicable diseases including recognition of an outbreak event.
    b. Be familiar with methods for outbreak investigation, including examples of case-control and cohort study approaches.
    c. Develop skills in recognizing and evaluating clusters of non-communicable and communicable diseases.
    d. Understand mass and targeted disease control strategies in animal groups.
    e. To develop skills in questionnaire development and data analysis using personal computer software.
    f. Understand the laboratory role, as well as other sciences in outbreak investigations
5. Demonstrate the understanding of the process of a risk assessment, qualitative or quantitative and ability to complete a formal risk assessment on a real life situation.
6. Demonstrate the ability to perform a diagnostic test evaluation at the population level.

5. Impact of this course.

Are the programs of other departments or Colleges affected by this course? No

If so, were these departments consulted? (Include correspondence)

Were any other departments asked to review or comment on the proposal? No

6. Other courses or program affected (please list course titles as well as numbers).

Course(s) to be deleted? None

Course(s) for which this course will be a prerequisite? None

Is this course to be required by your majors, or by majors in another program? No

7. Course outline.

(Weekly outline of lectures or include a draft of the course information sheet.)

This course will run from September to June with an interim assessment at the end of term 1 and a final assessment at the end of June..

Students will receive a formal training session within the first week detailing the procedures of the Disease Investigation Unit, and how to submit samples to the laboratory.

The majority of time will be spent completing the competencies listed in the objectives and grading section. In this year, the students will participate in as many outbreak investigations as become available in conjunction with the lead faculty for each outbreak investigation.

Other structured sessions within this course consist of:

- weekly rounds in conjunction with another FETP program (depending on the content and availability to join electronically)
- weekly epidemiology outbreak case discussions with peers (fellow epidemiology students within the MSc project based or MSc thesis-based stream focusing on epidemiology

8. Enrolment.

Expected enrollment: 1-3 students per year

From which colleges? Only the Western College of Veterinary Medicine specifically the MSc project-based (non-thesis) in field epidemiology within the department of Large Animal Clinical Sciences

9. Student evaluation.

Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

The following competency outcomes will be graded accordingly:

- Outbreak investigation reports – 40%

    - Students will be expected to write up an outbreak investigation report for every outbreak that they are involved with. Two of these outbreak reports will be selected to be written up for publication in an appropriate peer-reviewed journal.
- Risk assessment project – 30%
    - Students will be graded on their completion of a formal risk assessment, either qualitative or quantitative in design. They will be expected to write up assessment as a formal report for the faculty member or organization to which the assessment pertains. In the event that a real life example is available, the student will have to liaise with the respective organization making the request.
- Diagnostic Test evaluation – 30%
    - Students will be expected to conduct a diagnostic test evaluation at the population level for an animal disease or health condition of interest. This evaluation could also be done on a questionnaire to assess for misclassification bias. In the event that a real life example is available, the student will have to liaise with the respective organization making the request.

There are no midterm or final examinations for this course. Student performance is assessed on an ongoing basis with opportunities for students to do more than the minimum required elements. Many of the components of the required competencies involved team environments, as such participation and ability to work in groups will be evaluated within those specific tasks.

Students are expected to take an active role in their education and there is an expectation for a fair amount of independent study. Students will be expected to complete a self-assessment at the beginning and end of every term to assess if they are meeting their goals of acquiring the necessary applied epidemiologic skills and knowledge. A suitable self-assessment guide is attached as reference.

Information on literal descriptors for grading graduate students at the University of

Saskatchewan can be found at: http://www.usask.ca/cgsr/policy-andprocedure/examinations.php – 1.

90-100 Exceptional	**A superior performance with consistent strong evidence of:** • a comprehensive, incisive grasp of subject matter; • an ability to make insightful critical evaluation of information; • an exceptional capacity for original, creative and/or logical thinking; • an exceptional ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • an exceptional ability to analyze and solve difficult problems related to subject matter
80-89 Very good to excellent	**A very good to excellent performance with strong evidence of:** • a comprehensive grasp of subject matter; • an ability to make sound critical evaluation of information; • a very good to excellent capacity for original, creative and/or logical thinking; • a very good to excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • a very good to excellent ability to analyze and solve difficult problems related to subject matter
70-79 Satisfactory to good	**A satisfactory to good performance with evidence of:** • a substantial knowledge of subject matter; • a satisfactory to good understanding of the relevant issues and satisfactory to good familiarity with the relevant literature and technology; • satisfactory to good capacity for logical thinking; • some capacity for original and creative thinking; • a satisfactory to good ability to organize, to analyze, and to examine the subject matter in a critical and constructive manner; • a satisfactory to good ability to analyze and solve moderately difficult problems related to the subject matter
60-69 Poor	**A generally weak performance, but with some evidence of:** • a basic grasp of the subject matter; • some understanding of the basic issues; • some familiarity with the relevant literature & techniques; • some ability to develop solutions to moderately difficult problems related to the subject matter; • some ability to examine the material in a critical & analytical manner
<60 Failure	**An unacceptable performance**

10. Required text:

    Include a bibliography for the course.

- **Epidemiology for Field Veterinarians: An Introduction. Even Sargeant and Nigel Perkins. CABI: Oxfordshire, UK, 2015.**
- Methods in Field Epidemiology. Pia DM MacDonald. Jones and Bartlett Learning: Burlington, MA, USA. 2012.
- Field Epidemiology. 3rd edition. Michael Gregg. Oxford University Press: New York, USA. 2008.

11. Resources.

    Proposed instructor:

- Tasha Epp, DVM, PhD; tasha.epp@usask.ca; 206-966-6542 (office)
- Cheryl Waldner, DVM, PhD; Cheryl.waldner@usask.ca; 306-966-7169 (office)
- Assisted by: Sarah Parker, DVM, MVetSc, PhD; sarah.parker@usask.ca, 306-966-1996 (office), manager DIU

How does the department plan to handle the additional teaching or administrative workload?

Are sufficient library or other research resources available for this course? Yes

Are any additional resources required (library, audio-visual, technology, etc.)? No

12. Date of Implementation:

To be offered: annually biennially other

FIELD EPIDEMIOLOGY COMPETENCIES II

VLAC 810.9

Course Instructors: Dr. Tasha Epp, ext 6542; tasha.epp@usask.ca

Place and Times:

Description:

This is a comprehensive course designed to provide background learning and experiential opportunities to apply the theoretical concepts in real life situations.

