Animal Health
POPM*4230
Fall 2014

Course Outline

Course Coordinator:
Dr. Terri O’Sullivan
Department of Population Medicine
Ontario Veterinary College
tosulliv@uoguelph.ca
OVC - Clinical Research Building
please note this building has a new name/sign “Department of Population Medicine”

Phone ext. 54079
Room 205

http://www.uoguelph.ca/campus/map/
http://www.uoguelph.ca/campus/map/clinicalres/

Appointments and Office Hours for Dr. O’Sullivan: There are no formal office hours however appointments will happily be accommodated. Please send an email to Dr. O’Sullivan to request an appointment. Please provide a few options within your request for an appointment to indicate what days and times work for you.

Please note Dr. O’Sullivan will be out of the office Oct 17-20th, 2014

Please direct all administration and class inquires, and appointment requests to Dr. O’Sullivan

Other Instructors: Dr. S LeBlanc sleblanc@uoguelph.ca
Dr. P Menzies pmenzies@uoguelph.ca
Dr. M Guerin mguerin@uoguelph.ca
Dr. E Tatone etatone@uoguelph.ca

Calendar description:
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c12/c12popm.shtml
POPM*4230 Animal Health F(3-0) [0.50]
This course examines the causes and effects of important diseases of food animals in Canada, with a focus on dairy cattle. Elements of physiology, epidemiology, microbiology, nutrition, and production management are integrated into a health management approach emphasizing disease prevention. The course is directed at senior undergraduate students with interest in, and knowledge of food animal production agriculture.

Prerequisite: ANSC*2340 or ANSC*3080

Course objectives:
At the end of the course, students should be able to:
- Describe health and disease in the context of health management
- Describe the association of common diseases with sub-optimum productivity or welfare
- Explain at a basic level the risk factors, etiology, clinical signs, interrelationships, and preventive management of common infectious and metabolic diseases of cattle, swine, small ruminants, and poultry
- Identify the relative importance of common diseases of cattle, swine, small ruminants, and poultry in Canada
- Explain the elements of a health management program for dairy cattle, beef cattle, swine, and small ruminants in Ontario
- Summarize the regulatory processes for drug approval and use in food animals in Canada, and the management considerations for drug use by veterinarians and producers
- List important zoonotic diseases of Canadian ruminants, swine, and poultry and their methods of transmission, and effects in humans
- List and describe important foreign animal diseases and understand the risk of incursion into Canada

Reference materials:
There is no required textbook for this course – the following list is suggested additional reading material
- Websites and additional readings posted on CourseLink during course
- Veterinary Medicine, 10th ed., Radostits et al.
- Herd Health, 3rd ed., Radostits et al.
- Merck Veterinary Manual, 10th ed.

Course evaluation:
- **30%**: Midterm examination – Thursday October 23, 2014 - IN CLASS 1:00pm-2:20PM. Will include multiple choice and short answer questions. Midterm will cover material from lectures 1-12.
- **30%**: Major written assignment - extension article – hard copy and electronic copy are both DUE Thursday October 30, 2014 by 1PM. Please see details below
• **40%**: Final examination - Date: **Wednesday December 3, 2014 11:30am-1:30pm**. Location TBA. Will include multiple choice and short answer questions. Final examination will be cumulative (lectures 1-24) but with an emphasis on material covered from lecture 13-24.

[https://www.uoguelph.ca/registrar/scheduling/exam_fall](https://www.uoguelph.ca/registrar/scheduling/exam_fall)

**Make-up Examinations:**
Make-up examinations will be permitted for documented medical, psychological and/or compassionate reasons, in accordance with the Undergraduate Calendar.

[https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml)

**Academic Misconduct:**
Students are urged to familiarize themselves with and abide by the University of Guelph’s policy on academic misconduct and in particular the definition of plagiarism. **These policies and regulations will be enforced.**

[https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c01/index.shtml](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c01/index.shtml)

[https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml)

**Students with disabilities:**
If you suspect you may have a disability that will affect your learning in this course, you are strongly encouraged to consult the Centre for Students with Disabilities (CSD).

