

**UNIVERSITY COUNCIL
ACADEMIC PROGRAMS COMMITTEE
REQUEST FOR DECISION**

PRESENTED BY: Kevin Flynn; Chair, Academic Programs Committee

DATE OF MEETING: March 17, 2016

SUBJECT: **Certificate of Proficiency in One Health**

DECISION REQUESTED:

*It is recommended that:
Council approve the Certificate of Proficiency in One Health
in the Western College of Veterinary Medicine, effective
September 2016.*

PURPOSE:

The undergraduate Certificate in One Health has been developed in response to the emerging area of interest in One Health at the U of S. This undergraduate certificate will bring together all undergraduate students interested in One Health in a common program.

CONTEXT AND BACKGROUND:

In 2010, One Health was identified as one of the six signature research areas for the University of Saskatchewan, with the goal of making the U of S a global leader in One Health. A graduate-level certificate was approved by Council last year. The undergraduate certificate in One Health aims to bring together in a single program students from across different disciplines, both in the Health Sciences and in other disciplines.

One Health provides an interdisciplinary framework for collaborative interaction between the seven health science-related faculties on campus. One Health training at the graduate level exists at the U of S and other Canadian institutions, but an undergraduate certificate in One Health would be unique in Canada.

As it is not possible to house the One Health certificates (both at the graduate and undergraduate level) outside of a single college, both certificates will find their academic and administrative home in the Western College of Veterinary Medicine (WCVN).

IMPLICATIONS:

Two new 3 c.u. courses will be developed for this certificate program, a One Health Foundation course and a One Health experiential capstone course. In addition to these courses, students enrolled in the certificate in One Health at the undergraduate level will select an additional 6 c.u. from an identified list of One Health-related elective courses.

Though the administrative and academic home for the undergraduate certificate will be in WCVN, there will be a Certificate Program Committee comprised of 6-8 faculty members from various colleges who are actively engaged in the teaching and supervision of students in the program.

Students will apply to the Certificate Program Committee for admission into the undergraduate certificate program. The program is open to any U of S student who has completed a minimum of 60 credit units at the undergraduate level. Preference will be given to students with a 70% or above average. Additionally, admission decisions will take into considerations the applicant's college to ensure a truly interdisciplinary cohort and experience.

Administrative support for the certificate program is an estimated 0.25FTE, which will be provided by the current Program Coordinator for the NSERC CREATE Integrated Program in Infectious Diseases, Food Safety, and Public Policy (ITrap). Following the completion of that program in 2020, administrative support will be provided by WCVN.

Resources to support the undergraduate certificate will come initially through the NSERC CREATE program and will be continued by WCVN following the completion of that program. Tuition fees will also support the delivery of the program, with tuition assessed using the health tuition code for the One Health classes.

CONSULTATION:

- Planning and Priorities Committee of Council – September 2014
- Academic Programs Committee of Council – February 2016
- Western College of Veterinary Medicine (throughout)

SUMMARY:

The undergraduate certificate in One Health will provide an interdisciplinary program for undergraduate students across the varied disciplines and departments at the U of S. As a unique offering amongst Canadian universities, the undergraduate certificate will help position the U of S as a leader in One Health and it may have a role in helping to attract students. This interdisciplinary program will offer students the opportunity to gain expertise to address complex issues once they move on to related professional careers or further academic work.

FURTHER ACTION REQUIRED:

Tuition for this program will require review and approval by the Board of Governors, and will be presented at their March 2016 meeting.

ATTACHMENTS:

1. Proposal for Curricular Change – A Certificate in One Health

PROPOSAL FOR CURRICULUM CHANGE

A Certificate in One Health

Certificate of Proficiency

Western College of Veterinary Medicine

University of Saskatchewan

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**UNIVERSITY OF
SASKATCHEWAN**

***Proposal for Academic or
Curricular Change***

1. PROPOSAL IDENTIFICATION

Title of proposal: Undergraduate Certificate in One Health

Degree(s): Certificate of Proficiency

Field(s) of Specialization: One Health

Level(s) of Concentration: Certificate

Degree College: Western College of Veterinary Medicine

Home College: Western College of Veterinary Medicine

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

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Date: November 1, 2015

Approved by the Degree College and/or home college: November 2015

Proposed date of implementation: September 2016

2 Type of Change

Requiring approval by Council:

- ☒ A new Degree-Level program or template for program.
- ☐ A new Field of Specialization at the Major or Honours Level of Concentration or template for a major or honours program

- ❑ Conversion of an existing program from regular to special tuition program.
- ❑ A change in the requirements for admission to a program
- ❑ A change in quota for a college
- ❑ Program revisions that will use new resources
- ❑ A replacement program, including program deletion
- ❑ A program deletion (consult Program Termination Procedures, approved by Council in May 2001)

3. RATIONALE

3.1 Program Background

One Health has been defined as “the collaborative efforts of multiple disciplines working together locally, nationally and globally to attain optimal health for people, animals and the environment together (American Veterinary Medical Association 2008). In 2010, One Health was identified as one of six Signature Research Areas for the University of Saskatchewan by the Office of the Vice-President Research and as a priority for interdisciplinary education by the Council of Health Science Deans. A workshop was held in December 2011 to identify initiatives necessary to place the University of Saskatchewan as a global leader in One Health. A consensus emerged during the workshop that One Health teaching initiatives should be undertaken at the undergraduate level and graduate level to complement our research priorities. Rather than a series of courses, offered in isolation throughout campus, it was determined that pursuing a common Certificate of Proficiency in One Health that would be open to all undergraduate students was the most desirable approach.

3.2 Rationale for the Proposed Certificate Name

The University of Saskatchewan’s prominence in One Health is growing as our ongoing research successes are highlighted in local, national, and international media. As such, the name links the program to other One Health initiatives on campus. Furthermore, the One Health approach has been endorsed by a number of professional organizations (Kahn, Kaplan, & Monath, 2013), the World Health Organization and the Public Health Agency of Canada. Therefore, the name has the potential to attract students who are excited about the opportunity to learn from and work with leading experts or are looking for distinct qualifications that can resonate with future employers.

3.3 Need for the Program

One Health is an emerging area of interest. It is proposed that the interdisciplinary, multi-sectorial One Health approach is needed to address the complex issues of the 21st century, as much in research and teaching as in the development of policies, programs and services. As an undergraduate certificate, this program will provide some students with their first exposure to interdisciplinary problem-solving. It offers an opportunity for students to explore the strengths and limitations of their emerging, disciplinary expertise before they

move onto their professional lives. In addition, the University of Saskatchewan will require an increasing amount of students pursuing graduate work in One Health in order to support the institution's research goals. Students who have the Certificate of Proficiency in One Health will be a natural focus of recruitment for the University's graduate programs in One Health.

3.4 Demand for the Program

Student Demand

In the last three years, incoming students from the Health Sciences have been invited to participate in the intensive One Health Experience hosted by the WCVI in late August. This entirely voluntary and non-credit workshop has attracted over 100 student participants. Alumni of the One Health Experience have also formed a One Health Club with the aim of bringing students from different disciplines together for collaborative learning in One Health. With all the demands placed on today's students, their involvement in these initiatives support the conclusion that there will be student demand for this program.

University support for and encouragement of One Health initiatives.

In 2011, "One Health: solutions at the animal-human-environmental interface" was identified as one of six U of S signature areas of research and scholarship. Established U of S strengths include the research and training programs of the seven health science-related faculties on campus, the Vaccine and Infectious Disease Organization and International Vaccine Center (VIDO/InterVac), the Toxicology Centre, the Global Institute for Water Security, the Canadian Centre for Health and Safety in Agriculture (CCHSA), and the Canadian Cooperative Wildlife Health Centre. However, many faculty members have been working in isolation on aspects of One Health without opportunities to create interdisciplinary or cross-disciplinary collaborations and synergies, and provide innovative training opportunities for students.

The One Health Initiative has arisen to address this gap. Co-chaired by Drs. Bruce Reeder and Hugh Townsend, this initiative has engaged more than 40 faculty members and partners from industry and government. Following a two-day workshop in December, 2011 *One Health* Leadership Committee was formed (see Appendix 1). The committee encompasses researchers from a broad range of disciplines ranging from law, to medicine and nursing, to veterinary medicine and agriculture and bioresources.

In fall 2012, the Committee developed a strategic plan identifying 4 areas of strategic research focus and establishing priority actions for developing research as well as graduate and undergraduate training opportunities. This plan, endorsed by the Council of Health Science Deans and the Associate Deans Research Forum, was recently provided with \$220,000 from the Provost's Committee on Integrated Planning.

Furthermore, in 2012, the U of S successfully secured two external awards and established a multi-million dollar partnership in areas of direct relevance to the *One Health* initiative. These 3 major developments will greatly advance the signature area:

- 1) The **Global Institute for Food Security (GIFS)** approved by University Council in June, 2012, is now being established with \$50 million of private-public investment. The third thematic focus of the Institute, “discovering new efficiencies in food processing, distribution and consumption” will intensify the university’s research effort in food safety and emerging zoonotic diseases, two of the One Health priorities. Efforts over the next two years will focus on bringing the centre into full operation – including identifying areas of focus, recruiting staff and determining programs.
- 2) The U of S was awarded a \$1.65-million **NSERC CREATE Training Program grant in Infectious Disease, Food Safety and Public Policy**. This has been matched by an additional \$2.4 million of university funds. This program will provide 79 undergraduate, graduate, and PDF stipends over eight years (2012-2020). Key components of this training program are an interdisciplinary One Health core course, seminar series, an annual week-long summer school with outstanding faculty, and internships in government and industry.
- 3) Building on the CREATE program, the University has introduced a Graduate Certificate in One Health. Similar to the proposed Undergraduate Certificate, a collaborative, interdisciplinary, experiential approach to problem-based learning guides all aspects of course development and implementation of the graduate Certificate. Both Certificates are distinguished by the development of student skills in creative and critical problem-solving across disciplines, as well as interdisciplinary knowledge integration across cultures and sectors in local, national and global contexts.

The development of an undergraduate certificate in One Health will allow for the integration this Signature Area into all levels of student learning at the UofS.

3.5 Uniqueness and Expertise of the Sponsoring Unit

The University of Saskatchewan is alone in Canada and one of only a handful of academic institutions around to offer students as many educational opportunities in the health sciences. In recognition of this unique position, building interprofessional curricula and fostering interdisciplinary discovery among students and researchers have become priorities of the Council of Health Sciences Deans (CHSD) of which the WCVm is a member. Unfortunately there is currently no mechanism to house an interdisciplinary undergraduate program outside of a single college. The decision was therefore made to house the program within the WCVm given its demonstrated commitment to One Health programming for students. By placing the academic home of the Certificate with the WCVm, with oversight by an interdisciplinary program committee, the program will develop and continue to grow with a constant eye to promoting interdisciplinary and interprofessional learning.