Objectives

Students who complete this course should be able to:

- Demonstrate appropriate knowledge and application of basic epidemiology, including outbreak investigation skills, within field investigations undertaken by the Disease Investigation Unit.
    - Understand descriptive epidemiology of communicable diseases including recognition of an outbreak event.
    - Be familiar with methods for outbreak investigation, including examples of case-control and cohort study approaches.
    - Develop skills in recognizing and evaluating clusters of non-communicable and communicable diseases.
    - Understand mass and targeted disease control strategies in animal groups.
    - To develop skills in questionnaire development and data analysis using personal computer software.
    - Understand the laboratory role, as well as other sciences in outbreak investigations

- Demonstrate the understanding of the process of a risk assessment, qualitative or quantitative and ability to complete a formal risk assessment on a real life situation.
- Demonstrate the ability to perform a diagnostic test evaluation at the population level.

Course Approach

Field Epidemiology Competencies is offered as a semi-structured learning environment that encompasses formal and informal learning opportunities.

Prerequisites:

Completion of Field Epidemiology Competencies I is required. Additionally, it is reserved for students enrolled in the Master of Science (Field Epidemiology) project-based program. If students outside of this program would wish to take or learn components listed in the syllabus, please consult with epidemiology faculty in the Large Animal Clinical Sciences about the Special Field Experiences course instead (VLAC 803.6).

Epidemiology Competencies:

Students are expected to take an active role in their education and there is an expectation for a fair amount of independent study. Students will be expected to complete a self-assessment at the beginning and end of every year to assess if they are meeting their goals of acquiring the necessary applied epidemiologic skills and knowledge. A suitable self-assessment guide is attached as reference.

Students will be expected to complete either a reading module or a workshop/training opportunity to gather the required background learning of the theory behind each of the competencies. Assistance in planning the learning plan will be in consultation with the supervisor and/or instructor of this course.

- Application of basic epidemiology, including outbreak investigation skills, within field investigations undertaken by the Disease Investigation Unit.
    a. Readings from: Sargeant E and Perkins N. Epidemiology for Field Veterinarians: An Introduction. CABI:Oxfordshire, Englan, 2015.
    b. Possible workshop opportunities:

- Process of a risk assessment, qualitative or quantitative.
    a. Readings from:
    b. Possible workshop opportunities:
- Perform a diagnostic test evaluation at the population level.
    a. Readings from:
    b. Possible workshop opportunities:

Completion of the required competencies will result in a specific deliverable, tailored to each student in the course. Deliverables will be preferably developed based in real life situations and be accompanied by set timelines. Some situations will be developed within the University research environment while others may be developed in conjunction with outside organizations. Adherence to deadlines and deliverables is an essential component to completing the learning objectives for this course.

Evaluation Methods:

There are no midterm or final examinations for this course. Student performance is assessed on an ongoing basis with opportunities for students to do more than the minimum required elements. Many of the components of the required competencies involved team environments, as such participation and ability to work in groups will be evaluated within those specific tasks.

The following competency outcomes will be graded accordingly:

- Outbreak investigation reports – 40%
    - Students will be expected to write up an outbreak investigation report for every outbreak that they are involved with. Two of these outbreak reports will be selected to be written up for publication in an appropriate peer-reviewed journal.
    - Students will be graded on their interactions with clients; both written and oral communications
- Risk assessment project – 30%
    - Students will be graded on their completion of a formal risk assessment, either qualitative or quantitative in design. They will be expected to write up assessment as a formal report for the faculty member or organization to which the assessment pertains.
    - In the event that a real life example is available, the student will have to liaise with the respective organization making the request. Marks will be assigned for the professionalism of that interaction.
    - Adherence to specific deadlines will be incorporated into the final

mark.

- Diagnostic Test evaluation – 30%
    - Students will be expected to conduct a diagnostic test evaluation at the population level for an animal disease or health condition of interest. This evaluation could also be done on a questionnaire to assess for misclassification bias.
    - In the event that a real life example is available, the student will have to liaise with the respective organization making the request. Marks will be assigned for the professionalism of that interaction.
    - Adherence to specific deadlines will be incorporated into the final mark.

Information on literal descriptors for grading graduate students at the University of Saskatchewan can be found at: http://www.usask.ca/cgsr/policy-andprocedure/examinations.php – 1.

90-100 Exceptional	**A superior performance with consistent strong evidence of:** • a comprehensive, incisive grasp of subject matter; • an ability to make insightful critical evaluation of information; • an exceptional capacity for original, creative and/or logical thinking; • an exceptional ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • an exceptional ability to analyze and solve difficult problems related to subject matter
80-89 Very good to excellent	**A very good to excellent performance with strong evidence of:** • a comprehensive grasp of subject matter; • an ability to make sound critical evaluation of information; • a very good to excellent capacity for original, creative and/or logical thinking; • a very good to excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently; • a very good to excellent ability to analyze and solve difficult problems related to subject matter
70-79 Satisfactory to good	**A satisfactory to good performance with evidence of:** • a substantial knowledge of subject matter; • a satisfactory to good understanding of the relevant issues and satisfactory to good familiarity with the relevant literature and technology; • satisfactory to good capacity for logical thinking; • some capacity for original and creative thinking; • a satisfactory to good ability to organize, to analyze, and to examine the subject matter in a critical and constructive manner; • a satisfactory to good ability to analyze and solve moderately difficult problems related to the subject matter
60-69 Poor	**A generally weak performance, but with some evidence of:** • a basic grasp of the subject matter; • some understanding of the basic issues; • some familiarity with the relevant literature & techniques; • some ability to develop solutions to moderately difficult problems related to the subject matter; • some ability to examine the material in a critical & analytical manner
<60 Failure	**An unacceptable performance**

Appendix 5: Draft syllabi – (revised) Clinical Trial Design and Analysis

Note: GSR 400.2 (attached)

CLINICAL TRIAL DESIGN

VLAC 811.1

Course Outline and Lecture Schedule

Course Instructors: Dr. John Campbell, Ext 7158 john.campbell@usask.ca

Place and Times: Fall term

WCVM

Description:

This is an introductory graduate course for clinicians and clinical researchers who need a basic understanding of clinical trial design and clinical epidemiology in order to carry out their own research. The course will cover areas of clinical trial design, critically appraising and understanding clinical trials.