[http://www.uoguelph.ca/csd/](http://www.uoguelph.ca/csd/)

Students who require academic consideration due to a disability must first contact the CSD. The Centre will review the student’s documentation regarding the disability and assist the student in making the appropriate arrangements with the instructor.
Major Written Assignment – Extension Paper – 30% of Final Grade

The objectives of this assignment are:

- To apply information and concepts of health in food-producing animals in Canada to a topical question in food-animal health
- To efficiently but critically research the science behind management practices and recommendations for the rearing of food-animals in Canada and the impact on animal welfare and food safety
- To develop and demonstrate skill in written presentation of accurate scientific information to a lay audience for practical application

The paper will be an extension article on a current topic in food animal health, aimed at a producer or lay public audience, such as might appear in the agricultural media e.g. Ontario Farmer, Pork News and Views (OMAFRA), Ontario Hog Farmer, Hoard’s Dairymen. Assume your audience is involved in the food animal industry, but does not necessarily have any formal post-secondary education. You are expected to research your selected topic and use this knowledge and information to interest and educate your readers with a practical message.

***Be as specific as possible: exactly what do you recommend, when, to whom, under what conditions? Support your advice with quantitative evidence, examples, and economics.

***You must do the research for and write this paper independently. It is acceptable and encouraged to have a peer review and make suggestions on a draft of your paper. It is not acceptable to collaborate with classmates or others to gather or synthesize information or to write the content of your paper***

Assignment topics: May be chosen from the following list or you may select a different topic in consultation with the course coordinator

- How should cows be vaccinated to prevent abortion?
- Should dairy calves be vaccinated against respiratory disease before weaning?
- Is animal health and welfare compromised on organic farms (Dairy, Beef or Swine)?
- How much can a dairy producer afford to spend to prevent displaced abomasum (LDA)?
- Should dairy farmers use milk antibiotic residue test kits?
- Can transition dairy cow nutrition prevent mastitis in early lactation?
- Are antibiotic residues in meat or milk [choose one] a threat to human health?
- Should cows be vaccinated to prevent scour in their calves? [beef or dairy]
- Should growth-promotion implants be used in beef feedlot cattle?
- What should Ontario swine producers do to reduce losses due to Circovirus?
- What should Ontario swine producers do to reduce losses due to PRRSv?
- What biosecurity practices should Ontario pork producers implement?
- What is the impact of lameness on sow performance and welfare?
- What considerations should a swine producer take to transition to group sow housing?
What would be the impact of a foreign animal disease (pick one) outbreak on Canadian livestock industry (pick one)?
Should beef producers pre-vaccinate calves prior to sale?
Is it profitable to control caprine arthritis encephalitis in goat herds?

Written assignment format and length:
The paper must contain the following:

1. A title page must be provided and contain the following information: Paper title, date, student name, course name
2. The body of the paper must be a minimum of 2 pages but no more than 4 pages long
3. The paper must be printed single-sided, double-spaced in 12-point Times New Roman font with 2.5 cm page margins
4. A reference list must be provided on separate page after the body of the paper
   • References must be relevant to the topic, minimum of 3-5 primary source PEER REVIEWED scientific papers
   • Maximum of 10 total references
   • Websites, extension articles, lay press, commercial information are acceptable to COMPLEMENT the scientific references
5. The text should be referenced according to the style of the Canadian Veterinary Journal. Please refer to the Author guidelines for the Canadian Veterinary Journal for reference formatting guidelines

http://www.canadianveterinarians.net/documents/instructions-to-authors-cvj

A printed copy must be handed in AND the file posted on Courselink by the deadline

Assignment Grading – this paper is worth 30 % of the final course grade, broken down as follows:

NOTE – failure to adhere to the format above will result in a deduction of 5 marks. Read the formatting requirements carefully and also read the CVJ reference formatting guidelines carefully. Each spelling and grammatical error will result in a deduction of 1 mark up to a maximum of 5 marks.