While some programming in One Health has emerged at the graduate level in other institutions, our research has not revealed any certificate or degree level programming in One Health for undergraduate students. By supporting this Certificate, the UofS will strengthen its position as a global leader in One Health education.

4. DESCRIPTION OF PROGRAM CHARACTERISTICS

4.1 Program Description

Learning Outcomes

Upon the completion of the program requirements, students will have developed competencies in:

- Systems and Multi-scale thinking
 - Apply critical and creative thinking to one health problems
 - Transcend disciplinary boundaries to achieve harmonious integration of human, animal and natural systems
- One health content
 - Identify and assess how human, animal and natural systems work and interact
 - Identify what problems could benefit from a One Health approach
- Cross-discipline communication
 - Work effectively in interdisciplinary and multisectoral teams
 - Effectively manage self in the context of group assignments (e.g. setting realistic deadlines, being reliable, working effectively under uncertainty, solving problems, maintaining a positive attitude, modelling professional conduct)
 - Facilitate, mediate, translate, and communicate knowledge to appropriate audiences in many different forms
- Metacognition awareness
 - Demonstrate and encourage respect for a range of perspectives and ways of knowing including those of Indigenous Peoples
 - Articulate the benefits and limitations of a range of perspectives and ways of knowing
 - Recognize of one's own position, its strengths, limitations, and assumptions

Program Requirements

Students will be awarded a Certificate of Proficiency in One Health after completing 12 credit units that satisfy the following requirements:

- One Health Foundations course (3 cu)
- One Health experiential learning capstone course (3 cu)
- 6 cu from identified list of existing One Health-relevant courses available at the U of S (see Appendix
- One Health Seminar Requirement (non-credit)

4.2 Course and Seminar Descriptions

Foundations Course

This course will be developed specifically for the One Health Certificate. Problem-based learning (PBL) methods, defined as “an instructional (and curricular) learner-centred approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem,” (Savery 2006), will be used. With PBL, the learning will reflect the actual context in

which One Health problems arise. The course will provide students from a variety of disciplines with an opportunity to develop core capacities in systems thinking and create opportunities for students from different disciplines to work together to propose solutions or responses to One Health problems. It is also intended that selected modules developed for this course will be adapted for use in interdisciplinary PBL sessions in the general undergraduate curricula of the health sciences, business, law, arts and science, agriculture and bioresources, and education.

Experiential Learning Capstone Course

In this course, students from a variety of disciplines will engage in community-based learning and, potentially, participatory community research. Students will have the opportunity to learn about One Health topics from traditional knowledge keepers, indigenous communities and other community-based experts. The experiential portion of the course will be delivered as an intensive, short course in order to minimize conflicts with other courses. Once the experiential component is complete, students will prepare an oral and poster presentation that summarizes their learning in the certificate program. In particular, students will be asked to reflect on how their discipline can contribute to addressing One Health issues within an interdisciplinary inquiry framework.

Non-Credit Seminar Course

Students will be required to attend 6 One Health related seminars offered as ongoing lecture series sponsored by participating Colleges, the CREATE initiative and the One Health Signature Area activities. The seminars may be delivered by faculty, CREATE graduate students, and visiting scholars. To launch the Certificate, a seminar will be delivered by a high profile external scholar in each term.

4.3 Administrative Structure

The administrative structure of Certificate Program in One Health will mirror that of the Graduate Certificate in One Health. The academic home of the Certificate Program in One Health will be the Western College of Veterinary Medicine (WCVM). The Certificate Program Committee will be comprised of 6-8 faculty members from various colleges who are actively engaged in the teaching and supervision of students in the program. The Chair of the Committee and members will be appointed by the Dean of WCVM for renewable two-year terms. The Chair and Certificate Program Committee will function in a manner typical of College departments. The program requirements will be defined by Certificate Program Committee, consistent with University requirements, and will be met by all students in the program. The Chair will report on matters related to the Program to the Dean, WCVM.

4.4 Application Procedure

Students will apply for admission to the Program to the Certificate Program Committee. Admission is open to any UofS student who has completed a minimum of 60 credit units of undergraduate education and are proficient in English. Applicants will submit a letter of interest and application form. Preference will be given

to students with a minimum of a 70% average or equivalent in pass/fail Colleges. In addition, admission decisions will consider the applicant's College. A minimum number of seats in the program have been allocated to each College as follows:

Arts and Science (7)
Agriculture and Bioresources (3)
Edwards School of Business (2)
Education (4)
Engineering (2)
Dentistry (2)
Kinesiology (2)
Law (2)
Medicine (4)
Nursing (4)
Pharmacy and Nutrition (4)
St. Thomas More (2)
Veterinary Medicine (7)

Places in the program allocated to any College will be made available to other applicants if unfilled.

4.5 Program Evaluation and Performance Measures

The Certificate of One Health will be evaluated on the following measures of success:

- The number of students in the program
- Increased number of students pursuing graduate level work in one health
- Increased recruitment and support of faculty specializing in one health
- Increased number of students who remain involved in one health research and professional activities upon graduation
- Increased national visibility of one health programs at the University of Saskatchewan
- Increased awareness of the benefits of a one health approach among graduates of certificate program
- Increased faculty awareness and knowledge in one health approaches
- Increased knowledge and skills in core competencies in one health for undergraduate students
- Increased opportunities for students and faculty to collaborate with colleagues in other units across the University and with communities off campus.

Data will be collected through surveys, interviews and focus groups.

5. RESOURCES

5.1 Administrative

Administrative support for the Certificate Program, estimated to be 0.25 FTE, will be provided by the current full-time Program Coordinator of the NSERC CREATE Integrated Program in Infectious Diseases, Food Safety and Public Policy (ITrap), and, following the completion of that program in 2020, by WCVM.

5.2 Space, ICT, Library

The Certificate Program will be administered out of the current office of the NSERC CREATE Integrated Training Program in Infectious Disease, Food Safety and Public Policy in WCVM, hence new space is not required. An inventory of One Health resources was completed since 2011 and the library continues to expand on this comprehensive collection. The library has designed and maintains an excellent One Health website that serves as a portal to these resources for students. No new additional library resources are expected. Likewise, the Certificate will not require additional ICT resources.

5.2 Faculty Resources

The Dean of the WCVM will be responsible for the assignment of teaching resources for the Certificate Program from faculty within the WCVM or through negotiations with Deans of other Colleges where faculty currently engaged in One Health initiatives on campus reside.

6. RELATIONSHIPS AND IMPACT OF IMPLEMENTATION

The Certificate in One Health will be a program available to senior undergraduate students enrolled in an existing program at the University of Saskatchewan. The program will complement their in-depth disciplinary training by enabling the students to develop the interdisciplinary knowledge and skills required to address complex health and environmental (One Health) problems in an integrated manner. As it imposes academic and tuition requirements on students in addition to those of their home program, participation will be limited to motivated, outstanding students.

All academic units from which the Certificate Program will draw students are supportive of the initiative. As it is a supplementary academic qualification that students may acquire while completing the core requirements in their 'home' program, the Certificate Program will not compete with existing undergraduate programs for students. It is expected, rather, that the existence of such a unique program at the University of Saskatchewan will attract new students to the institution.

7. BUDGET

As noted, the Undergraduate Certificate will share the same administrative structure as the Graduate Certificate in One Health. The Dean of the WCVM has indicated that resources initially through the CREATE program and to be continued by the WCVM are sufficient for the administration of the Undergraduate Certificate. Resources for the delivery of the program will be generated through tuition fees. Students

registered in the Certificate Program will complete 12 credit units. Tuition will be assessed per credit unit using the TCo8 tuition code for each of the 6 credits of ONEH courses. Tuition for the remaining 6 credit units will be assessed as specified in the College from where the course is offered. If a student is unable to complete the 6 ONEH credit units, tuition per course will be charged.

Since the NOI was submitted to Planning and Priorities, the success of the CREATE program and growth of student participation in existing One Health initiatives has resulted in a revised estimate of student enrollment. It is anticipated that by the 2018-19 academic year, enrolment will average 45 students per year. As a result, the estimated annual tuition generated by the certificate is projected to be \$53,498/ year.

8. REFERENCES

- American Veterinary Medical Association. (2008). *One Health: a new professional imperative*. One Health Initiative Task Force Final Report. Washington: AVMA.
- Kahn, L.H., Kaplan, B. and Monath, T.P. (2013). One Health Initiative Supporters. Obtained from <http://www.onehealthinitiative.com/supporters.php>
- Savery, J. R. (2006). "Overview of problem-based learning: Definitions and distinctions." *The Interdisciplinary Journal of Problem-based Learning*,¹ (1), 9–20.

Appendix One – Approved One Health Relevant Courses

Sustainable Plant and Soil Management - AGRC 111

Animal Agriculture and Food Science - AGRC 112

Sustainable Plant and Soil Management - AGRC 111

Global Food Security - AGRC 211

Animals and the Environment - ANBI 375

Cultural Competency Approaches to Community Health and Violence Intervention - ANTH 298