Objectives

Students who complete this course should be able to:

- Formulate good clinical research questions.
- Evaluate the appropriateness of different clinical research designs.
- Plan a well-designed clinical trial

Course Approach

Clinical Trial Design is offered in one session per week to allow time for meaningful in-class learning activities to take place. In many cases, learning will be carried out by the student utilizing textbooks and examples while classroom time will be used for discussion and questions. New information will often be introduced through readings done in preparation for the next classroom session. Classroom time will usually be devoted to the application of new information and exploration of its implications. You can expect to take an active role during class sessions in learning activities and small and large group discussion. There will be students participating from off site and these students as well as students at the U. of S. will be able to access all classroom information online.

Classroom activities and assignments will give you experience choosing and critiquing clinical research design, and managing and collecting your data.

Prerequisites:

There are no specific prerequisites for this course. The course is meant to be taken with the Statistics for Clinical Research course (VLAC 812.2). If your research involves observational study designs more than the clinical or experimental designs emphasized in this course, you might consider taking Introduction to Veterinary Epidemiology I (VLAC 808.3) instead.

Evaluation Methods:

60%: Short assignments will be given out on most weeks of the course. These must be completed by the deadline assigned or they will be not be graded. These assignments will often be practical applications of the concepts learned.

40%: Final open book exam

Recommended Textbooks:

Hulley SB, Cummings SR. Designing Clinical Research, An Epidemiologic Approach. 4th edition, Baltimore: Williams & Wilkins (available on reserve at the WCVM library)

Norman & Streiner. Biostatistics: The Bare Essentials 4th edition. (available on reserve at the WCVM library)

Required readings will be utilized from both of these textbooks and therefore you will need access to them. Both are available on reserve in the library or at the U of S bookstore or on Amazon. The Hulley textbook is available on Amazon in the Kindle format.

Tentative Schedule

Date	**Topic**	**Reference Chapters**
1 hours	Basic Ingredients of Clinical Research	Hulley Chapters 1-4
3 hours	Study design	Hulley Chapters 7-11
2 hours	Sample Size/Power Measures of Clinical Effect Confidence intervals	Hulley Chapters 5-6 Biostatistics Chapters 1 Biostatistics Chapter 21, 22
2 hours	Questionnaires and other data collection	Hulley Chapters 15-17
2 hours	Data Management (Excel); Reasons for a statistical consult	Biostatistics Chapter 2
1 hour	Descriptive Statistics	Biostatistics Chapters 3-6
1 hour	Planning your clinical trial	
	Final Exam	

STATISTICS FOR CLINICAL RESEARCH

VLAC 812.2

Course Outline and Lecture Schedule

Winter

Course Instructors: Dr Cheryl Waldner, Ext 6542 cheryl.waldner@usask.ca

Dr. Tasha Epp, Ext 6542 tasha.epp@usask.ca

Dr. Sarah Parker, sarah.parker@usask.ca

Place and Times: Fall term

WCVM

Description:

This is an introductory graduate course for clinicians and clinical researchers who need a basic understanding of clinical statistics and clinical epidemiology in order to carry out their own research. The course will cover areas of applied medical statistics. Common parametric and non-parametric statistical tests that are used in medical research will be presented and used.

Objectives

Students who complete this course should be able to:

- Translate a good clinical research question(s) into statistical analysis plan

- Manage your data utilizing a statistical software program
- Analyze the results from clinical trials
- Interpret and present your findings

Course Approach

Statistics for Clinical Research is offered in one session per week to allow time for meaningful in-class learning activities to take place. In many cases, learning will be carried out by the student utilizing textbooks and examples while classroom time will be used for discussion and questions. New information will often be introduced through readings done in preparation for the next classroom session. Classroom time will usually be devoted to the application of new information and exploration of its implications. You can expect to take an active role during class sessions in learning activities and small and large group discussion. There will be students participating from off site and these students as well as students at the U. of S. will be able to access all classroom information online.

Classroom activities and assignments will give you experience choosing the "right" statistical test, and using statistical software to run some statistical tests on clinical research data.

Prerequisites:

The pre-requisite for this course is completion of Clinical Trial Design (VLAC 811.1) or enrollment/completion of Introduction to Veterinary Epidemiology (VLAC 808.3) or permission from the instructor.

Evaluation Methods:

60%: Short assignments will be given out on most weeks of the course. These must be completed by the deadline assigned or they will be not be graded. These assignments will often be practical applications of the concepts learned.

40%: Final open book exam

Recommended Textbooks:

Norman & Streiner. Biostatistics: The Bare Essentials 4th edition. (available on reserve at the WCVM library)

Required readings will be utilized from this textbook and therefore you will need access to it. The text is available on reserve in the library or at the U. of S bookstore or on Amazon. Readings from the textbook will be augmented by other readings provided or referenced in specific sections of the class.

Recommended Statistical Software Package:

Stata

This software is available on the U. of S computer network. Instructions on how to access it are found here: https://www.usask.ca/ict/hardware-software/statistical-software/stata.php

Information about options for purchasing your own student version of the software will be announced at the first class. We will also discuss the option of using other statistical software.

Tentative Schedule

Date	Topic	Reference Chapters
1 hour	Review of Sample Size/Power Measures of Clinical Effect Confidence intervals	Hulley Chapters 5-6 Biostatistics Chapters 1 Biostatistics Chapter 21, 22
1 hour	Choosing a statistical test, Statistical consultations	Biostatistics Chapters 27-29
1 hour	Descriptive Statistics	Biostatistics Chapters 3-6
3 hours	T-tests/Paired T-tests	Biostatistics Chapters 7, 10
3 hours	ANOVA	Biostatistics Chapters 8,9,11,12
3 hours	Repeated measures ANOVA	
1 hours	Non-parametric “t-tests”	Biostatistics Chapters 21, 23,24
1 hours	Non-parametric “ANOVA”	
6 hours	Linear Regression	Biostatistics Chapters 13, 14
3 hours	Logistic Regression	Biostatistics Chapter 15
1 hour	Review	
	Final Exam	

ADVANCED STATISTICS FOR RESEARCH

VLAC 813.1

Course Outline and Lecture Schedule

Winter

Course Instructors: Dr Cheryl Waldner, Ext 6542 cheryl.waldner@usask.ca

Dr. Tasha Epp, Ext 6542 tasha.epp@usask.ca

Dr. Sarah Parker, sarah.parker@usask.ca

Place and Times: Fall or Winter term

WCVM

Description:

This is an advanced graduate course for veterinary epidemiology students, clinicians and clinical researchers who need an advanced understanding of clinical and epidemiology statistics in order to carry out their own research. The course will cover topics of advanced applied medical statistics. Common advanced parametric (and non-parametric or Bayesian) statistical tests that are used in medical research will be presented and used.