• 10% Presentation: respect of format guidelines, spelling, grammar, general coherence of writing, attention-getting title without being sensationalistic. Attention-getting opening paragraph with a clear explanation of the animal health issue presented and its importance to the industry

• 10% Content and soundness of scientific content: inclusion of specific scientific evidence, facts, and quantitative information for the animal health issue presented. Mention of uncertainty of statements made where applicable. Ability to critically
synthesize the scientific information into a clear message and not just summarize the information

- **10% Communication:** ability to explain scientific points to lay readers, delivery of a clear, specific, and applicable message about the animal health issue presented. i.e. why is this important? Inclusion of basic economic costs and benefits for the specific recommendation(s) made. Clear conclusion and closing statement, article does not end abruptly

**Assignment Due Date:** Assignments are due to Dr. O’Sullivan by Thursday October 30, 2014 by 1:00 pm. A printed copy is due by 1PM on Thursday October 30\textsuperscript{th} and an electronic copy posted on CourseLink Dropbox is also due by 1PM on Thursday October 30\textsuperscript{th}.

Of course, you may hand in your assignments early!

**Late papers** will have an initial deduction of 10 marks if either hard copy or electronic copy is not handed in on time by 1PM on Thurs Oct 30\textsuperscript{th}, 2014. An additional deduction of 5 marks for each day late after Oct 30, 2014 will apply after that.

**Grades:**
The following is taken from the University of Guelph undergraduate calendar and describes the criteria for and meaning of grade scores.

[http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-grds-proc.shtml](http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-grds-proc.shtml)

80 - 100 (A) **Excellent.** An outstanding performance in which the student demonstrates a superior grasp of the subject matter, and an ability to go beyond the given material in a critical and constructive manner. The student demonstrates a high degree of creative and/or logical thinking, a superior ability to organize, to analyze, and to integrate ideas, and a thorough familiarity with the appropriate literature and techniques.

70 - 79 (B) **Good.** A more than adequate performance in which the student demonstrates a thorough grasp of the subject matter, and an ability to organize and examine the material in a critical and constructive manner. The student demonstrates a good understanding of the relevant issues and a familiarity with the appropriate literature and techniques.

60 - 69 (C) **Acceptable.** An adequate performance in which the student demonstrates a generally adequate grasp of the subject matter and a moderate ability to examine the material in a critical and constructive manner. The student displays an adequate understanding of the relevant issues, and a general familiarity with the appropriate literature and techniques.

50 - 59 (D) **Minimally Acceptable.** A barely adequate performance in which the student demonstrates a familiarity with the subject matter, but whose attempts to examine the material in a critical and constructive manner are only partially successful. The student displays some understanding of the relevant issues, and some familiarity with the appropriate literature and techniques.

0 - 49 (F) **Fail.** An inadequate performance.
Animal Health (POPM*4230)
All lectures Tuesdays and Thursdays 1:00 – 2:20 pm, RICH 2520

- All lectures 1:00 pm – 2:20 pm, Richards Building Room 2520
  http://www.uoguelph.ca/campus/map/
  http://www.uoguelph.ca/campus/map/richards/

- Friday October 31, 2014: 40th class day – last day to drop one semester courses – please refer to Undergraduate Calendar schedule of dates
  https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c03/c03-fallsem.shtml

- The order and amount of time allotted to each topic may be modified during the course of the semester