Applied Anthropology - ANTH 326

Political Ecology Anthropology and Global Environmental Issues - ANTH 244

Anthropology of Healing - ANTH 403

The Archaeology of Human Environmental Impact - ARCH 330

An Introduction to Ecology and Ecosystems - BIOL 228

Animal Parasitology - BIOL 436

Life in the North - BIOL 314

Plants and Human Affairs - BIOL 324

Community Ecology - BIOL 373

Current Perspectives in Environmental Biology - BIOL 410

Natural Resource Economics - BPBE 430

Rural Development Theory Policy and Case Studies - BPBE 432

Land Resource Economics - BPBE 330

Follow the Grain - BPBE 344

Agricultural Problems and Policies - BPBE 451

Sanitary and Environmental Engineering II – CE 414

Global Health and Local Communities Issues and Approaches - CHEP 402

Global Health II - CHEP 403

Inner City Practicum - CHEP 410

Simulation Principles - CMPT 394

Human Oral Infectious Diseases - DENT 30

Economics of Natural Resources - ECON 275

Economics of Health Care - ECON 234

Economics of the Environment - ECON 277

Pedagogies of Place Context Based Learning Elementary - EFDT 313

Pedagogies of Place Context Based Learning Secondary - EFDT 315

Indigenous Storytelling of the Prairies - ENG 242

Foundations of Sustainability - ENVS 201

Sustainability in Action - ENVS 401

Principles of Environmental Engineering - ENVE 201

Sustainability and Environmental Assessment - ENVE 481

Environmental Soil Science - EVSC 220

Grassland Soils and Vegetation - EVSC 380

Environmental Physics - EVSC 210

Contaminated Site Management and Remediation - - EVSC 421

Agrifood and Resources Microbiology - FABS 212

Improving Food Security - FABS 298

Environmental Science and Society - GEOG 125

Earth Processes and Natural Hazards A Canadian Perspective - GEOG 235

Environmental Geography - GEOG 280

Development in the Canadian North Issues and Challenges - GEOG 381

Analysis of Environmental Management and Policy Making - GEOG 385

Climate Change - GEOG 398

Northern Environments - GEOG 351

Geography of Environment and Health - GEOG 364

Environmental Impact Assessment - GEOG 386

Earth Systems - GEOL 206

Introduction to Health Studies - HLST 110

Personal Health and Lifestyles - HSC 120

Drugs in North America - HIST 165

Environmental Disasters in History - HIST 155

Topics in Environmental History: Energy Transitions - HIST 290

British Cities Empire and Global Environmental Change - HIST 445

Indigenous Food Sovereignty - INDG 221

Indigenous Ways of Knowing - INDG 210

Weaving Indigenous Science and Western Science - INDG 241

Introduction to International Studies Development –IS211

Global Citizenship Cultures and Coexistence - IS 201

Global Issues - 90705 - IS 110

International Development - IS 402

Health Policy - JSGS 817

Contemporary Health Issues - KIN 223

Physical Activity in Society - KIN 232

Agricultural Law – LAW 363

Health Law – LAW 314

Indigenous Peoples in International & Comparative Law – LAW 480

Wildlife Law – LAW 498

Environmental Law – LAW 444

Law, Development and the International System – LAW 498

Diseases of Livestock - VLAC 411

Food Animal Production Medicine - VLAC 482

Animal Management and Production II - VLAC 310

Community Health and Epidemiology II - MED 301

Microbiology and Infectious Diseases II - MED 303

Medicine and Society I - MEDC 112

Medicine and Society II - MEDC 122

Medicine and Society IV - MEDC 222

Principles of Microbiology and Immunology for Nursing - MCIM 223

Medical Bacteriology - MCIM 308

Introduction to Circumpolar World - NRTH 101

Contemporary Issues of the Circumpolar World I - NRTH 331

Perspectives on Health Wellness and Diversity in a Global Context - NURS 201

Community Health Nursing Building Partnerships - NURS 430

Interprofessional Perspectives Health Systems and Policy Development within a Global Context - NURS 440

Food Culture and Human Nutrition - NUTR 310

Current Issues in Nutrition - NUTR 420

Ethics and Technology - PHIL 236

Moral Problems - PHIL 231

Topics in History and Philosophy of Science - PHIL 451

Planning History and Theory - PLAN 395

Integrated Water Resource Planning - PLAN 329

Integrated Pest Management - PLSC 335

Urban Food Production - PLSC 235

Rangeland Ecology and Management - PLSC 422

Sustainable Crop Production - PLSC 401

Governance and Development in the Global South - POLS 244

Understanding the State in a Global Era - POLS 250

Global Governance - POLS 262

Health Psychology - PSY 260

Religion and Science - RLST 375

Field Course in Renewable Resource Management - RRM 301

Sociology of Communities and Community Development - SOC 206

Critical Issues in Canadian Society - SOC 227

Sociology of Health Illness and Health Care - SOC 238

Social Change and Global Solidarity - SOC 260

ST in Environmental Sociology - SOC 29

Social Inequality and Health - SOC 328

Soil Ecology - SLSC 344

Poisons and Pollutants - TOX 200

Environmental Toxicology - TOX 301

Risk Assessment and Regulatory Toxicology - TOX 321

Systemic Toxicology - TOX 402

Veterinary Toxicology - VBMS 334

Disease Ecology and Epidemiology - VTMC 238

Veterinary Parasitology - VTMC 336

Microbiology of Pathogenic Microorganisms - VTMC 347

Gendered Perspectives on Current Events - WGST 210

Representation Embodiment and the City – WGST 235

Representation Embodiment and the City New York – WGST 335

Appendix Two - Course Syllabi and New Course Proposal Forms



**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: D. Freeman, Dean WCVM

2. Information required for the Catalogue

2.1 Label & Number of course: ONEH 300.3

2.2 Title of course: One Health Foundations

2.3 Total Hours: Seminar 36

2.4 Weekly Hours: Seminar 3

2.5 Term in which it will be offered: T2

2.6 Prerequisite:

Enrollment in the One Health Undergraduate Certificate of Proficiency Program

2.7 Calendar description:

Students will develop the skills and strategies embodied within One Health to respond to a range of integrated health problems. The course seeks to enable students to experience how the theory of One Health can be applied within their practice as professionals. Through the learning experience, students will be challenged and guided toward cultivating targeted skills necessary for effectively working within One Health initiatives in real-world settings. Students will have the opportunity to learn about One Health topics from traditional knowledge keepers, indigenous communities and other community-based experts.

2.8 Any additional notes

3. Rationale for introducing this course.

The objective of the experiential course is to provide students an opportunity to engage One Health strategy and design within a professional setting. The experiential component of the One Health Certificate of Proficiency enables students to gain a sense of how the approach is practiced in response to real problems encountered in the everyday professional context. Given that the application of One Health necessarily takes on a diverse range of forms, it is advantageous to pursue learning opportunities in which One Health theory is translated into operational policy and action.

A Certificate in One Health

4. *Learning Objectives for this course.*

See attached syllabus

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) n/a

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).*

None

Course(s) to be deleted? n/a

Course(s) for which this course will be a prerequisite? no

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

7. *Course outline.*

See attached Syllabus.

8. *Enrolment.*

Expected enrollment: 45

From which colleges?

Program is expected to draw heavily from the Health Sciences or undergraduate students seeking to enroll in one of the professional schools.

9. *Student evaluation.*

See attached syllabus.

10. *Required text:*

See attached syllabus.

11. *Resources.*

Proposed instructor: Lead instruction will be coordinated through the WCVI

A Certificate in One Health

How does the department plan to handle the additional teaching or administrative workload? Teaching will be provided from the existing faculty complement as component of one's regular teaching assignment or on an overload basis

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: September 2016

One Health Foundations

Welcome to One Health Foundations. We hope you find that the course engaging and informative. The vision of this case-driven course – foundational to the One Health Certificate of proficiency – is to provide students with a grounding in the intellectual and methodological processes involved in employing a One Health response to complex real-world problems. The cases challenge students to resolve complex, real world problems through self-directed study, group work and critical reflection.

Background

One Health has been described as “the collaborative efforts of multiple disciplines working together locally, nationally and globally to attain optimal health for people, animals and the environment together” (American Veterinary Medical Association 2008). One Health represents an initiative toward the harmonious integration of knowledge and skills across animal, human, and environmental health and social sciences, generating new possibilities for sustainable solutions to pressing health problems. Engaging real-world health issues in an integrated rather than insular fashion has been identified at present as the standard for pursuing optimal health outcomes. Due to the complexity of health-related problems in an increasingly integrated and globalized world, One Health recognizes that human, animal, and environmental systems are inextricably connected. Thus, the approach of One Health holds that effective intervention into each of these systems is requisite to cultivate sound and resilient solutions.

High-level actors, including the World Health Organization and the Public Health Agency of Canada, have identified One Health as a priority for advancing health-related scholarship and program planning. Similarly, academic institutions throughout Canada are currently working to develop One Health capacity in research and teaching in order to establish a foothold in this rapidly growing field. The undergraduate One Health Certificate of Proficiency – for which this course provides a foundation – is part of a broader initiative at the University of Saskatchewan to be a leader in this burgeoning integrated research movement.

The methodological turn toward interdisciplinarity and integration is consistent with the wider orientation to strategic planning pursued at this University and at Universities across Canada. Interdisciplinary proficiency and planning are increasingly seen as offering significant potential towards realizing the professional and socio-environmental goals students will pursue throughout their careers.

Course Design

The aim of this foundational course is to create a guided learning experience in which students will develop the skills and strategies embodied within One Health to respond to a range of integrated health problems. The primary learning objective centers on building student capacity in One Health, empowering them to participate and contribute at the vanguard of health services in Canada. As a key component of the One Health Certificate of Proficiency, the course seeks to enable students to experience how the theory of One Health can be applied within their practice as professionals. Through the learning experience, students will be challenged and guided toward cultivating targeted skills necessary for effectively working within One Health initiatives in real-world settings.

A case-driven approach to course design has been identified as an effective means to facilitate a productive and authentic learning experience that aligns well with the primary course objective. The cases engaged in the course have been carefully developed in consultation with a multi-disciplinary team of health and social science experts, each with a vested interest in One Health. The care taken in developing the cases orients around providing students a dynamic set of problems corresponding with a diversity of academic interests across a range of health and social science disciplines. The course design is such that students are empowered to pursue their own professional interests in One Health, while observing the methods and applications employed by peers in pursuit of parallel and often overlapping goals.

Given that One Health involves applying analysis and intervention to complex problems, the course design capitalizes on the value of students witnessing (and participating in) the analytical processes employed by colleagues studying in various disciplines. The role of the course instructor in the course design is to provide students with necessary supports in One Health theory, technical knowledge and materials, and mediation to ensure student facility and comfort in pursuing individual research questions. The authenticity of the experientially orientated course rests in the spaces and moments of collaboration in which students work with peers. This experience

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involves challenging disciplinary assumptions and reflexes, opening spaces for novel solutions that take into consideration all ramifications of interventions on interconnected systems.

Course Objectives

- Students will gain a foundational understanding of One Health as a cutting-edge approach to responding to significant health problems in an increasingly globalized and integrated world;
- Student learning will be facilitated through experiential opportunities to work collaboratively through complex problems to devise integrated solutions;
- Student learning will be driven by case studies developed by an experienced team of health and social science experts to reflect the current landscape of health challenges students will face as they embark upon their careers;
- Students will undertake the process of working with colleagues from various disciplines to develop solutions that take into consideration human, animal, and environmental dimensions;
- Students will demonstrate their proficiency in One Health through writing, presentations, and collaborative projects;
- Students will develop capacity to develop effective research questions, and design and conduct research that provides promising and novel solutions to complex real-world health problems.

Learning Outcomes

Students will develop the following capacities to demonstrate their proficiency in One Health:

- Systems and Multi-scale thinking
 - Apply critical and creative thinking to One Health problems
 - Transcend disciplinary boundaries to achieve harmonious integration of human, animal and natural systems
- One Health content
 - Identify and assess how human, animal and natural systems work and interact
 - Identify what problems could benefit from a One Health approach
- Cross-discipline communication
 - Work effectively in interdisciplinary and multi-sectorial teams
 - Effectively manage self in the context of group assignments (e.g. setting realistic deadlines, being reliable, working effectively under uncertainty, solving problems, maintaining a positive attitude, modeling professional conduct
 - Facilitate, mediate, translate, and communicate knowledge to appropriate audiences in many different forms
- Metacognition awareness
 - Demonstrate and encourage respect for a range of perspectives and ways of knowing including those of Indigenous Peoples

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- Articulate the benefits and limitations of a range of perspectives and ways of knowing
- Recognize of one's own position, its strengths, limitations, and assumptions

Expectations

As members of the community of scholars at the University of Saskatchewan, I expect that we will all govern our interactions in the spirit envisioned by our *Learning Charter*. The complete text of the Charter can be found at:

http://www.usask.ca/university_secretary/LearningCharter.pdf.