Objectives

Students who complete this course should be able to:

- Translate a good clinical research question(s) into statistical analysis plan
- Manage your data utilizing a statistical software program
- Implement more advanced application of statistical methods to complex problems
- Interpret and present your findings

Course Approach

Advanced Statistics for Research is offered in one session per week to allow time for meaningful in-class learning activities to take place. In many cases, learning will be carried out by the student utilizing textbooks and examples while classroom time will be used for discussion and questions. New information will often be introduced through readings done in preparation for the next classroom session. Classroom time will usually be devoted to the application of new information and exploration of its implications. You can expect to take an active role during class sessions in learning activities and small and large group discussion. There will be students participating from off site and these students as well as students at the U. of S. will be able to access all classroom information online.

Classroom activities and assignments will give you experience choosing the "right" statistical test, and using statistical software to run some statistical tests on clinical research data.

Prerequisites:

Taking Statistics for Clinical Research course (VLAC 812.2) is a prerequisite to take this course or permission from the instructor is required.

Evaluation Methods:

60%: Short assignments will be given out on most weeks of the course. These must be completed by the deadline assigned or they will be not be graded. These assignments will often be practical applications of the concepts learned.

40%: Final open book exam

Recommended Textbooks:

Dohoo I, Martin W, Stryhn H. Veterinary Epidemiologic Research. 2nd edition. Charlottetown, PEI (available on reserve at the WCVM library.

Required readings will be utilized from both of these textbooks and therefore you will need access to them. Both are available on reserve in the library or at the U. of S bookstore or on Amazon. The Hulley textbook is available on Amazon in the Kindle format.

Recommended Statistical Software Package:

Stata

This software is available on the U. of S computer network. Instructions on how to access it are found here: https://www.usask.ca/ict/hardware-software/statistical-software/stata.php

Information about options for purchasing your own student version of the software will be announced at the first class. We will also discuss the option of using other statistical software.

Tentative Schedule

Date	Topic	Reference Chapters
3 hours	Model Building	Chapter 15
3 - 6 hours	Regression analysis (linear, logistic, poisson or multinominal) tailored to student needs	Chapters 14, 16, 17, 18
3 - 6 hours	Advanced regression topics (clustering, repeated measures, survival, etc) tailored to student needs	Chapters 20, 21, 22, 23, 19, etc
	Final Exam	

Appendix 6: Consultations with other departments impacted by changes or additions to program or courses

- ***February 22, 2018 – Consultation with the LACS graduate chair, John Harding, WCVM***

  John Harding noted that the program should maintain the same credit requirements and graduate committee requirements as the current clinical based non-thesis project Master of Science (30 cu, 3 committee members for the advisory committee, use of external examiner for the defense). This would make addition to the graduate calendar more straightforward. Otherwise, there was no further recommendations on his part.

- ***March 12, 2018 – Consultation with the Dean and Associate Dean Research, WCVM***

  Liz Snead, the Associate Dean of Research (ADR) noted that the students would be in a pool of applicants for the graduate stipend funding and are not guaranteed funding should they apply. It was suggested that if there was alternate sources of graduate funding that students should try to access those as much as possible. If students come from government or private organizations, they may be asked how they can contribute to the stipend provided to the student. In addition, the ADR asked if the Disease Investigation Unit could be augmented to include Companion Animal outbreaks which lined up with the intent of the Centre for Applied Epidemiology's vision for expansion. There was no further recommendations made.

- ***March 1, 2018, April 9, 2018 – email consultation with the SACS department graduate chair, WCVM***

  Attached emails detail the correspondence.

UNIVERSITY OF SASKATCHEWAN
Western College of Veterinary Medicine

Office of the Dean
52 Campus Drive Saskatoon SK S7N 5B4 Canada
Telephone: (306) 966-7447 Facsimile: (306) 966-8747
Web: www.usask.ca/wcvm/

September 21, 2018

Kelly Clement
Committee & Programs Administrator
College Graduate and Postdoctoral Studies
116.6 Thorvaldson
University of Saskatchewan

Dear Ms. Clement:

Re: Notice of Intent for New Program: Project based (non-thesis) Master of Science for students of the Department of Large Animal Clinical Sciences, WCVM

I fully support the proposal and letter of intent submitted by the Department of Large Animal Clinical Sciences to make the above project-based Master's Program an official graduate program. This is the only applied project-based comparable program offered in western Canada and will be a valuable asset to our program.

Sincerely,

Douglas Freeman, DVM, PhD
Dean

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Tasha Epp, associate professor, Large Animal Clinical Sciences and director, Centre for Applied Epidemiology

FROM: Dirk de Boer, chair, planning and priorities committee of Council

DATE: April 24, 2018

RE: **Planning and priorities committee response to the Notice of Intent for a Master of Science (non-thesis) in Field Epidemiology**

Thank you once again for attending the planning and priorities committee meeting on April 11, 2018, to present the notice of intent to offer a Master of Science (non-thesis) in Field Epidemiology in the Western College of Veterinary Medicine.

The committee's discussion focused on the low enrolment target, faculty member capacity, tuition revenue generated, and the possibility of offering a postgraduate certificate, rather than a master's degree. In order to meet the expectations and recognition desired for career advancement of those individuals registered in the program, particularly from the government sector, members heard that the credential of a master's degree is required.

The inclusion of a cost-benefit analysis in the full program proposal is recommended, given the planned low student enrolment of one to two students per year. The analysis should include the technical and other related support costs. An indication that the program is an institutional priority for the WCVM is also suggested for inclusion in the full program proposal. The value of the program to those individuals registered in the program is not questioned, and the committee understands that enrolment numbers are by necessity small, due to the program requirement that students engage in a disease outbreak investigation in the field. However, the committee was concerned about the capacity of the faculty instructors to offer the program on an individualized basis as planned, and that the draw on faculty resources will likely be greater than anticipated.