**Lecture Schedule**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thursday</td>
<td>Sept 4</td>
<td>Classes commence</td>
<td>O’Sullivan</td>
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<tr>
<td></td>
<td></td>
<td>Classes commence</td>
<td>Class Introduction and Introduction to Disease</td>
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<tr>
<td>2</td>
<td>Tuesday</td>
<td>Sept 9</td>
<td>Health Management &amp; Discussion of Major Written Assignment – Extension Paper</td>
<td>O’Sullivan</td>
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<tr>
<td>3</td>
<td>Thursday</td>
<td>Sept 11</td>
<td>Immunology and Vaccination</td>
<td>O’Sullivan</td>
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<tr>
<td>4</td>
<td>Tuesday</td>
<td>Sept 16</td>
<td>Drug use in food animals - antimicrobial use</td>
<td>Guest Lecture Dr. Deckert</td>
</tr>
<tr>
<td>5</td>
<td>Thursday</td>
<td>Sept 18</td>
<td>Exotic and Zoonotic Diseases</td>
<td>O’Sullivan</td>
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<tr>
<td>6</td>
<td>Tuesday</td>
<td>Sept 23</td>
<td>Dairy - Calf health</td>
<td>LeBlanc</td>
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<tr>
<td>7</td>
<td>Thursday</td>
<td>Sept 25</td>
<td>Dairy - Heifer health management</td>
<td>LeBlanc</td>
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<tr>
<td>8</td>
<td>Tuesday</td>
<td>Sept 30</td>
<td>Dairy - Infectious diseases</td>
<td>LeBlanc</td>
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<tr>
<td>9</td>
<td>Thursday</td>
<td>Oct 2</td>
<td>Dairy - Reproductive disease</td>
<td>LeBlanc</td>
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<tr>
<td>10</td>
<td>Tuesday</td>
<td>Oct 7</td>
<td>Dairy - Transition Health Management</td>
<td>LeBlanc</td>
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<tr>
<td>11</td>
<td>Thursday</td>
<td>Oct 9</td>
<td>Dairy - Transition Health Management</td>
<td>LeBlanc</td>
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<tr>
<td></td>
<td>Tuesday</td>
<td>Oct 14</td>
<td><strong>No Classes</strong></td>
<td>Fall Study Break Day</td>
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<tr>
<td>12</td>
<td>Thursday</td>
<td>Oct 16</td>
<td>Dairy - Udder health</td>
<td>LeBlanc</td>
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<tr>
<td>13</td>
<td>Tuesday</td>
<td>Oct 21</td>
<td>Beef Health Management Cow-Calf</td>
<td>Tatone</td>
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<tr>
<td>14</td>
<td>Thursday</td>
<td>Oct 23</td>
<td>Midterm – In class Covers material from lectures 1-12</td>
<td>O’Sullivan</td>
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<tr>
<td>15</td>
<td>Tuesday</td>
<td>Oct 28</td>
<td>Beef Health Management Feedlot</td>
<td>Tatone</td>
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<tr>
<td>16</td>
<td>Thursday</td>
<td>Oct 30</td>
<td>Swine - industry and biosecurity Major Writing Assignment Due Extension Paper Printed copy due to Dr O’Sullivan before start of class and electronic copy via CourseLink Dropbox Due by 1PM MIDTERM TAKE UP</td>
<td>O’Sullivan</td>
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<tr>
<td>17</td>
<td>Friday</td>
<td>Oct 31</td>
<td>40th Class day</td>
<td>40th Class day Last drop day</td>
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<tr>
<td>18</td>
<td>Tuesday</td>
<td>Nov 4</td>
<td>Swine Health - nursing piglet</td>
<td>O’Sullivan</td>
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<tr>
<td>19</td>
<td>Tuesday</td>
<td>Nov 11</td>
<td>Small Ruminant Health Management #1</td>
<td>Menzies</td>
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<tr>
<td>20</td>
<td>Thursday</td>
<td>Nov 13</td>
<td>Small Ruminant Health Management #2</td>
<td>Menzies</td>
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<tr>
<td>21</td>
<td>Tuesday</td>
<td>Nov 18</td>
<td>Poultry Health Management #1</td>
<td>Guerin</td>
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<tr>
<td>22</td>
<td>Thursday</td>
<td>Nov 20</td>
<td>Poultry Health Management #2</td>
<td>Guerin</td>
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<tr>
<td>Date</td>
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<td>Instructor</td>
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<tr>
<td>23</td>
<td>Tuesday</td>
<td>Nov 25</td>
<td>Swine Health - Grow/finisher pig health</td>
<td>O’Sullivan</td>
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<tr>
<td>24</td>
<td>Thursday</td>
<td>Nov 27</td>
<td>Swine - sow health and reproductive disease and Course wrap-up and course evaluations!</td>
<td>O’Sullivan</td>
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<tr>
<td></td>
<td>Important Date</td>
<td>Dec 3</td>
<td>FINAL EXAM Location TBA</td>
<td>O’Sullivan</td>
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<tr>
<td></td>
<td>Wednesday</td>
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<td>11:30-13:30</td>
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