As a teacher, we strive to exemplify learning, teach effectively, assess fairly, and solicit feedback. To this end, you can expect that we will be prepared for each lecture and will aim to be responsive to your needs. As such, we welcome any constructive feedback on our teaching either informally or through formal evaluations. As students we expect that you will learn actively, think broadly, act ethically, and engage respectfully. You are expected to come to class having read the material assigned and prepared to contribute to in-class discussions. With your assistance, we will endeavour to create an atmosphere where all students feel comfortable to share their ideas and concerns. Please be aware of the content and quantity of your comments in class to help ensure that all students feel respected in the classroom. Outside of the classroom, students are expected to meaningfully and equitably contribute to any group work.

As per university regulations, you are required to attend class. Repeated failure to attend class may result in a student being denied the opportunity to write the final exam.

Academic Integrity

As future professionals, we anticipate that academic honesty concerns will not a problem in this class. If an issue of academic integrity is raised during the semester, we will deal with the situation as provided in the University of Saskatchewan's policies on Academic Integrity. An overview of these policies is attached for your convenience. In addition, the University of Saskatchewan's regulations on Academic Integrity can be found at <http://www.usask.ca/gmcte/sites/default/files/2012/StudentAcademicMisconduct.pdf>.

Unless directed otherwise, all written assignments are to be completed by each student individually. Where appropriate, students are expected to cite authorities consistent with the APA style. Information on the APA Style is available from the University Library at <http://library.usask.ca/howto/citation.php>.

Instructor Contact

Telephone:

Email:

Office:

Office Hours:

Class Locations and Times

Classes will be held:

Student Evaluation

Overview

Students will be evaluated on the basis of their understanding of and ability to apply One Health strategies to real-world health problems. Proficiency in One Health will be evaluated via student writing, presentation, and development of collaborative projects.

Assignments Summary

1. Annotated Bibliography of Research Resources 20%

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2. Group Problem-Based Research Paper 20%
3. Group Problem-Based Presentation 20%
4. Course Participation 10%
5. Final Exam 30%

Annotated Bibliography of Research Resources

Learning Contribution:

The annotated bibliography is designed to provide a medium for guiding students to conduct research in a way that exemplifies a One Health approach. In order to demonstrate proficiency in One Health theory and practice, students will collect and annotate a foundation of research that draws from a range of relevant disciplines and represents a coherent research program. The assignment will correspond with the instructor-led guided study of the first case taken up in the course.

Through the process of completing the assignment, students will blend their knowledge of the case study with a deeper comprehension of the One Health approach. Evaluation of the assignment will address both relevance with respect to the case study and students' ability to demonstrate capacity toward One Health. The evaluation criteria align with the instructional focus in the opening stages of course, and therefore will ensure students receive support and clarification toward successfully completing the assignment.

Assignment Directions:

The assignment will be completed individually; however, students will have opportunities to discuss strategies for engaging the assignment with peers and the instructor.

1. Aligned with the learning objective to enhance students' research design capacity, students will develop a research question corresponding with the first case study reviewed. Students will be provided a selection of themes from which to develop a research question in order to facilitate this task;
2. Once students have established a question that is of interest to them, they will then consider the various disciplinary domains that may contribute to the research;
3. From this foundation, students will compile and annotate a list of resources that offer insight towards responding to the research question;
4. In the final stage, students will develop a summary of the research, highlighting how the various disciplinary pieces provide a One Health strategy to respond to the question.

Assignment Evaluation:

The following marking rubric will structure evaluation of the assignment:

<i>Grade Distribution</i>	<i>Evaluation Criteria</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>
0/5		1/5	2/5	3/5	4/5	5/5

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	<i>Relevance of research question to the case study</i>					<i>Question clearly ties to the central focus of case study</i>
<i>Lacks understanding of One Health theory</i>	<i>Demonstration of One Health theory in research</i>	<i>Demonstrates rudimentary understanding of One Health theory</i>	<i>Demonstrates some understanding of One Health theory</i>	<i>Demonstrates moderate understanding of One Health theory</i>	<i>Demonstrates clear understanding of One Health theory</i>	<i>Demonstrates mastery of One Health theory</i>
	<i>Quality and relevance of annotations</i>					<i>Annotations</i> <i>Demonstrate relevance, clarity, and coherence</i>
	<i>Organization of assignment, including grammar and citations</i>					<i>Precisely adheres to appropriate writing style</i>

Group Problem-Based Research Paper and Presentation

Learning Contribution:

The *group problem-based* component of the course is designed to provide students an authentic opportunity to engage real-world health problems, and devise a One Health program toward fostering optimal health outcomes. The vision behind the collaborative, experiential learning process is to empower the range of learning outcomes associated with proficiency in One Health (see above under learning objectives).

As outlined in the course background, One Health represents a strategic practice based on attributes of interdependence, interdisciplinarity, and collaboration. Representations of learning in relation to such attributes are articulate in terms of systems thinking, cross-discipline communication, and metacognition. These complex learning outcomes are most effectively cultivated through creative, experiential, and authentic learning experiences. The *group problem-based* assignment is designed to provide students an opportunity to grow targeted skills and capacities, empowering effective participation in the increasingly influential area of One Health nationally and internationally.

Assignment Directions:

This assignment will be planned, completed, and submitted as part of a group of equal contributors. The instructor reserves discretionary right to adjust evaluation according to individual contribution in specific cases. Students will primarily drive the design and execution of the research process; however, the instructor will provide guidance and support throughout in order to ensure success.

Students may elect to undertake the project together with colleagues studying in the same discipline, or those in differentiated disciplines – the envisioned research question and approach will influence the organizational dynamics of groups. Students will select from two possible

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case study options to devise the research question and One Health strategic response. The following enumerated list is provided to assist in the planning and development of the assignment:

1. In order to gain an overarching sense of the key health issues represented in the two possible case studies, students will review and discuss the cases with the course instructor;
2. Students will then endeavor to isolate a key problem that will ground the research project – this will be done in consultation with the instructor;
3. Once a problem has been identified, students will list and map all relevant issues that link to the selected problem and the various groups and structures that work on the issues (the above steps lay the foundation for subsequent stages of the research design and dissemination);
4. With the final product(s) in mind, students will develop a plan to conduct research on their problem towards proposing a One Health approach to mitigate consequences (or prevent the emergence of potential consequences);
5. Students will represent their research in two forms;
6. The first form – *Group Problem-Based Research Paper* – involves preparing a research paper approximately 2500 words designed to be submitted to a professional body (e.g., PHAC, WHO, etc.) demonstrating the viability and merit of a One Health response to the selected problem;
7. The second – *Group Problem-Based Presentation* – involves preparing an oral presentation representing your group in a Cross-Disciplinary One Health Collaborative Simulation.

Assignment Evaluation:

Research Paper:

Evaluation of the group problem-based research paper will be structured around the following requirements (a rubric is provided below with an abbreviation of the requirements):

The research paper:

1. Provides a clear description of the problem, including all relevant background information necessary for the reader to fully comprehend its scope and context;
2. Compiles a selection of relevant, reliable sources (approximately 25) that provide insight toward addressing the problem; Students must submit a photocopy of the cover of 10 journals or texts they have referenced in their paper.
3. Presents coherent organization of information in relation to the One Health approach, offering the reader a clear sense of the research design and significance;
4. Demonstrates appropriate writing mechanics, with an emphasis on style, grammar, and formatting.

<i>Evaluation Criteria</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>	<i>Grade Distribution</i>
	<i>0/5</i>	<i>1/5</i>	<i>2/5</i>	<i>3/5</i>	<i>4/5</i>	<i>5/5</i>
<i>Clear description</i>						<i>Clearly articulates</i>

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<i>of problem</i>						<i>problem and context</i>
<i>Compilation of relevant, reliable sources</i>						<i>Expertly compiles and represents relevant sources</i>
<i>Coherent organization of information</i>						<i>Skillful organization of researched information</i>
<i>Demonstration of appropriate writing mechanics</i>						<i>Precisely adheres to appropriate writing style</i>

Research Presentation:

Evaluation of the group problem-based presentation will be structured around the following requirements (a rubric is provided below):

The group presentation:

1. Effectively condenses key points from the research into a succinct and compelling presentation;
2. Proposes ways research conducted on the problem could potentially merge with research in other disciplines to build capacity and effectiveness toward solving the problem (this may involve identifying emerging questions that require alternate research methods to address);
3. Identifies important limitations and/or oversights that might result from engaging the problem with single disciplinary approach; and, how such limitations might be overcome;
4. Demonstrate ability to develop common ground across disciplines, toward proposing concrete possibilities for collaboration.

<i>Evaluation Criteria</i>	<i>Grade Distribution</i> <i>0/5</i>	<i>Grade Distribution</i> <i>1/5</i>	<i>Grade Distribution</i> <i>2/5</i>	<i>Grade Distribution</i> <i>3/5</i>	<i>Grade Distribution</i> <i>4/5</i>	<i>Grade Distribution</i> <i>5/5</i>
<i>Succinct and compelling presentation</i>						<i>Expertly condenses and presents key points</i>
<i>Proposes synergies with</i>						<i>Provides thoughtful and</i>

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<i>other research disciplines</i>						<i>substantive possibilities for expanding One Health approach</i>
<i>Identifies limitations to singular disciplinary approach</i>						<i>Adeptly identifies limitations for which One Health may offer a solution</i>
<i>Develops cross-disciplinary collaboration with colleagues</i>						<i>Demonstrates exceptional communication with colleagues across disciplines</i>

Course Participation

Active and effective participation by students is an essential component of achieving the learning outcomes. The following rubric* outlines how the evaluation of participation will be structured.

<i>Evaluation Criteria</i>	<i>Grade Distribution</i> 0/5	<i>Grade Distribution</i> 1/5	<i>Grade Distribution</i> 2/5	<i>Grade Distribution</i> 3/5	<i>Grade Distribution</i> 4/5	<i>Grade Distribution</i> 5/5
<i>Engagement</i>						<i>Proactively and regularly contributes to class discussion; Initiates discussion on issues related to class topic</i>
<i>Listening skills</i>						<i>Listens without interrupting and incorporates and expands on the contributions of</i>

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						<i>other students</i>
<i>Relevance of contribution</i>						<i>Contributions are relevant and promote deeper analysis of the topic</i>
<i>Preparation</i>						<i>Student is consistently well- prepared; Frequently raises questions or comments on material outside the assignment</i>

*Rubric based on C. Meyer (2011) *Rubric for Classroom Participation*. Available at:
http://bestpracticeslegaled.files.wordpress.com/2011/05/class_discussion_rubric.pdf

Final Exam

The final exam will evaluate students' ability to demonstrate an understanding of the One Health content themes explored in the case studies.