The committee also asks that proponents consider how they might fill the gap for epidemiologically-trained veterinarians in North America, given that the program appears to be intended for Canadian-educated veterinarians and focused regionally on applicants from the Canadian Food Inspection Agency on campus. Although similar programs exist for human health, the proposed program presents a unique opportunity to offer a program of this type in North America for animal health.

.../2

Please do not hesitate to contact me if you have any questions.

Kind regards,

Dirk de Boer

c Tony Vannelli, provost and vice-president academic
Terry Wotherspoon, chair, academic programs committee of Council
Russell Isinger, registrar
Trever Crowe, interim dean, College of Graduate and Postdoctoral Studies
Douglas Freeman, dean, Western College of Veterinary Medicine

UNIVERSITY OF SASKATCHEWAN

Large Animal Clinical Sciences
Western College of Veterinary Medicine

52 Campus Drive
Saskatoon SK S7N 5B4 Canada
Telephone: (306) 966-7145
Facsimile: (306) 966-7159

March 28, 2018

Sandra Calver, Planning and Priorities Committee of Council
c/o Office of the University Secretary, University of Saskatchewan
#2192; email: sandra.calver@usask.ca

Re: Notice of Intent for a new program

Dear Planning and Priorities Committee of Council,

The following is notice of intent to submit a proposal for a new graduate program within the Large Animal Clinical Sciences (LACS), Western College of Veterinary Medicine (WCVM). The proposal stems from discussions with outside agencies, and academic faculty, staff and students with an interest in epidemiology from the various veterinary schools in Canada. This new non-thesis project-based Masters option was unanimously supported amongst the small group of veterinary epidemiologists with the LACS department. It flows from the creation of the Centre for Applied Epidemiology within the WCVM which has the mandate to "provide leadership for education, research and practical application of epidemiology for improvements in public and animal health".

The proposal has been discussed with the Dean and the Associate Dean of Research within the WCVM as well as other departments that might be impacted by any revisions or additions to courses currently offered. It has also been discussed with the College of Graduate and Post-doctoral Studies and is supported in principle by the Dean of that academic body.

Sincerely,

Tasha Epp
Associate Professor, Epidemiology (Zoonosis)
Director, Center for Applied Epidemiology
Joint appointment – School of Public Health
LACS, WCVM, University of SK
Email: tasha.epp@usask.ca; Office #306-966-654

Dean or Associate Dean Research,
WCVM

NOTICE OF INTENT for new program

The following is a notice of intent for a new graduate program within the Western College of Veterinary Medicine. This Masters of Science (major: Field Epidemiology) would be the first of its kind focusing on veterinary or animal health within North America.

1. What is the motivation for proposing this program at this time? What elements of the University and/or society support and/or require this program?

   The department of Large Animal Clinical Sciences (mainly the faculty associated with the Centre for Applied Epidemiology, a type A centre within the Western College of Veterinary Medicine) want to initiate a project-based (non-thesis) Master of Science graduate degree program with a specific focus on "field epidemiology". Conversations with interested graduate students and faculty within the University of Saskatchewan and from other veterinary institutions across Canada, as well as conversations with industry partners like the Canadian Food Inspection Agency (CFIA) have identified the need for veterinarians with improved basic epidemiology skills specific to the competencies of field or applied epidemiology.

2. What is the anticipated student demand for the program? Does the program meet a perceived need, particularly within a national context? What is the projected student enrolment in the program initially and over time, and on what evidence is the projection based?

   This program will be available to veterinarians who have graduated from Canadian or international veterinary colleges with a specific focus on applied epidemiology skills (outbreak investigation, evaluation of a surveillance program, risk communication, risk assessment, diagnostic test evaluation, and statistical analysis for outbreak investigations). As described above, there is a recognized need for training opportunities within the veterinary community. Recently the University of Melbourne in Australia began an online program for veterinary public health with an emphasis on Emergency Animal Disease Response. The proposed program at the University of Saskatchewan would provide more of an applied, hands-on, in-person experience in outbreak and surveillance of animal diseases.
   Similar programs exist in the human medical field, called Field Epidemiology Training Programs (FETPs). One exists within Canada through the Public Health Agency of Canada and does have provision to take a veterinary applicant if there is an opening not taken by a qualified human medical applicant. This new Master's program at the University of Saskatchewan would be the first program of its kind in North American specifically with a veterinary or animal health focus.
   The enrolment target for this program will be 1 – 2 students per year. This will ensure access to an adequate outbreak investigation case load for participating students over

the course of their program. It is expected that we would reach this target within the first year of offering and may have to turn students away.

3. How does this proposal fit with the priorities of the current college or school plan and the University's integrated plan? If the program was not envisioned during the integrated planning process, what circumstances have provided the impetus to offer the program at this time? Are there measurable benefits to offering the program at this time?

   The Large Animal Clinical Sciences (LACS) department's mission is to "educate veterinarians and veterinary students, conduct research, and publish scholarly work on health and management of large animals with the ultimate goal of improving the health and prosperity of Canadian society". This program would further veterinary training and research that would directly impact the health of animals. The Western College of Veterinary Medicine (WCVM), whose mandate is to "act as a centre of veterinary expertise and centre of veterinary research", is poised to lead with the creation of the Centre for Applied Epidemiology (CAE). The Centre's mandate is "to provide leadership for education, research and practical application of applied epidemiology for improvements in public and animal health". The Centre is comprised of all epidemiologists and clinicians with an epidemiology background within the Western College of Veterinary Medicine as well as two affiliated individuals from the Public Health Agency of Canada. In addition, the LACS department houses the long standing 'Disease Investigation Unit' (DIU) funded by the Province of Saskatchewan Ministry of Agriculture which provides epidemiologic and laboratory support for veterinary practitioners in the field with disease outbreaks of unknown origin.

4. What is the relationship of the proposed program to other programs offered by the college or school and to programs offered elsewhere (interactions, similarities, differences, relative priorities)? What effect will the proposed program have on other similar or related programs, and, in particular, on student enrolment in these programs? Is there justification to proceed regardless of any perceived duplication? Will a program be deleted as a result of offering the new program?

