

**Medical Sciences 4100G
One Health 4100G
Winter 2021 Supplemental Syllabus**

The Supplemental Syllabus contains core course-specific information, including more details regarding the assessments.

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Course Information

Days	Component	Number	Length	Location
Tuesday, Thursday	Video lecture	1-2	10-15 min	OWL, asynchronous
Thursday	Online open office hours	1	10:30- 11:00am	ZOOM, synchronous

Calendar Description*Introduction to Medical Sciences*

An introduction to the field of laboratory animal science and comparative human and animal pathology. Major topics include regulatory oversight of animal-based research, animal biology and disease, animals as models of human diseases, genetic manipulation of research animals, and major intrinsic and extrinsic factors affecting biomedical research

Animal Health, Human Health and Comparative Pathology

The One Health concept acknowledges the global interdependence of people, animals, and the environment. This course focuses on the animal component of One Health. Areas of exploration will include wildlife, livestock, and companion animals, in addition to use of animals in research, and comparative human and animal pathology.

Extended Course Description

Animals are vital to a wide range of ecosystems and support human civilization by various means. Wildlife, livestock, and companion animals are topics that will be explored in this course. Comparative human and animal pathology will also be covered, including laboratory research animals, all under the umbrella subject of One Health. The One Health concept acknowledges the global interdependence between people, animals, and the environment. The structure of this course aims to promote academic investigation, critical thinking, and effective communication.

Course Learning Outcomes

By the end of this course, students will be expected to be able to:

- Identify and describe how wildlife, livestock, companion animals, and laboratory research animals are fundamental in the One Health paradigm
- Critically assess species applicability as a model for disease
- Effectively communicate academic findings in written form

Course Assessments Overview

The following table outlines the course assessments with point distribution, which will determine the final grade. See Course Assessment Descriptions and Guidelines section below for further details.

Assessment	Points (Total for section)	Date
1. Essay	(30)	
a. Submit essay topic	2	January 21, 2021
b. Submit general outline	4	February 11, 2021
c. Submit detailed outline	6	March 9, 2021
d. Submit full essay	18	March 30, 2021
2. Assignments	(20)	Weekly (10 total)
3. Student group presentation	(25)	
a. Specific topic	1	February 4, 2021
b. Feedback	4	March 4 – April 12
c. Presentation	10	March 4, 2021
d. Information sheet	10	March 4, 2021
4. Final exam	(25)	Take-home; schedule pending
Total points for the course	(100)	

There are no required textbooks.

There are three recommended texts that may augment presented class material, which are available online through UWO libraries:

- *Sourcebook of Models for Biomedical Research* (P. M. Conn, ed.), 2008
- *Comparative Medicine: Anatomy and Physiology* by Jensen-Jarolim, Erika, 2014
- *Beyond One Health: From Recognition to Results* (J. A. Herrmann, Y. J. JohnsonWalker, ed), 2018

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Course Assessment Descriptions and Guidelines

- 1. Essay (30%): Identify a disease/problem that affects wildlife, livestock, and/or companion animals and investigate an aspect of that disease/problem (i.e. comparative pathology, one health).** Any discussion will need to be appropriately supported by scientific research articles (at least 10). Effectively communicate your findings in a clear and logical manner. Think of this as a mini literature review. The expectation is the essay is your own work.

Key information to include in the essay are:

- Background
- Main topic discussion
- Conclusions
- Future directions (proposals based on your research)
- Bibliography/references
 - Style: American Psychological Association style ((Author, year) with citations formatted alphabetically).
 - Greater than 10 peer-reviewed scientific articles should be included and discussed to support your points/ideas

Audience :

An adult with college or university undergraduate education, but not a strong background in science (i.e. university science non-major, but took basic biology courses).

ESSAY ASSIGNMENTS

- 1. Submit Essay Topic (2pts): January 21, 2021**

Guideline:

- The topic should be 1-2 sentences
 - Tip: To streamline research efforts, topic should be very specific

Example:

Specific: Consequences of aflatoxins on organic vs. conventional dairy industries in North America.

Not very specific: Toxic mold in food

- 2. General outline (4 pts): February 11, 2021**

Consider this a map of your essay which lists the points you will make and in the order that you will make them. This is a work in progress.