Theme-Based Breakdown of Case Study Examination

Heavy Metals Case Study

Theme 1: Physiology of Heavy Metal Exposure in Humans and Animals

Links directly with parts 1 & 2

- Engage process of discerning the likelihood and impact of heavy metal exposure in patients (human and/or animal);
- Determine relevant demographic and environmental variables that may bear upon diagnostic procedures and conclusions;
- Generate a range of derivative questions to inform a broader, systemic examination of the problem.

Theme 2: Systems Examination of Heavy Metal Exposure

Links directly with parts 3 & 4

- Identify entry points in which heavy metals are introduced into ecosystems, and pathways through which substances are transferred from system to system;
- Examine conditions that give rise to the introduction of heavy metals into ecosystems, and how such conditions are implicated in the intervention of heavy metal exposure;

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- Center an emphasis on the interconnected nature of systems, conceptualizing optimal health in terms of harmonious integration of humans, animals, and ecosystems.

Theme 3: Social Structures and Environmental Justice

Links directly with part 5 and is woven throughout

- Consider how social structures (e.g., industry, finance, government, media, education, health care, etc.) impact the harmonious integration of systems;
- Examine how values and ideology reflected in social structures are salient to understanding the context of heavy metal exposure;
- Investigate how certain bodies are in effect “zoned” for exposure, through processes of project planning involving industrial effluent;
- Consider how means and levers of power bear upon efforts to mitigate heavy metal exposure and the promotion of optimal health across systems.

Antimicrobial Resistant Microbes Case Study

Theme 1: Biomedical and Zoonotic Context

Links directly with parts 1,2 & 3

- At the outset of engaging case study content, develop a framework for mapping the pathophysiology significant to Simran’s case;
- Build student capacity toward identifying and evaluating relevant information emerging from the story in order to generate an accurate picture of what is known and what requires further investigation;
- Develop effective questions to further elaborate conditions that may have contributed to Simran’s infection, and the presence of resistant microbial strains.

Theme 2: Industry and Biosecurity Context

Links directly with parts 3 & 5

- Examine protocols and procedures in place within the poultry farm where Simran worked, as well as, established safety and security standards mandated by governing bodies;
- Discuss the social function of industrial poultry farms, and the ways in which industrial husbandry systems interface with social, economic, and political systems;
- Evaluate established protocols and procedures in terms of how they bear upon the health of human and animal systems, including animals raised in industrial systems, workers in the industrial system, consumers, and derivative effects on ecosystem.

Theme 3: Socio-Political Context

Links directly with part 6, but features significantly throughout scenario

- Engage relevant legislation and social power dimensions that bear upon Simran’s circumstance;

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- Consider how the following factors contribute to an integrated (One Health) understanding of the case: immigration policy, employment security, health care coverage, social barriers of New Canadians, industry regulation and monitoring, market economics, political economy,
- Explore the interventions and mechanisms that may be employed to effect a systems shift in behavior that will contribute to optimal health outcomes.

Late or Missed Assignments

Missing or submitting assignments late will impact other students because this course uses case-based teaching methods. As a result, late or missed assignments will not be accepted without prior approval of the instructor. Exceptions to this rule may be made in the event of an emergency. Computer or printing malfunctions will not be considered emergencies, so please remember to save your documents in multiple locations.

Accommodation

The University provides a number of accommodations for students who register with *Disability Services for Students*. Information about accommodation can be found at: <http://students.usask.ca/health/centres/disability-services-for-students.php>.

Readings

Beyond the first two weeks of class, there is no set reading list. Students will be expected to undertake independent research to address issues they identify as they proceed through each case.

Introductory readings

Conrad, Patricia, A., Meek, Laura, A., Dumit, Joe. (2013). Operationalizing a One Health approach to global health challenges. *Comparative Immunology, Microbiology and Infectious Disease*, 36, 211-216.

Zinsstag, J., Schelling, E., Walter-Toews, D., Tanner, M. (2011). From "one medicine" to "one health" and systemic approaches to health and well-being. *Preventative Veterinary Medicine*, 101, 148-156.

Coker, R., Rushton, J., Mounier-Jack, S., Karimuribo, E., Lutumba, P., Kambarage, D., Pfeiffer, D., Stark, K., Rweyemamu, M., (2011). Towards a conceptual framework to support one-health research for policy on emerging zoonoses. *The Lancet Infectious Diseases*, 11(4), 326-331.

Wolf, M. (2014 - In press). Is there really such a thing as "one health"? Thinking about a more than human world from the perspective of cultural anthropology. *Social Science & Medicine*, 1-7.

Woods, A., Bresalier, M. (2014). One health, many histories. *Veterinary Record*, 174, 650-654.

Dantas-Torres, F., Chomel, B. B., Otranto, D. (2012). Ticks and tick-borne diseases: A One Health perspective. *Trends in Parasitology*, 28(10), 437- 446.

Yates-Doerr, E. (2014 -- in press). The world in a box? Food security, edible insects, and "One World, One Health" collaboration. *Social Science & Medicine*, 1-7.



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: D. Freeman, Dean WCV

2. Information required for the Catalogue

2.1 Label & Number of course: ONEH 400.3

2.2 Title of course: Experiential Learning Capstone Course

2.3 Total Hours: Seminar 36

2.4 Weekly Hours: Seminar 3

2.5 Term in which it will be offered: T2

2.6 Prerequisite:

ONEH 300.3

2.7 Calendar description:

Students will develop the skills and strategies embodied within One Health to respond to a range of integrated health problems. The course seeks to enable students to experience how the theory of One Health can be applied within their practice as professionals. Through the learning experience, students will be challenged and guided toward cultivating targeted skills necessary for effectively working within One Health initiatives in real-world settings. Students will have the opportunity to learn about One Health topics from traditional knowledge keepers, indigenous communities and other community-based experts.

2.8 Any additional notes

3. Rationale for introducing this course.

The objective of the experiential course is to provide students an opportunity to engage One Health strategy and design within a professional setting. The experiential component of the One Health Certificate of Proficiency enables students to gain a sense of how the approach is practiced in response to real problems encountered in the everyday professional context. Given that the application of One Health necessarily takes on a diverse range of forms, it is advantageous to pursue learning opportunities in which One Health theory is translated into operational policy and action.

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4. Learning Objectives for this course.

See attached syllabus

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) n/a

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).

None

Course(s) to be deleted? n/a

Course(s) for which this course will be a prerequisite? no

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

7. Course outline.

See attached Syllabus.

8. Enrolment.

Expected enrollment: 45

From which colleges?

Program is expected to draw heavily from the Health Sciences or undergraduate students seeking to enroll in one of the professional schools.

9. Student evaluation.

See attached syllabus.

10. Required text:

See attached syllabus.

11. Resources.

Proposed instructor: Lead instruction will be coordinated through the WCVM

How does the department plan to handle the additional teaching or administrative workload? Teaching will be provided from the existing faculty complement as component of one's regular teaching assignment or on an overload basis

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: winter 2017

One Health Certificate Experiential Capstone Course

The objective of the experiential course is to provide students an opportunity to engage One Health strategy and design within a professional setting. The experiential component of the One Health Certificate of Proficiency enables students to gain a sense of how the approach is practiced in response to real problems encountered in the everyday professional context. Given that the application of One Health necessarily takes on a diverse range of forms, it is advantageous to pursue learning opportunities in which One Health theory is translated into operational policy and action.

Course Design

The course design builds out of collaboration between professional partners, the course facilitator, and students. As such, a level of variation is anticipated in the course delivery. The structure of the course orients around a series of general criteria, developed to enable stakeholders' facilitation of an effective and mutually beneficial learning experience. The following criteria provide a foundation for the experiential course:

- Students will spend a minimum of 50 hours working within a professional organization focused on the health of humans, animals, and/or ecosystems;
- Students will keep a portfolio of their learning experience, including journal entries, observations, advisor reports, record of contribution, and a concluding presentation on the experience;
- The students and course instructor will select a venue for the experiential course based on integration level (or potential thereof) of a One Health approach to advancing health outcomes;
- Students will be responsible for ensuring that their participation contributes to the advancement of One Health initiatives within the organization.

In preparation for the course, organizations aiming to promote human, animal, and/or ecosystem health through a One Health process will be sought out in order to developing partnerships. In addition, organizations that wish to pursue novel initiatives toward One Health as part of their mandate will also be engaged. Students will be provided a selection of organizations that may be approached as potential partners as they undertake the experiential course; however, students are invited to propose alternative organizations provided fittingness can be established.

A guideline for student responsibilities deemed productive toward meeting course objectives is similarly reflexive of the differentiated contexts in which students will be working. The types of responsibilities associated with effective learning may be identified as falling within the categories: research (textual and empirical), project planning and execution, communications, community outreach, publishing, education, and the like. The types of tasks to be minimized or avoided are those that may be identified under the categories: fundraising, clerical, procurement, courier, custodial, etc.

Effective communication among stakeholders is critical to the efficacy of the course, and will be a central objective in developing partnerships with organizations and orienting students to the course design. While effective communication is contingent upon context and interpersonal dynamics, strategic guidelines can be helpful to facilitating optimal communication and avoid misunderstanding. A strategy for effective communication will involve outlining, at the outset, clear and explicit expectations from the perspective of each stakeholder; establishing a formalized, regular feedback process enabling professional partners, course facilitators, and students to make timely adjustments toward fulfilling expectations; and, structuring assessment in a way that establishes benchmarks designed to track student progress.

Learning Objectives

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- Students will develop a comprehension of the ways in which One Health may be utilized as a response to health problems arising in the context of a professional setting;
- Students will devise One Health strategic responses to targeted problems, and map out processes necessary to implement an effective response;
- Students will discern the pattern of factors and contributors that must be engaged in order to successfully implement One Health solutions;
- Students will reflect on and articulate their learning process as they translate One Health theory into practice;
- Students will present on their endeavor to actualize a One Health response to health problems addressed while partnering with the professional organization.

Expectations

As members of the community of scholars at the University of Saskatchewan, I expect that we will all govern our interactions in the spirit envisioned by our *Learning Charter*. The complete text of the Charter can be found at:

http://www.usask.ca/university_secretary/LearningCharter.pdf.

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As per university regulations, you are required to attend class. Repeated failure to attend class may result in a student being denied the opportunity to write the final exam.

Instructor Contact

Telephone:

Email:

Office:

Office Hours:

Class Locations and Times

Classes will be held:

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Student Evaluation

Overview

Assessment for the experiential course will follow a portfolio model as a means to generate a comprehensive record of student learning and capacity gained throughout the term. The portfolio will enable the instructor to evaluate student performance, and ultimately serve as a tool to facilitate students' pursuit of professional goals.

Assignments Summary

1. Reflective Journaling – 40% (4 x 10%)
2. Résumé of Tasks – 15%
3. Contribution (Informed by Advisor Report) – 20%
4. Final Presentation – 25%

Reflective journaling is a key component of the portfolio development. Journaling provides an opportunity for students to represent work they are involved with, and how the experience provides insight into the One Health approach to promoting health outcomes. The journaling process also challenges students to articulate their thinking and learning around One Health, and how it can be effectively applied to real world problems. The ability to discuss with confidence processes and procedures demonstrating a One Health approach is deemed an asset to students' professional advancement. Journal entries will be submitted periodically throughout the term to assist the instructor in ensuring that students are progressing successfully.