   There are currently a number of Field Epidemiology Training Programs (FETPs) around the world that are focused on human disease outbreak training, with a few in Asia and the Pacific focused solely on veterinarians. No distinction is made between those that focus on animal versus human in terms of the name (Field Epidemiology) as both have the same competencies. None of these FETPS are administered through academic institutions but rather are industry led programs designed to provide on the job training. Two local examples are the Canadian Field Epidemiology Training Program through Public Health Agency of Canada in Ottawa, Ontario and the Epidemic Intelligence Officer program through the Center for Disease Control and Prevention in Atlanta, Georgia, USA. The Canadian FETP has accepted at most 1 veterinarian in its' yearly

cohort, but with a focus on human health outbreaks. This new non-thesis based Master's program would be the first of its kind specific for veterinarians and focused on animal health disease issues and outbreaks within North America.

5. Please describe the resources available and committed to the program, both in terms of one-time costs and ongoing operating costs. Will standard or non-standard tuition be assessed for the program? Does the college or school possess the resources required to implement and support the program (faculty teaching, administrative and other support, student funding, classroom space, infrastructure)? Will additional university resources be required, for example, library resources, IT support? Has the Provost's Committee on Integrated Planning (PCIP) been involved in any discussions related to resources? Please attach a letter of support outlining the resource commitments that have been made to the new program. Please also ensure the required covering letter, as outlined in the preamble, is attached.

   There are two full time veterinary epidemiologists within the department that cover the majority of graduate level epidemiology courses within the department (and the School of Public Health). There are a number of 'field service' veterinary clinicians with training in epidemiology that will also contribute time through the Disease Investigation Unit. Finally, there is an already established ASPA support position within the Centre for Applied Epidemiology for both epidemiology teaching and workshops, providing bio-statistical support, and managing the Disease Investigation Unit. There are approximately 20 outbreak investigations within a year, with different department faculty involved depending on species and outbreak circumstances.
   The teaching assignments will remain the same for graduate level epidemiology courses as the majority of courses are already established graduate courses used by other graduates across campus already taught by the epidemiology staff in the college. The creation of 2 new courses (Field Competencies 1 and 2; both 9 credit unit classes) are designed to provide theoretical self-learning modules and experiential application of 6 basic competencies. Since only 1-2 students will take these course each year and each student will be supervised by the graduate supervisor much the same as a thesis student would be for their research projects, the 2 new classes will not place any extra work load on the faculty and staff in the college. A number of workshops and other training opportunities that will become part of the Master program will be created and delivered by the Centre for Applied Epidemiology. The workshops will focus on training within the masters' program but will also be made available as continuing education for practicing veterinarians.
   Standard tuition rates established by CGPS for all Canadian and international graduate students apply. We do not anticipate any changes are required with regard to the tuition model that is currently used for other programs within the department, including the MSc project-based non-thesis clinical residency program upon which the structure for this new masters was created.

One primary scholarship/fellowship is available to Canadian veterinary students and is managed through the WCVM Associate Dean Research office. The Interprovincial Graduate Students Fellowship (IPGF) provides $30-35K per year for Canadian Veterinarians (or eligible Canadian residents with a veterinary degree from a recognized international institution) for the duration of the program. All outbreak related costs (including travel for disease investigations) will be covered under the operating funds for the Disease Investigation Unit that operates within the WCVM currently.

6. Please describe the risks, assumptions, or constraints associated with initiating this new program at this time. Has a risk analysis of this program been conducted, relative to the probable success of the program and those factors that impact on the likelihood of success? What risks are associated with not proceeding with the program at this time?

   No risk analysis has been conducted for this program; however, based on conversations with other veterinary colleges across Canada, the Canadian Food Inspection Agency and interest for the Centre for Applied Epidemiology workshops to date, it is anticipated that the program will be successful. The risk of not proceeding with the program at this time is that another veterinary institution in North America will fill in the identified gap.

7. What is the anticipated start date of the program? What considerations apply to the start date?

   The college/department has been working towards a program of this nature for a considerable time. The Centre for Applied Epidemiology was created in 2013 and has been slowing building on the strengths identified at its' inception. Currently the Centre is creating and delivery a number of new workshops which can be incorporated into the Master's program formal or informal learning framework. In addition, the recent establishment of the Centre's permanent support position has greatly enhanced the epidemiology and bio-statistical provision within the college.

   The anticipated start date for this program is September 2019. Since the majority of the courses are already established, the main emphasis once the proposal is accepted will be on promoting the program to prospective student bodies as soon as possible. This will also allow time to connect with established FETP programs within North America and abroad to gain recognition as a novel new program focused on veterinary or animal health. Significant emphasis will be placed on promoting the program and establishing the University as the place to come for this type of training.

UNIVERSITY OF SASKATCHEWAN

Memorandum

To: Sandra Calver, Secretary, Planning and Priorities Committee of Council

From: Ryan Walker, Acting Associate Dean, College of Graduate and Postdoctoral Studies

Date: March 27, 2018

Re: Proposal for a Master of Science in Field Epidemiology

The College of Graduate and Postdoctoral Studies supports, in principle, the development of a Master of Science program in Field Epidemiology. The proposed program supports college and institutional goals to create innovative, interdisciplinary programming. The proposed program would provide a rare opportunity for graduate students to gain advanced academic and applied experience to prepare them for careers in veterinary field epidemiology, filling a gap in graduate-level veterinary training. Given the absence of similar graduate-level training opportunities in Canada, implementation of the new proposed program would make the University of Saskatchewan a leader in the discipline both nationally and internationally.

If you have any questions, please contact Kelly Clement at kelly.clement@usask.ca or 306-966-2229.

:kc

Consultation with the Registrar Form

This form is to be completed by the Registrar (or his/her designate) during an in-person consultation with the faculty member responsible for the proposal. Please consider the questions on this form prior to the meeting.

Section 1: New Degree / Diploma / Certificate Information or Renaming of Existing

1 Is this a new degree, diploma, or certificate? Yes [ ] No [X]
Is an existing degree, diploma, or certificate being renamed? Yes [ ] No [X]
If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new degree, diploma, or certificate?

3 If you have renamed an existing degree, diploma, or certificate, what is the current name?

4 Does this new or renamed degree / diploma / certificate require completion of degree level courses or non-degree level courses, thus implying the attainment of either a degree level or non-degree level standard of achievement?

