



ONEH*6000 One Health Approaches to Research

Winter 2021

Section(s): C01

Department of Population Medicine

Credit Weight: 0.50

Version 1.00 - December 03, 2020

1 Course Details

1.1 Calendar Description

A multidisciplinary course for graduate students that provides in-depth knowledge on the One Health approach, exploring complex issues at the interface of human, animal, and environmental health. Active learning lessons will foster strong skill development for One Health research in collaboration, systems thinking, transdisciplinarity, critical thinking, problem solving, leadership, and communication.

Restrictions: Instructor consent required.

1.2 Course Description

Our world is faced with many wicked problems. Many of these issues occurs at the intersection of human, animal, and environmental health, and therefore require a holistic approach. One Health is a collaborative approach that integrates transdisciplinarity and system thinking to generate new knowledge on and effective solutions for these complex challenges. This course is one of the core requirements for the Collaborative Specialization in One Health and is designed to build the core competencies in One Health for graduate students. Graduate students not enrolled in this collaborative specialization can also enroll.

1.3 Timetable

Mondays and Wednesdays from 11:30 - 12:50 pm from January 11th to April 7th, inclusive. Please see WebAdvisor for the latest information.

1.4 Final Exam

There is no final exam for this course.

2 Instructional Support

This course will be primarily delivered by Dr. Clow. Any questions regarding the course and assessments should be directed to her. That being said, One Health is inherently multidisciplinary and collaborative and this has been embraced in the course by having a diverse teaching team to provide an enriching and valuable learning experience. More information on guest lecturers can be found in the course schedule.

2.1 Instructional Support Team

Course Co-ordinator: Katie Clow
Email: kclow@uoguelph.ca

3 Learning Resources

There are no assigned textbooks for this course. The three books listed below are excellent resources and are available online for free through the University of Guelph Library. All additional reading (journal articles, grey literature) will be listed on CourseLink and will be accessible online, either through open access journals or the University of Guelph library.

3.1 Recommended Resources

One Health (Textbook)

Zinsstag J, Schelling E, Waltner-Toews D, et al. One Health: The theory and practice of integrated health approach. Swiss Tropical and Public Health Institute; 2015.

One Health Case Studies (Textbook)

Cork S, Hall DC & Liljebjelke K. One Health Case Studies: Addressing Complex Problems in a Changing World. 5M Publisher; 2016.

Beyond One Health (Textbook)

Herrmann JA, Johnson-Walker YJ. Beyond One Health: From Recognition to Results. John Wiley & Sons, Inc; 2018.

4 Learning Outcomes

The course learning outcomes are founded on the One Health Core Competencies established for the University of Guelph. In this context, a competency is defined as the expected performance associated with the knowledge, skills and attitudes required to be a One Health practitioner (adapted from Albanese et al. 2008). These competencies are: Holistic Understanding of Health, Systems Thinking, Problem Solving and Critical Thinking, Resilience and Health, Leadership and Collaboration, Informatics, Research, Professional and Ethical Behaviour, and Breadth and Depth of Understanding.

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Formulate a holistic definition of health that can be applied to assess animal, human and environmental health and their interconnections in a variety of different contexts.
 2. Illustrate complex health issues as systems by identifying the components, their functions and the interconnections within and between systems.
 3. Analyze problems in a holistic manner, incorporating various perspectives as well as disciplinary and traditional knowledges.
 4. Synthesize and analyze data and literature from a variety of sources to make informed, evidence-based decisions.
 5. Develop strategies using new and existing frameworks to approach complex health issues and deal with uncertainty.
 6. Explain complex One Health problems to a variety of audiences using several modes of communication and knowledge dissemination tools.
 7. Establish and support equitable relationships across disciplines and with a variety of stakeholders.
 8. Apply relevant One Health approaches, skills and knowledge to conduct independent research.
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5 Teaching and Learning Activities

The teaching and learning activities associated with this course are designed to foster the development of One Health competencies. Sessions will involve minimal didactic teaching and focus on active learning, group work and student-led activities. Readings will be provided in advance of all sessions and are expected to have been reviewed prior to class.

5.1 Lecture

Mon, Jan 11

Topics:

Introduction to One Health

An overview of the course and One Health will be provided. Students will draft a classroom contract and share goals for the course.

Wed, Jan 13

Topics:**Health and Disease: What do they really means?**

Students will examine various dimensions of health and formulate a working definition. Disease will be discussed in broad terms, including basic terminology, modes of transmission, and measurements.

Mon, Jan 18**Topics:****Animal Health in One Health**

Animal health will be explored in the context of One Health at local, national and international level, including zoonoses.

Wed, Jan 20**Topics:****Human Health in One Health**

Human health will be explored in the context of One Health, including infectious and chronic diseases, and social and environmental determinants of health.

Mon, Jan 25**Topics:****Environmental Health in One Health**

Environmental health will be explored in the context of One Health, including climate change, habitat loss, population growth, pollution and contamination. The concepts of resiliency and sustainability will be introduced.

Wed, Jan 27**Topics:****The World in 2020**

The current context of health will be discussed from the global and local levels, including key drivers of

health change.

Mon, Feb 1

Topics:

Complexity and Systems Thinking - Part 1

The concept of complexity will be introduced as well as the basic elements of a system.

Wed, Feb 3

Topics:

Complexity and Systems Thinking - Part 2

The application of systems thinking to complex problems will be explored through several real-world examples.