In tandem with the reflective journaling, students will prepare a *Résumé of Tasks* completed and skills developed during the term. The résumé will summarize for the instructor, and potential employers, projects engaged by students that employ a One Health approach to advancing health outcomes. This will also provide a foundation from which professional partners will prepare a report on students' contribution to One Health initiatives within the organization.

The *Partner (or Advisor) Report* component of the portfolio will operate as a letter of appraisal outlining the contribution and capacity students bring to the professional organization. The report will highlight contributions and achievements of students throughout the term; and will also relate areas in which students should aspire to improve. The advisor evaluation will be formative and intended to promote future learning, as well as providing the instructor an additional basis from which to conduct a summative evaluation of students.

The *Presentation on Work* is designed to enable students to showcase their work in One Health, and support an understanding of how One Health theory may be applied to differentiated contexts. Students will draw on the content of their portfolios to develop a presentation illuminating the process undertaken to promote One Health strategy. Details concerning presentation form, length, and schedule will be negotiated at the outset of the course.

Late or Missed Assignments

All assignments must be completed. Failure to submit an assignment will result in an INC being submitted as your final grade. Late assignments will receive a 10% reduction/per day to a maximum of 30%. Exceptions to this rule may be made in the event of an emergency. Computer or printing malfunctions will not be considered emergencies, so please remember to save your documents in multiple locations.

Accommodation

The University provides a number of accommodations for students who register with *Disability Services for Students*. Information about accommodation can be found at: <http://students.usask.ca/health/centres/disability-services-for-students.php>.



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: D. Freeman, Dean WCVM*
2. *Information required for the Catalogue*
 - 2.1 *Label & Number of course: ONEH 390.0*
 - 2.2 *Title of course: One Health Seminar*
 - 2.3 *Total Hours: N/A*
 - 2.4 *Weekly Hours: N/A*
 - 2.5 *Term in which it will be offered: in all terms*
 - 2.6 *Prerequisite: Enrollment in the Undergraduate Certificate in One Health*
 - 2.7 *Calendar description:*

Students are required to attend 6 one health themed presentations while enrolled in the Certificate program. At least half of the presentations must be offered outside the student's home department or College.

- 2.8 *Any additional notes*

Students will enroll in this seminar in each term until the requirement is satisfied.

3. *Rationale for introducing this course.*

The University of Saskatchewan is engaged in a wide variety of One Health research across a variety of disciplines. This course will be used to showcase this research and expose students to avenues of future study research at the University of Saskatchewan.

4. *Learning Objectives for this course.*

Upon completing the course, students will have:

- *Developed a broad understanding of the diversity of One Health research and learning opportunities at the University of Saskatchewan*
- *Experienced a number of different presentation styles*

A Certificate in One Health

- *Compared how One Health topics are viewed from other disciplines*

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).*

None

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? It is required to be completed before students will receive the certificate.

7. *Course outline.*

8. *Enrolment.*

Expected enrollment: 45

From which colleges? Enrollment is open from all colleges.

9. *Student evaluation.*

Pass/Fail based on submitting record of attendance of One Health theme seminars

10. *Required text:*

None

11. *Resources.*

No additional resources expected.

12. *Date of Implementation:*

To be offered: Fall 2016

Appendix Three – Catalogue Entry

Undergraduate Certificate in One Health:

Admission Requirements:

- *Completion of at least 60 credit units of university-level courses toward an undergraduate degree from a recognized university*
- *Proficiency in English*

Selection Criteria:

- *Letter of interest*
- *Application form*

Preference will be given to students with a minimum of a 70% average or equivalent in pass/fail Colleges. In addition, admission decisions will consider the applicant's College. A minimum number of seats in the program have been allocated to each College as follows:

- Arts and Science (7)
- Agriculture and Bioresources (3)
- Edwards School of Business (2)
- Education (4)
- Engineering (2)
- Dentistry (2)
- Kinesiology (2)
- Law (2)
- Medicine (4)
- Nursing (4)
- Pharmacy and Nutrition (4)
- St. Thomas More (2)
- Veterinary Medicine (7)

Places in the program allocated to any College will be made available to other applicants if unfilled.

Certificate Program Requirements (12 credit units):

- *ONEH 300.3 One Health Foundations (New Course Proposal Form attached)*
- *ONEH 390.0 Seminar Course - Attendance at 6 One Health seminars is required. (New Course Proposal Form attached)*

- ONEH 400.3 Capstone Course (New Course Proposal Form attached)
- 6 credit units from the following list of restricted electives:

List of Restricted Electives (those in appendix one):

Sustainable Plant and Soil Management - AGRC 111
Animal Agriculture and Food Science - AGRC 112
Sustainable Plant and Soil Management - AGRC 111
Global Food Security - AGRC 211
Animals and the Environment - ANBI 375
Cultural Competency Approaches to Community Health and Violence Intervention - ANTH 298
Applied Anthropology - ANTH 326
Political Ecology Anthropology and Global Environmental Issues - ANTH 244
Anthropology of Healing - ANTH 403
The Archaeology of Human Environmental Impact - ARCH 330
An Introduction to Ecology and Ecosystems - BIOL 228
Animal Parasitology - BIOL 436
Life in the North - BIOL 314
Plants and Human Affairs - BIOL 324
Community Ecology - BIOL 373
Current Perspectives in Environmental Biology - BIOL 410
Natural Resource Economics - BPBE 430
Rural Development Theory Policy and Case Studies - BPBE 432
Land Resource Economics - BPBE 330
Follow the Grain - BPBE 344
Agricultural Problems and Policies - BPBE 451
Sanitary and Environmental Engineering II CE 414
Global Health and Local Communities Issues and Approaches - CHEP 402
Global Health II - CHEP 403
Inner City Practicum - CHEP 410
Simulation Principles - CMPT 394
Human Oral Infectious Diseases - DENT 30
Economics of Natural Resources - ECON 275
Economics of Health Care - ECON 234
Economics of the Environment - ECON 277
Pedagogies of Place Context Based Learning Elementary - EFDT 313
Pedagogies of Place Context Based Learning Secondary - EFDT 315
Indigenous Storytelling of the Prairies - ENG 242
Foundations of Sustainability - ENVS 201
Sustainability in Action - ENVS 401
Principles of Environmental Engineering - ENVE 201
Sustainability and Environmental Assessment - ENVE 481
Environmental Soil Science - EVSC 220
Grassland Soils and Vegetation - EVSC 380

Environmental Physics - EVSC 210
Contaminated Site Management and Remediation - - EVSC 421
Agrifood and Resources Microbiology - FABS 212
Improving Food Security - FABS 298
Environmental Science and Society - GEOG 125
Earth Processes and Natural Hazards A Canadian Perspective - GEOG 235
Environmental Geography - GEOG 280
Development in the Canadian North Issues and Challenges - GEOG 381
Health Law -LAW 314
Indigenous Peoples in International & Comparative Law -LAW 480
Wildlife Law -LAW 498
Environmental Law -LAW 444
Law, Development and the International System -LAW 498
Diseases of Livestock - VLAC 411
Food Animal Production Medicine - VLAC 482
Animal Management and Production II - VLAC 310
Community Health and Epidemiology II - MED 301
Microbiology and Infectious Diseases II - MED 303
Medicine and Society I - MEDC 112
Medicine and Society II - MEDC 122
Medicine and Society IV - MEDC 222
Principles of Microbiology and Immunology for Nursing - MCIM 223
Medical Bacteriology - MCIM 308
Introduction to Circumpolar World - NRTH 101
Contemporary Issues of the Circumpolar World I - NRTH 331
Perspectives on Health Wellness and Diversity in a Global Context – NURS 201
Community Health Nursing Building Partnerships - NURS 430
Interprofessional Perspectives Health Systems and Policy Development within a Global Context - NURS 440
Food Culture and Human Nutrition - NUTR 310
Current Issues in Nutrition - NUTR 420
Ethics and Technology - PHIL 236
Moral Problems - PHIL 231
Topics in History and Philosophy of Science - PHIL 451
Planning History and Theory - PLAN 395
Integrated Water Resource Planning - PLAN 329
Integrated Pest Management - PLSC 335
Urban Food Production - PLSC 235
Rangeland Ecology and Management - PLSC 422
Sustainable Crop Production - PLSC 401
Governance and Development in the Global South - POLS 244
Understanding the State in a Global Era - POLS 250
Global Governance - POLS 262
Health Psychology - PSY 260
Religion and Science - RLST 375

Field Course in Renewable Resource Management - RRM 301
Sociology of Communities and Community Development - SOC 206
Critical Issues in Canadian Society - SOC 227
Sociology of Health Illness and Health Care - SOC 238
Social Change and Global Solidarity - SOC 260
ST in Environmental Sociology - SOC 29
Social Inequality and Health - SOC 328
Soil Ecology - SLSC 344
Poisons and Pollutants - TOX 200
Environmental Toxicology - TOX 301
Risk Assessment and Regulatory Toxicology - TOX 321
Systemic Toxicology - TOX 402
Veterinary Toxicology - VBMS 334
Disease Ecology and Epidemiology - VTMC 238
Veterinary Parasitology - VTMC 336
Microbiology of Pathogenic Microorganisms - VTMC 347
Gendered Perspectives on Current Events - WGST 210
Representation Embodiment and the City – WGST 235
Representation Embodiment and the City New York – WGST 335

Appendix 4 – Consultation Forms



**UNIVERSITY OF
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Information Technology Requirements for New Programs and Major Revisions

This form is to be completed by the faculty member responsible for the program proposal in consultation with Information and Communications Technology. Contact ICT Client Services (phone 4827) for assistance.

Attach the completed form to the program proposal prior to submission to the Academic Programs Committee. Additional comments may also be attached if required.

1. Proposal Identification

Full name of program: **Certificate of Proficiency in One Health (Undergraduate)**

2. Distance Education

Does the new/revised program include courses that are delivered by 'distance education'? No

Face-to-face off-campus

Televised

Multi-mode

Independent Study

Web-based

Other (specify)

3. Network Requirements

3.1 Does the program have any new special network requirements?

No, network requirements are unchanged from existing program

Yes, the program has the following new network requirements:

Video transmission (specify)

General Web and e-mail usage

Large (10MB or more) file transfers

Other (specify)

**Some Speakers will present to the classes via video links using existing technology.
Lectures may be recorded using existing lecture capture.**

3.2 Does the program require any new access to the Internet or the Canadian Research network?

No, existing access and bandwidth (speed) are adequate

Yes, additional network access is required

Describe new requirements (e.g. type of access, room numbers, number of computers, bandwidth required):

3.3 Will students require new access to University IT resources (e.g. library, e-mail, computer labs, etc.) from their homes?