Guidelines:

- Include a thesis statement
- Headings and subheadings to reflect main points and supporting ideas/arguments, respectively (words/phrases acceptable)

- The goal of the general outline is to provide a roadmap of ideas and topics planned for the essay and information proposed to support them

Example of outline format:

Porcine reproductive and respiratory syndrome: background

- 1. What is the disease?*
 - a. Etiology*
 - b. Symptoms*
 - c. Age of animals affected*
 - i. Piglets, weaned, sows?*
 - d. Impact on herd health*
 - i. Practices*
 - ii. Economic*
 - a. Farm*
 - b. Society*
 - a. Transmission*
 - i. Rate*
 - ii. Route*
 - b. Pathophysiology*
 - i.*

3. Detailed outline (6 pts): March 9, 2021

Guidelines:

- This outline should provide details and informative content regarding points and supporting ideas/arguments, including conclusions
- Place your thesis statement at the beginning

Example of format:

- 1) This paragraph will use a case study, the 1998 Malaysian Nipah virus outbreak, to show the impact of deforestation on ecological equilibrium and Nipah virus transmission*
 - a) Slash-and-burn deforestation in Cambodia clears land for agriculture and cattle farming*
 - i) Habitat loss forces mass migration of Pteropid bats to Malaysia*
 - ii) Pteropid bats spread disease to hogs*
 - iii) Contaminated pork causes human epidemic*
- *Conclusion: Human activities causing ecological disruption, such as agriculture and deforestation, have enormous potential to promote emergence of widespread disease*

4. Final Essay Due (18 pts): March 30, 2021

Guidelines:

- **Length: 5-6 pages in length (approximately 2500 words)**
 - **Not including references**
- **Maximum: 10 pages without references**

- References in APA style (suggested)

2. Assignments (20%): Weekly

The assignments are designed to facilitate academic application and integration of concepts presented in the videos.

Guidelines:

- Ten assignments throughout the term (equally weighted) with lowest 1 dropped
 - Length: 500-1000 words
- Questions originate from lecture material
 - Additional research and/or reading reading will be required
 - Example question: The video described differences in liver morphology between pigs and humans. Do these differences matter? Why or why not? Provide an example to support your claim.
- Paragraph form with references, if applicable

3. Final Exam (25%): To be scheduled

Guidelines:

- The questions will require long answers and/or short essays.
- This is a cumulative exam including in-depth topic lectures and student presentations

4. Student Presentations (25%): March 4, 2021

Guidelines:

- The intended audience is a panel of world leaders and scientists tasked with funding animal-related areas in need. As a group, inform them of an issue or problem relating to animals, the status of the issue and what can be done about it. Provide factual information, information based on peer-reviewed publications, and logical arguments to effectively convince your audience of your position.
- Each group will consist of 4 people
 - Sign-up will be arranged via OWL (announcement will be made when available)

PRESENTATION ASSIGNMENTS

1. Presentation Topic (1 point) due February 4, 2021

- A general topic will be provided, from which a specific subtopic will be chosen by the group and submitted.

2. Student feedback (4 points)

- The course schedule will be updated after groups have submitted topics; three videos will be scheduled per 'Student presentation' day (see detailed schedule).
- Evaluation forms will be due 7 days after the group video is scheduled.
- Evaluation feedback will be incorporated in the group's video and information sheet grade

3. Group presentation (10 points total): March 4, 2021
 - Provide a 12-15 minute video presentation
 - The presentation should be a critical assessment of a topic, not just facts
 - Create videos in VoiceThread via the course OWL site
 - <https://owlhelp.uwo.ca/instructors/tools/voicethread/index.html>
2. Topic information sheet (10 points): March 4, 2021
 - The group must provide an information text that will include central data related to their talk. The submission should be through OWL.
 - This can take whatever form you choose: pamphlet, text-only, brochure, etc.
 - The information sheet can be no more than 2 pages (equivalent to front/back of 1 sheet of paper).

Additional information

Information about late or missed evaluations:

- Late assessments without self-reported absences will be subject to a late penalty 10%/day
- Late assessments with self-reported absences should be submitted within 24 hours of the end of the 48-hour period
- An assessment cannot be submitted after it has been returned to the class; the weight will be transferred to the final grade
- A make-up final exam will be offered
- If a make-up assessment is missed, the student will receive an INC and complete the task the next time the course is offered

Turnitin:

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com <http://www.turnitin.com>

Gradescope:

Gradescope, a tool to help improve grading efficacy, will be utilized in this course. Assessments submitted through Gradescope will be graded manually, which means the grader will read each submission in its entirety before assigning marks. This tool is meant to help increase the efficiency of the marking process and provide constructive feedback. For more details, visit Western's Gradescope information page: <https://sts.sci.uwo.ca/help/gradescope.html>