Mon, Feb 8 - Wed, Feb 10

Topics:

Case study presentations

Group presentations. See Assessments for more details.

Mon, Feb 15 - Wed, Feb 17

Topics:

WINTER BREAK (no classes)

Mon, Feb 22

Topics:

Transdisciplinarity

Trans-, multi-, inter- and disciplinary approaches will be examined as well as different ways of knowing. Students will work through real world examples to explore diverse perspectives in complex problems.

Wed, Feb 24

Topics:

Study Design - Part 1: Foundational Elements

Key elements of One Health research studies will be highlighted, including ethical considerations of working with human and animal subjects. Current standards for One Health research will be shared.

Mon, Mar 1

Topics:

Study Design - Part 2: Integrating Social Science

The value and importance of social science within One Health will be demonstrated by a case study with Dr. Travis Steffens, Department of Sociology and Anthropology.

Wed, Mar 3

Topics:

Study Design - Part 3: Research methods

Common methodologies used in One Health studies will be introduced. The value of integrating knowledge from across disciplines, from the molecular to population level will be emphasized.

Mon, Mar 8

Topics:

Study Design - Part 4: Research proposals

An overview of the research proposal assignment will be delivered, and students will have an opportunity to discuss their own research in groups and receive feedback on their ideas.

Wed, Mar 10

Topics:

Leadership and Collaboration - Part 1

Students will examine the principles of collaborative research and devise strategies to support these principles in their own research.

Mon, Mar 15

Topics:

Leadership and Collaboration - Part 2

Students will participate in a One Health challenge and collaborate as a team to devise an effective solution. This session will be delivered by Dr. Heather Murphy, Department of Pathobiology.

Wed, Mar 17

Topics:

Community Engaged Scholarship

Foundational concepts and approaches to community engaged scholarship will be explored with Dr. Jeji Varghese, Department of Sociology and Anthropology.

Mon, Mar 22

Topics:

Communication in One Health

Strategies to communicate through a variety of modes and to a variety of audiences will be shared by Dr. Jennifer McWhirter, Department of Population Medicine.

Wed, Mar 24

Topics:

One Health Policy

Foundational components of policy and best practices for policy development will be introduced by Dr. Troy Riddell, Department of Political Science.

Mon, Mar 29

Topics:

Operationalization of One Health - Part 1

Human, animal and environmental governance will be explored on the local, regional, national and international

scales. The added value of One Health will be illustrated from the economic perspective. Challenges in governing and financing One Health initiatives will also be explored.

Wed, Mar 31

Topics:

Operationalization of One Health - Part 2

Students will be exposed to opportunities where they can continue to contribute to One Health on the local, national and global scale.

Mon, Apr 5 - Wed, Apr 7

Topics:

Research Proposal Presentations

See Assessments for details.

6 Assessments

6.1 Assessment Details

Critical Reflections (20%)

Date: Sunday by 11:59 pm at the end of weeks 1, 2, 3, 4, Courselink Dropbox

Learning Outcome: 1, 2, 3

Each student will submit a critical reflection based on a topic related to the previous week's content, activities and readings. Additional details will be provided at the end of each week to guide the reflection.

Case Study (20%)

Date: Mon, Feb 8 - Wed, Feb 10, In class presentation

Learning Outcome: 2, 3, 4, 5

Students will be placed in groups designed to foster cross-disciplinary collaboration. Each group is responsible for presenting a case study related to a pre-assigned theme. Each group will deliver a presentation on the case study (~20 to 25 minutes) and then facilitate discussion with the class (~15 minutes). Following the case study, each group will be required to submit their presentation as well as a facilitation outline for the in-class

discussion. Assessment will be conducted at the group level and be based on the content presented and the in-class facilitation.

Critical Review (15%)

Date: Sun, Mar 14, Courselink Dropbox

Learning Outcome: 3, 4, 5

Each student will choose a research article from the literature and assess the study design, methodologies, data analysis and conclusions from the lens of One Health research. The critical review should be no more three pages in length and provide an overview of the study, its strengths and limitations, and considerations for changes in study design (if appropriate).

Participation (10%)

Date: Throughout the semester, In class

Learning Outcome: 1, 2, 6, 7

One Health, by definition, is collaborative and therefore, all students enrolled in this class are expected to be active participants in all lessons and activities. Participation includes active listening, posing questions, engaging in classroom discussions and collaborating with peers. Quality of participation is valued over quantity. Each session is worth 0.5 points, excluding the case study and research proposal presentation sessions. If a class is missed, please communicate with the instructor. The general approach will be to redistribute the 0.5% over the remaining classes.

Research Proposal and Presentation (35%)

Date: Mon, Apr 5 - Wed, Apr 7, In class

Learning Outcome: 3, 4, 5, 8

Students are required to present their proposed thesis research and submit a written proposal that clearly outlines how their thesis research applies a One Health approach. Presentations should provide a general overview of the objectives, methodology, and significance and allocate time for questions from classmates and a panel of One Health experts. The research proposal should introduce the topic through a review of the literature and explain in detail the proposed research plan. Expectations for the scope of the thesis will be based on level of study (Masters vs PhD). NB: Students enrolled in the Collaborative Specialization in One Health must receive a passing grade on this assignment in order to continue in the program.

7 University Statements

7.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly:

e-mail is the official route of communication between the University and its students.

7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

7.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student

Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

7.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

7.8 Resources

The Academic Calendars are the source of information about the University of Guelph's

procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

7.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

7.10 Illness

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.