5 If this is a new degree level certificate, can a student take it at the same time as pursuing another degree level program? Yes [ ] No [ ]

6 If YES, a student attribute will be created and used to track students who are in this certificate alongside another program. The attribute code will be:

7 Which College is responsible for the awarding of this degree, diploma, or certificate?

8 Is there more than one program to fulfill the requirements for this degree, diploma, or certificate? If yes, please list these programs.

9 Are there any new majors, minors, or concentrations associated with this new degree / diploma / certificate? Please list the name(s) and whether it is a major, minor, or concentration, along with the sponsoring department.
One major is required on all programs [4 characters for code and 30 characters for description]

10 If this is a new graduate degree, is it thesis-based, course-based, or project-based?

Section 2: New / Revised Program for Existing or New Degree / Diploma / Certificate Information

1 Is this a new program? Yes [ ] No [X]
Is an existing program being revised? Yes [ ] No [X]
If you've answered NO to each of the previous two questions, please continue on to the next section.

2 If YES, what degree, diploma, or certificate does this new/revised program meet requirements for?

3 What is the name of this new/revised program?

4 What other program(s) currently exist that will also meet the requirements for this same degree(s)?

5 What College/Department is the academic authority for this program?

6 Is this a replacement for a current program? Yes [ ] No [ ]

7 If YES, will students in the current program complete that program or be grandfathered?

8 If this is a new graduate program, is it thesis-based, course-based, or project-based?

Section 3: Mobility

Mobility is the ability to move freely from one jurisdiction to another and to gain entry into an academic institution or to participate in a learning experience without undue obstacles or hindrances.

1 Does the proposed degree, program, major, minor, concentration, or course involve mobility? Yes [ ] No [X]

If yes, choose one of the following?

- Domestic Mobility (both jurisdictions are within Canada) [ ]
- International Mobility (one jurisdiction is outside of Canada) [ ]

2 Please indicate the mobility type (refer to Nomenclature for definitions).

- Joint Program [ ]
- Joint Degree [ ]
- Dual Degree [ ]
- Professional Internship Program [ ]
- Faculty-Led Course Abroad [ ]
- Term Abroad Program [ ]

3 The U of S enters into partnerships or agreements with external partners for the above mobility types in order to allow students collaborative opportunities for research, studies, or activities. Has an agreement been signed? Yes [ ] No [ ]

4 Please state the full name of the agreement that the U of S is entering into.

5 What is the name of the external partner?

6 What is the jurisdiction for the external partner?

Section 4: New / Revised Major, Minor, or Concentration for Existing Degree Information (Undergraduate)

1 Is this a new or revised major, minor, or concentration attached to an existing degree program? Yes [ ] No [X] Revised [ ]
If you've answered NO, please continue on to the next section.

2 If YES, please specify whether it is a major, minor, or concentration. If it is more than one, please fill out a separate form for each.

3 What is the name of this new / revised major, minor, or concentration?

4 Which department is the authority for this major, minor, or concentration? If this is a cross-College relationship, please state the Jurisdictional College and the Adopting College.

5 Which current program(s), degree(s), and/or program type(s) is this new / revised major, minor, or concentration attached to?

Section 5: New / Revised Disciplinary Area for Existing Degree Information (Graduate)

1 Is this a new or revised disciplinary area attached to an existing graduate degree program? Yes [X] No [ ] Revised [ ]
If you've answered NO, please continue on to the next section.

2 If YES, what is the name of this new / revised disciplinary area?
Field Epidemiology [FEPI - suggested code for student system]

3 Which Department / School is the authority for this new / revised disciplinary area?
Large Animal Clinical Sciences [VLAC - built in student system]

4 Which current program(s) and / or degree(s) is this new / revised disciplinary area attached to?
Master of Science - Project [MSC-P-GP - built in student system]

Section 6: New College / School / Center / Department or Renaming of Existing

1 Is this a new college, school, center, or department?	Yes [ ]	No [X]
Is an existing college, school, center, or department being renamed?	Yes [ ]	No [X]
Is an existing college, school, center, or department being deleted?	Yes [ ]	No [X]

If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new (or renamed) college, school, center, or department?

3 If you have renamed an existing college, school, center, or department, what is the current name?

4 What is the effective term of this new (renamed) college, school, center, or department?

5 Will any programs be created, changed, or moved to a new authority, removed, relabelled?

6 Will any courses be created, changed, or moved to a new authority, removed, relabelled?

7 Are there any ceremonial consequences for Convocation (ie. New degree hood, adjustment to parchments, etc.)?

Section 7: Course Information

1 Is there a new subject area(s) of course offering proposed for this new degree? If so, what is the subject area(s) and the suggested four (4) character abbreviation(s) to be used in course listings?

No

2

If there is a new subject area(s) of offerings what College / Department is the academic authority for this new subject area?

3 Have the subject area identifier and course number(s) for new and revised courses been cleared by the Registrar?

4 Does the program timetable use standard class time slots, terms, and sessions? Yes ☐ No ☐

If NO, please describe.

5 Does this program, due to pedagogical reasons, require any special space or type or rooms? Yes ☐ No ☐

If YES, please describe.

NOTE: Please remember to submit a new "Course Creation Form" for every new course required for this new program / major. Attached completed "Course Creation Forms" to this document would be helpful.

Section 8: Admissions, Recruitment, and Quota Information

1 Will students apply on-line? If not, how will they apply?

Yes

2 What term(s) can students be admitted to?

YYYY09 [September]

3 Does this impact enrollment?

Increase of 1-2 students per year

4 How should Marketing and Student Recruitment handle initial inquiries about this proposal before official approval?

Refer to the Department of Large Animal Clinical Sciences

5 Can classes towards this program be taken at the same time as another program?

No

6 What is the application deadline?

As per current set-up

7 What are the admission qualifications? (IE. High school transcript required, grade 12 standing, minimum average, any required courses, etc.)

Doctor of Veterinary Medicine or equivalent; cumulative weighted average of at least 70%; proof of English proficiency for international applicants and for applications whose first language is not English; restricted to educational SVMA licensure to practice veterinary medicine in SK

8 What is the selection criteria? (IE. If only average then 100% weighting; if other factors such as interview, essay, etc. what is the weighting of each of these in the admission decision.)

As per current set-up

9 What are the admission categories and admit types? (IE. High school students and transfer students or one group? Special admission? Aboriginal equity program?)