No, home access requirements are unchanged from existing program

Yes, students will require new access to IT resources from home (please clarify the access required and how it should be provided):

Existing access to electronic resource will be used.

4. **Software Requirements** Please list the software that will be required for the program (e.g. e-mail, web pages, SPSS, discipline-specific software, etc.), and indicate where it needs to be available. Include cost estimates for initial purchase and ongoing support/upgrading, if applicable.

No

5. **Hardware Requirements**
Please list any special IT hardware required for the program (e.g. high performance workstations, colour printers, scanners, large disk space, etc.) and indicate whether the new hardware will be provided by the college/department or centrally by the University. Include cost estimates for initial purchase and ongoing support/upgrading.

No

6. **Computer Lab Access**

Does the program have new computer lab access requirements?

Computer lab access requirements are unchanged from existing program

General ('walk-in') access is required hours/week/student

Access for classes/tutorials is required hours/week/student

Walk-in use of computer labs is expected as required by students to complete assignments.
Classes will not be given in computer labs.

Estimated number of students in program: 60 students

7. **Student IT Support**

Please describe any new requirements for student IT support (e.g. number of hours training per term, training topics, number of hours of user support per week during office hours and evenings/weekends).

No new requirements.

8. **Faculty IT Support**

Please describe any new requirements for faculty IT support (e.g. number of hours training per year, training topics, number of hours of one-on-one support per year, support for course development, support for desktop hardware, software and peripherals, other).

No new requirements.

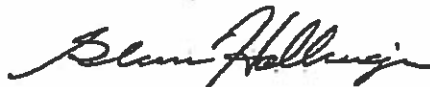
9. **Impact on Institutional Systems**

Please describe any changes that may be necessary to institutional systems in order to support the proposed program (e.g. student information system, telephone registration system, financial systems, etc.). Provide an estimate of the cost of systems modifications. Refer to modifications identified in the Office of the Registrar Consultation Form if applicable.

The program will need to be added to the student information systems degrees works, and appropriate fee assessment will be required.

Date: Aug 21 2014

Information and Communications Technology: Glenn Hollinger



Faculty Member (sponsoring college/dept) Patricia Farnese (WCVM)





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Library Requirements for New Programs and Major Revisions

This form is to be completed by the faculty member responsible for the program proposal in consultation with the Liaison Librarian from the University Library, University of Saskatchewan. Contact the appropriate Liaison Librarian for assistance.

1. Proposal Identification
Full name of program:

Undergraduate Certificate of Proficiency in One Health

Short form (degree abbreviation):

Sponsoring Department/College:

Western College of Veterinary Medicine

Degree Level (undergraduate or graduate)

Undergraduate

2. Library Resources

2.1 Resources are/will be located mainly in the Library

Most print resources are located in the Health Sciences or Veterinary Medicine Libraries.

2.2 Comment on the adequacy of the current level of Library acquisitions in support of this discipline.

Materials in the One Health area are currently purchased through several monograph funds, including those for veterinary medicine and public health. The current level of acquisitions is adequate.

2.3 Specify serial titles that are core to this program.

The University of Saskatchewan Library subscribes to thousands of electronic journals, including the core journals in both veterinary medicine and public health. Examples of titles which may be used by students in this certificate program (and to which they have electronic access through the Library) include Ecohealth, Emerging Infectious Diseases, Public Health Reports, and Zoonoses and Public Health.

2.4 What access is required to resources held elsewhere? (Identify additional costs for access e.g. networking of databases, consortial access to databases, document delivery options).

No additional resources are needed.

2.5 Will any resource re-allocation within the broad discipline be necessary to support this new program?

No.

2.6 What are the human resource requirements to support this program?
(Does the Library have the subject expertise amongst its staff? Are more staff required to develop collections, provide user education, develop and promote web access to resources, etc.).

No additional staff are required. It is possible that the students in the 3-credit unit Introduction to One Health course, which will have an enrolment of no more than 30 students, will need some instruction on use of library resources or assistance in finding information relevant to the case studies covered in the course, but current staffing levels should be adequate to deliver these services.

3. Additional Library Resources Required

3.1 What new subject areas of acquisition are needed to meet program requirements?

The materials needed to support these courses are already being purchased through existing monograph and electronic resources funds.

3.2 What new electronic resources/databases are required?

No, the Library already subscribes to a variety of databases (e.g., CAB Abstracts, Global Health, Agricola, EMBASE, MEDLINE) to support programs in veterinary medicine, public health, agriculture, medicine and many other areas, so no additional resources are needed.

3.3 Are there new/additional library technology requirements necessary to support this program?

No.

3.4 Are there distance education service needs and costs?

No.

3.5 Provide an estimated budget required for library resources to support this program annually.

No additional funds are needed.

4. Statement of Assessment of Library requirements
(Indicate Library capacity to support new program)

The Library currently has the capacity to support this new program.

Date:

August 21, 2014

Liaison Librarian's Signature

Eoin Watson

Library Dean's Signature

William Johnston, Sept 5/2014

Faculty member (for the sponsoring college/dept)

Name of program: ONE HEALTH UNDERGRADUATE CERTIFICATE PROGRAM.
1. SPACE/RENOVATIONS

No **Yes: Please attach a copy of the form.**

- 1.5 Can development of any of the proposed additions or renovations be phased or completed in stages?
 No Yes: Provide timeframe and costs for each stage:

2. EQUIPMENT

- 2.1 Does the new/revised program require additional equipment or upgrades to current equipment?
 No Yes (describe below)

Equipment required (including special requirements*)
 Quantity required
 Estimated unit cost
 Estimated total cost

Note whether the installation of equipment will require additional space or renovations, or if there are special electrical, cooling, ventilation, plumbing, etc. requirements.

3. FUNDING

- 3.1 Are college/departamental funds available for the required new space, renovations, or equipment?

Initial costs: No Yes *None needed.*

Ongoing operating/maintenance costs: No *Yes*

- 3.2 Are funds available from non-base budget/external sources towards the cost of any of the new space, renovations, or equipment?

Initial costs: No Yes

Ongoing operating/maintenance costs: No Yes

If yes, provide details, including any special conditions: *N/A*

- 3.3 Will there be a request to the Capital Planning Committee for capital funds to accommodate the program?

No *Yes*

4. ADDITIONAL COMMENTS

If relevant, please comment on issues such as the adequacy of existing physical resources for delivering the proposed program, the feasibility of proposed additions or renovations, sources of funding, etc.

Date: *Nov 4, 2015*

Facilities Management

A.W. Wallace

ANDREW WALLACE, FMD.

Faculty member (for the sponsoring college/dept)

Great!

[Signature]

*Angela A. Freeman
 Wren Dean*

[Signature]

Patricia Farnese
 College of Law

Consultation with the Registrar Form
(New Programs and New Majors / Minors / Concentrations)

Title: Certificate in One Health

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?

is an existing degree, diploma, or certificate being renamed?

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

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

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

Certificate in One Health

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?

Degree level

5 What is your suggested credential abbreviation for this new or renamed degree, diploma, or certificate (please consult with Academic Services)? What is the Banner code for this new or renamed degree, diploma, or certificate?

Certificate in One Health [COH]

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

Western College of Veterinary Medicine

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

8 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 Health [ONEH] [4 characters for code and 30 characters for description] - currently exists in student system

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

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

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

- 1 Is this a new program?
Is an existing program being revised?
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?

Certificate in One Health

- 3 What is the name of this new program?

Certificate in One Health

- 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?

Western College of Veterinary Medicine [VM] / Veterinary Medicine (Dean's Office) [VM] (similar to graduate level as is GS/VM)

- 6 Is this a replacement for a current program?

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

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Revised	<input type="checkbox"/>
-----	--------------------------	----	-------------------------------------	---------	--------------------------

- 1 Is this a new or revised major, minor, or concentration attached to an existing degree program?
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 4: 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?

If you've answered NO, please continue on to the next section.

2 If YES, what is the name of this new disciplinary area?

3 Which Department / School is the authority for this new disciplinary area?

4 Which current program(s) and / or degree(s) is this new disciplinary area attached to?

Section 5: New College / School / Center / Department or Renaming of Existing

1 Is this a new college, school, center, or department?

Is an existing college, school, center, or department being renamed?

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.)?

Yes ☐ No ☒ Revised ☐

Yes ☐ No ☒
Yes ☐ No ☒

Section 6: 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?

Yes, One Health [ONEH] - same subject as Graduate Certificate in One Health

2

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

Western College of Veterinary Medicine [VM] / Veterinary Medicine (Dean's Office) [VM] (graduate level certificate is GS/VM)

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

Yes

4 Does the program timetable use standard class time slots, terms, and sessions?

If NO, please describe.

Yes ☐ No ☒

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 7: Admissions, Recruitment, and Quota Information

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

Will not be able to apply on-line as will already be enrolled in an existing program; will need to apply on paper to Certificate Program Committee

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

September only

3 Does this impact enrollment?

Not in short term, small increase in future years

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

Contact Dean's Office in College of Veterinary Medicine

Section 8: Tuition Information

1 How will tuition be assessed?

Per Course	
Per Credit Unit	X
Program Based	
Standard Term	
Other *	
Current Set-Up	

2 If fees are per credit, do they conform to existing categories for per credit tuition? If YES, what category?
 • See attached documents

3 If program-based, will students outside the program be allowed to take the classes?
 for ONEA courses

4 If YES, what should the per credit fee be?

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)

1 Are there any 'ceremonial consequences' of this proposal (ie. New degree hood, special convocation, etc.)?
 No

2 When is the first class expected to graduate?

June 2017

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

45 graduates per year

Section 11: Schedule of Implementation Information

1 What is the start term?

September 2016 (2016/09)

2 Are students required to do anything prior to the above date?

If YES, what and by what date?

Yes ☐ No ☒

Section 12: Registration Information

1 Will students register themselves?

If YES, what priority group should they be in?

As per current set-up

Yes ☒ No ☐

Section 13: Academic History Information

1 Will instructors submit grades through self-serve?

2 Who will approve grades (Department Head, Assistant Dean, etc.)?

As per current set-up

Yes ☒ No ☐

Section 14: T2202 Information (tax form)

1 Should classes count towards T2202s?

Yes ☒ No ☐

Section 15: Awards Information

1 Will terms of reference for existing awards need to be amended?

2 If this is a new undergraduate program, will students in this program be eligible for College-specific awards?

Yes ☐ No ☒

No

Section 16: Program Termination

1 Is this a program termination?

If yes, what is the name of the program?

Yes ☐ No ☒

2 What is the effective date of this termination?

3 Will there be any courses closed as a result of this termination?

If yes, what courses?