As per current set-up

10 What is the application process? (IE. Online application and supplemental information (required checklist items) through the Admissions Office or sent to the College/Department?)

As per current set-up

11 Who makes the admission decision? (IE. Admissions Office or College/Department/Other?)

College of Graduate and Postdoctoral Studies

12 Letter of acceptance - are there any special requirements for communication to newly admitted students?

No

13 Will the standard application fee apply?

Yes

14 Will all applicants be charged the fee or will current, active students be exempt?

As per current set-up

Section 9: Government Loan Information

NOTE: Federal / provincial government loan programs require students to be full-time in order to be eligible for funding. The University of Saskatchewan defines full-time as enrollment in a minimum of 9 credit units (operational) in the fall and/or winter term(s) depending on the length of the loan.

1 If this is a change to an existing program, will the program change have any impact on student loan eligibility?

2 If this is a new program, do you intend that students be eligible for student loans?

Yes

Section 10: Convocation Information (only for new degrees) - not applicable

1 Are there any 'ceremonial consequences' of this proposal (ie. New degree hood, special convocation, etc.)?

2 If YES, has the Office of the University Secretary been notified?

3 When is the first class expected to graduate?

4 What is the maximum number of students you anticipate/project will graduate per year (please consider the next 5-10 years)?

Section 11: Schedule of Implementation Information

1 What is the start term?

201909 [September 2019]

2 Are students required to do anything prior to the above date (in addition to applying for admission)? Yes [ ] No [X]

If YES, what and by what date?

Section 12: Registration Information - as per current set-up

1 What year in program is appropriate for this program (NA or a numeric year)?
(General rule = NA for programs and categories of students not working toward a degree level qualification.)

2 Will students register themselves? Yes [ ] No [ ]
If YES, what priority group should they be in?

Section 13: Academic History Information - as per current set-up

1 Will instructors submit grades through self-serve? Yes [ ] No [ ]
2 Who will approve grades (Department Head, Assistant Dean, etc.)?

Section 14: T2202 Information (tax form) - as per current set-up

1 Should classes count towards T2202s? Yes [ ] No [ ]

Section 15: Awards Information

1 Will terms of reference for existing awards need to be amended? Yes [ ] No [X]
2 If this is a new undergraduate program, will students in this program be eligible for College-specific awards?

Section 16: Government of Saskatchewan Graduate Retention (Tax) Program - as per current set-up

1 Will this program qualify for the Government of Saskatchewan graduate retention (tax) program? Yes [ ] No [ ]
To qualify the program must meet the following requirements:
- be equivalent to at least 6 months of full-time study, and
- result in a certificate, diploma, or undergraduate degree.

Section 17: Program Termination

1 Is this a program termination? Yes [ ] No [X]

If yes, what is the name of the program?

2 What is the effective date of this termination?

3 Will there be any courses closed as a result of this termination? Yes [ ] No [ ]

If yes, what courses?

4 Are there currently any students enrolled in the program? Yes [ ] No [ ]

If yes, will they be able to complete the program?

5 If not, what alternate arrangements are being made for these students?

6 When do you expect the last student to complete this program?

7 Is there mobility associated with this program termination? Yes [ ] No [ ]

If yes, please select one of the following mobility activity types.

- [ ] Dual Degree Program
- [ ] Joint Degree Program
- [ ] Internship Abroad Program
- [ ] Term Abroad Program
- [ ] Taught Abroad Course
- [ ] Student Exchange Program

Partnership agreements, coordinated by the International Office, are signed for these types of mobility activities. Has the International Office been informed of this program termination? Yes [ ] No [ ]

Section 18: Proposed Tuition and Student Fees Information

1 How will tuition be assessed?

Standard Undergraduate per credit	
Standard Graduate per credit	
Standard Graduate per term	X
Non standard per credit*	
Non standard per term*	
Other *	
Program Based*	

* See attached documents for further details

2 If fees are per credit, do they conform to existing categories for per credit tuition? If YES, what category or rate?

3 If program based tuition, how will it be assessed? By credit unit? By term? Elsehow?

4 Does proponent's proposal contain detailed information regarding requested tuition? Yes [ ] No [ ]

If NO, please describe.

5 What is IPA's recommendation regarding tuition assessment? When is it expected to receive approval?

6 IPA Additional comments?

7 Will students outside the program be allowed to take the classes?

8 If YES, what should they be assessed? (This is especially important for program based.)

9 Do standard student fee assessment criteria apply (full-time, part-time, on-campus versus off-campus)?

10 Do standard cancellation fee rules apply?

11 Are there any additional fees (e.g. materials, excursion)? If yes, see NOTE below.

12 Are you moving from one tuition code (TC) to another tuition code? Yes [ ] No [ ]

If YES, from which tuition code to which tuition code?

NOTE: Please remember to submit a completed "Application for New Fee or Fee Change Form" for every new course with additional fees.

Section 19: SESD - Information Dissemination (internal for SESD use only)

1	Has SESD, Marketing and Student Recruitment, been informed about this new / revised program?	Yes		No
2	Has SESD, Admissions, been informed about this new / revised program?	Yes		No
3	Has SESD, Student Finance and Awards, been informed about this new / revised program?	Yes		No
4	Has CGSR been informed about this new / revised program?	Yes		No
5	Has SESD, Transfer Credit, been informed about any new / revised courses?	Yes		No
6	Has ICT-Data Services been informed about this new or revised degree / program / major / minor / concentration?	Yes		No
7	Has the Library been informed about this new / revised program?	Yes		No
8	Has ISA been informed of the CIP code for new degree / program / major?	Yes		No
9	Has Room Scheduling/Scheduling Hub/Senior Coordinator of Scheduling been informed of unique space requirements for the new courses and/or informed of program, course, college, and department changes?	Yes		No
10	Has the Convocation Coordinator been notified of a new degree?	Yes		No

11 What is the highest level of financial approval required for this submission? Check all that apply.

a. None - as it has no financial implications ☐

OR

b. Fee Review Committee ☐
c. Institutional Planning and Assessment (IPA) ☐
d. Provost's Committee on Integrated Planning (PCIP) ☐
e. Board of Governors ☐
f. Other ☐

SIGNED

Date: 19 Sept 2018

for
Registrar (Russell Isinger): Jean Dahl

College / Department Representative(s): Martha Smith

IPA Representative(s):