Yes ☐ No ☐

4 Are there currently any students enrolled in the program?

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

Yes ☐ No ☐

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

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

Section 17: SED - Information Dissemination (Internal for SED use only)

1 Has SED, Marketing and Student Recruitment, been informed about this new / revised program?

2 Has SED, Admissions, been informed about this new / revised program?

3 Has CGSR been informed about this new / revised program?

4 Has SED, Transfer Credit, been informed about any new / revised courses?



5 Has ICT-Data Services been informed about this new or revised degree / program / major / minor / concentration?

6 Has the Library been informed about this new / revised program?

7 Has ISA been informed of the CIP code for new degree / program / major?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

SIGNED

Date:	December 4, 2015
Registrar (Jason Doell, Assistant Registrar, for Russell Isinger):	
College / Department Representative:	 Pfanenstiel

**Planning and Priorities Committee of Council
Notice of Intent:**

One Health Certificates of Proficiency - Undergraduate & Graduate

- 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?**

This notice proposes the development of two new programs at the University of Saskatchewan: an undergraduate Certificate of Proficiency in One Health and a graduate Certificate of Proficiency in One Health.

One Health is a term used to identify "the collaborative efforts of multiple disciplines working together locally, nationally and globally to attain optimal health for people, animals and the environment together" (American Veterinary Medical Association 2008). One Health is not a discipline, but rather an integrated, interdisciplinary approach used to study and address complex problems (<http://libguides.usask.ca/onehealth>). It represents an application of the broad principles of Team Science (Bennett, Gadlin, Levine-Finley 2010) to problems at the interface of human-animal-environmental health.

Employers in the public and private sectors increasingly seek university graduates who have both disciplinary depth and the ability to work in integrated, interdisciplinary teams. With this in mind, the university's health science colleges, Council of Health Science Deans, and graduate schools of Environment and Sustainability, Public Health and Public Policy actively promote interdisciplinary education. The proposed One Health training programs represent practical opportunities for such education: elective programs to complement the core disciplinary training of enrolled students.

The proposals have been developed during the past year through broad consultation with faculty and senior leaders of university colleges and schools. The proposal for the undergraduate Certificate in One Health has been developed with input from 13 faculty members from the Colleges of Veterinary Medicine (4), Medicine (4), Pharmacy and Nutrition (2), Nursing (1), Law (1) and the Gwenna Moss Centre for Teaching Effectiveness (1). The graduate Certificate in One Health has had input from 15 faculty members from the Colleges of Veterinary Medicine (3), Medicine (2), Pharmacy and Nutrition (2), the Schools of Public Health (2), Environment and Sustainability (2), Public Policy (1), VIDO (2), and the Gwenna Moss Centre for Teaching Effectiveness (1).

The undergraduate Certificate is proposed as a 12 credit unit (CU) program open to undergraduate students enrolled in a degree program at the university, with a focus on the health science programs. A core One Health course (3 CU) would be

accompanied by an experiential practicum (2 CU), capstone workshop (1 CU), and two electives (3 CU each) drawn from a list of approved courses.

The graduate Certificate is proposed as a 6 CU program open to graduate students enrolled in a disciplinary program at the university. It will comprise a core problem-based learning course on the Principles and Practice of One Health (3 CU), and a seminar course on Advanced Applications in One Health (3 CU) which includes a capstone workshop. Students will be encouraged to integrate One Health principles into their thesis research and benefit from an interdisciplinary advisory committee.

2. What is the anticipated student demand for the program? Does the program meet a perceived need, particularly within a national context? How have these needs been assessed?

In North America to our knowledge, no institution offers an undergraduate training program in One Health, and only the University of Montreal and the University of Florida offer specific graduate training in the field. The former offers a Master's degree in Veterinary Public Health with emphasis on One Health, while the latter offers graduate Certificate, Master's and PhD degree programs in One Health. The University of Saskatchewan will therefore be one of a few North American institutions offering students such innovative, interdisciplinary training.

Student interest in One Health is illustrated by the success of several recent University of Saskatchewan initiatives. For the past three years, first and second year health science students have participated in an annual weekend One Health Leadership Experience workshop featuring case studies, leadership discussions and presentations by international leaders. Participation has risen from 75, to 100, to 200 students in 2014. Stimulated by the field, students have created a university One Health Student Club with over 30 members and core funding from the USSU, and through it, sponsored activities throughout the academic year. At the graduate level, the NSERC-funded CREATE Integrated Training Program in Infectious Disease, Food Safety and Public Policy was established in 2012. This training program has served as the foundational model for the proposed graduate One Health Certificate program. Applications for this program have increased from 11 to 25 in the past two years; 10 and 20 students, respectively, have been accepted into the program from graduate programs in the Colleges of Veterinary Medicine (Departments of Veterinary Microbiology, Veterinary Biomedical Sciences, Large Animal Clinical Sciences), Medicine (Community Health and Epidemiology), the School of Public Health (Epidemiology, and Vaccinology and Immunotherapeutics programs), School of Public Policy, and Arts and Science (Computer Science).

Offering elective certificate programs in One Health for health science and graduate students will distinguish the University of Saskatchewan and potentially attract students to our institution who might otherwise not have come.

- 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?**

The proposed certificate programs in One Health are founded upon interdisciplinary, experiential, problem-based learning (PBL) modules incorporating a range of pedagogical innovations. The programs are an excellent fit with the strategic direction of the university. The University of Saskatchewan Third Integrated Plan (2012-2016) highlights the need for the institution to build excellence in areas of focus. Under the theme of Knowledge Creation, six Signature Areas of research were selected, one of which is One Health. Under the theme of Innovation in Academic Programs and Services, bold new approaches to academic programming are encouraged that emphasize collaborative, experiential learning. The Third Integrated Plan of the Western College of Veterinary Medicine and the College of Medicine's Strategic Research Plan *Toward 2020* both identify One Health as a key element. The university's One Health Initiative (2013-2015), which has been funded jointly by PCIP and the Council of Health Science Deans, places a priority on the development of certificate training programs. Supplemental funding and support from the Curriculum Innovation Fund of the Gwenna Moss Centre for Teaching and Learning Effectiveness has accelerated this development during the past year.

- 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)? Is there justification to proceed regardless of any perceived duplication? Will a program be deleted as a result of offering the new program?**

The One Health Certificates are designed to be pursued concurrently with the degree programs in which students are enrolled. It is anticipated that the majority of undergraduate students will be enrolled in a professional program in one of the health science colleges, whereas the majority of graduate students will be enrolled in a graduate program in one of the health science colleges, or the Schools of Public Health, Public Policy, Environment and Sustainability. A minority of students will be from the Colleges of Arts and Science, and Agriculture and Bioresources.

The undergraduate and graduate certificate programs will be elective, supplemental tuition-bearing programs in which excellent students can choose to enroll.

Admission to the programs will be based upon application to, and interview by, the Program committee. In some cases, one or more of the courses of the certificate program may be considered electives by the student's home program.

The administrative structure of certificate programs in will follow the model of another interdisciplinary program at the U of S, the graduate program in Environmental Engineering. The academic home of the undergraduate and graduate certificate programs in will be the Western College of Veterinary Medicine (WCVN). The Certificate Programs Committee will be comprised of 6-8 faculty members from various colleges who are actively engaged in the teaching and supervision of students in the program. The Chair of the Committee and members will be appointed by the Dean of WCVN for a renewable two-year term. The Chair and Certificate Programs Committee will function in a manner typical of the Chair and Committee of a Graduate Program as delineated by the College of Graduate Studies and Research (CGSR). The program requirements in the graduate certificate program will be defined by Certificate Programs Committee, consistent with requirements of the College of Graduate Studies and Research, and will be met by all graduate students in the program. The program requirements of the undergraduate certificate will be defined by Certificate Programs Committee, consistent with requirements of the WCVN. The Chair will report on matters related to the Program to the Dean, WCVN.

It is not anticipated that any current programs will be deleted or diminished as a result of the development of these certificate programs. Rather, it is likely that the availability of such programs will attract new students to the University of Saskatchewan.

- 5. 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?**

In July 2013, the Provost's Committee on Integrated Planning (PCIP) approved the strategic plan for the university's One Health Initiative which foresees the development and implementation of new graduate and undergraduate certificate programs in One Health.

The academic home of both programs will be the Western College of Veterinary Medicine (WCVN). Until 2019, the graduate certificate program will be supported administratively by the CREATE ITraP program and thereafter by the office of the Dean. From its launch, the undergraduate certificate program will be supported administratively by the office of the Dean, WCVN (see attached Letters of Support). As at present, participating faculty will contribute to teaching as part of their departmental/college assignment of duties. Assessments conducted by the

university Library, ICT services, and Facilities Management Division, conclude that no new university resources will be required to offer these programs.

By the academic year 2019/20, the undergraduate Certificate Program is projected to enroll 20 students per year, while the graduate program is projected to enroll 25 per year. At the estimated tuition rate of \$195.50 per credit unit and \$201.00 per credit unit for the undergraduate and graduate programs (Institutional Planning and Assessment), the tuition per student will be \$2412.00 and \$1155.00 for the two programs, respectively. By 2019/20, total tuition revenue of \$48,240.00 and \$28,875.00 will derive from the undergraduate and graduate programs, respectively.



**UNIVERSITY OF
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10 September 2014

Dr. Lisa Kalychuk
Chair, Planning and Priorities Committee
University Council
University of Saskatchewan

RE: Graduate and Undergraduate Certificate Programs in One Health

Dear Dr. Kalychuk:

The proposed graduate and undergraduate Certificate Programs in One Health will provide outstanding training opportunities for students at the University of Saskatchewan. They will meaningfully advance the priority that the university, the Council of Health Science Deans and the Western College of Veterinary Medicine have given to interprofessional education and practice. These proposals were developed with broad, multi-college faculty input and support.

The Western College of Veterinary Medicine will be pleased to serve as the academic home for the proposed graduate and undergraduate Certificate Programs, and will provide the necessary administrative support to manage the programs effectively.

Please feel free to contact me with any comments or additional questions.

Sincerely,

Douglas A. Freeman DVM, PhD
Dean

September 11, 2014

Dr. Lisa Kalynchuk
Chair, Planning and Priorities Committee
University Council
University of Saskatchewan

RE: Graduate Certificate Program in One Health

Dear Dr. Kalynchuk,

I have been pleased to lead the NSERC-funded Collaborative Research and Training Experience (CRE-ATE) program called Integrated Training Program (ITraP) in Infectious Disease, Food Safety and Public Policy since it was launched at the University of Saskatchewan in 2012. We have been highly successful in attracting and training outstanding graduate students in this interdisciplinary team science program in One Health. Each year, we have carefully evaluated our experience and incorporated student and faculty feedback into our approach to teaching and learning in the program.

The ITraP program faculty are now in a position to propose the establishment of a graduate Certificate Program in One Health built on this foundation. As part of its commitment, the ITraP program will be pleased to provide the necessary administrative support for the new program for the duration of the ITraP program funding period (2012-2018), following which I understand the Western College of Veterinary Medicine has offered to provide this support.

We look forward to the success of this new endeavor!

Thank you.

Yours sincerely,

Baljit Singh

Baljit Singh, BVSc&AH, MVSc, PhD, FAAA
3M National Teaching Fellow
Professor and Associate Dean (Research)
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