

## Animal Health (POPM\*4230) - Fall 2010

### Course Outline

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**Calendar description:** 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-optimal productivity or welfare
- ❑ At a basic level, explain the risk factors, etiology, clinical signs, interrelationships, and approaches to preventive management of common infectious and metabolic diseases of cattle, swine and small ruminants
- ❑ Identify the relative importance of common diseases of cattle and swine 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, as well as the management considerations for rational drug use by veterinarians and producers.
- ❑ List important zoonotic diseases of Canadian ruminants and swine, the methods of transmission, and their effects in humans.

**Reference materials:**

- Merck Veterinary Manual, 8<sup>th</sup> ed. (library or online, linked through Blackboard)
- Websites and additional readings posted on Blackboard
- Veterinary Medicine, 10<sup>th</sup> ed., Radostitis et al. (available on reserve in the library)
- Herd Health, 3<sup>rd</sup> ed., Radostitis et al. (available on reserve in the library)

**Course Details:**

This course is comprised of a series of lectures, through the fall semester on each Tuesday and Thursday. The lecture material commences with some general principles of health, disease, and health management. Subsequently, the lectures will move through a logical progression of animal health topics, with a primary emphasis on dairy cattle. In addition, there will be shorter series of lectures on small ruminants, swine and beef cattle. The lecture materials will be posted on CourseLink@Guelph (D2L) under Course Content. As much as is feasible, the lecture material will be posted one week in advance of each lecture. As the course progresses, questions concerning general understanding, clarification of concepts, further details, or other topics should be posted on D2L, either on a general discussion board or on a discussion board for specific information about aspects of the course content. All questions related to the course material should be posted in this manner. Questions of a personal concern can be directed to me at: keleslie@uoguelph.ca.

The iClicker system will be used in this course. To be specific, iClicker questions will be interspersed within some of the lecture material. This system, and responses, will be used largely to gather input for the purpose of refining the lecture content and delivery format, in order to ensure maximum understanding of the course material. The iClicker responses will also be an indicator of student participation and involvement, comprising 5% of the course grade.

The method of evaluation for this course will consist of a midterm examination (held during a regular lecture timeslot on Tuesday, October 26<sup>th</sup>), a final examination scheduled for Thursday, December 16<sup>th</sup>, and a two-part assignment that is due in early October (Part A) and early November (Part B). The midterm and final examinations will be largely composed of multiple choice questions, perhaps with some questions in a short answer format. These examinations will comprise 75% of the course grade. The remaining 20% of the course grade will be for an Extension Education Assignment. This assignment will be in two parts, and is described in detail in a following section of this course outline.

**Notes**

1) 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, found at:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/2010-2011/c08/c08-amisconduct.shtml>

These policies and regulations will be enforced.

2) You must do the research for and write these assignments 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.

## **Course Evaluation:**

Extension Education Assignment Part A – Tuesday, October 12, 2010	8%
Midterm Examination – Tuesday, October 26, 2010, in class May include multiple choice and/or short answer questions	25%
Extension Education Assignment Part B – Thursday, November 11, 2010	12%
iClicker Participation	5%
Final Examination (cumulative) – December 16, 2010, 8:30-10:30am, location TBD May include multiple choice and/or short answer questions	50%

### ***Extension Education Assignment:***

This extension education assignment involves reading and interpreting a peer-reviewed scientific manuscript from the dairy cattle research literature, and creating a synopsis statement of the key findings and general impact of the research described in the paper. In addition, this assignment involves searching for, identifying, and briefly summarizing other research in the topic area of the manuscript assigned in Part A.

The objectives of this assignment are:

- ❑ To utilize information and concepts from the Animal Health course to interpret a scientific manuscript from the dairy health management literature.
- ❑ To critically investigate scientific literature on a specific dairy health management topic, to summarize the overall status of our knowledge base, and identify meaningful practices and recommendations.
- ❑ To develop and demonstrate skill in written presentation of accurate scientific information to an agricultural producer audience for practical application.

### **Part A**

This part of the assignment should be written such as an extension education note, which is aimed at a dairy producer audience. This short article is such as would appear in the “Farm Flashes” section of Hoard’s Dairyman, or the “Research” section of the Milk Producer publication. It should be assumed that the audience for this article is involved in the dairy industry, but does not necessarily have any formal post-secondary education. It is expected that the key findings and the interpretation of the results, from the research paper, are clearly presented. Furthermore, the research information should be transformed into knowledge, that will be of interest to, and educational for, the readers. In other words, the “Farm Flash” should be very specific, and state exactly what is recommended from the findings of the research reported in the manuscript.

## **Part B**

From a search of the peer-reviewed published literature related to the general subject area of the manuscript assigned in Part A, three (3) other very pertinent papers should be identified and cited. Using these publications, a short interpretative summary should be written to describe whether these three manuscripts support, or convey different findings, from the original assigned paper. As well, an overall conclusion of this literature should be stated. Again, this summary should be written in a succinct and clear manner, yet still suitable for dissemination to the dairy industry.

### ***Details of the Assignment:***

As described above, the Assignment Part A should be constructed in the general format of a "Farm Flash" submission in Hoard's Dairyman. An example of this format, as well as the scientific manuscript associated with the example, can be found on D2L under the "Assignments" link in the Course Content section. The specific manuscript that is assigned for each course participant will be individually sent as a message on D2L.

Assignment Part A should be printed double-spaced in 12-point font with standard page margins. The length of this assignment should be less than 250 words. It is due on Tuesday, October 12, 2010. A printed copy must be handed in at the beginning of the lecture AND the file posted on D2L before 1:00pm on the deadline date. Late papers will have an initial deduction of 4 marks, and an additional deduction of 2 marks each day after the due date.

Part A of this assignment is worth 8% of the final course grade, broken down as follows:

- 2% - Presentation – respect of format guidelines, spelling, grammar, general coherence; attention-getting title; clear conclusion. NB – failure to adhere to the format above will result in a deduction of 4 marks
- 4% - Soundness of scientific content, including specific evidence, facts, and quantitative information
- 2% - Ability to explain scientific points to lay readers; delivery of a clear, specific, and applicable message

Assignment Part B should be printed double-spaced in 12-point font with standard page margins. The length of this assignment should be less than 500 words. It is due on Thursday, November 11, 2010. A printed copy must be handed in at the beginning of the lecture AND the file posted on D2L before 1:00pm on the deadline date. Late papers will have an initial deduction of 4 marks, and an additional deduction of 2 marks each day after the due date.

Part B of this assignment is worth 12% of the final course grade, broken down as follows:

- 4% - Presentation – respect of format guidelines, spelling, grammar, general coherence and building to a clear conclusion.
- 4% - Soundness of the scientific importance of the three (3) selected manuscripts that relate to the assigned paper. This aspect includes the presentation of specific evidence and quantitative information from the selected papers.
- 4% - Ability to describe a scientific synopsis of the literature identified, including the originally assigned paper that is clear and specific, as well as suitable for a broad audience, including dairy producers.

## University of Guelph Policy: Grades

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

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 Lecture Schedule  
Fall 2010**

All lectures 1:00 pm – 2:20 pm, Axelrod 200

Lecture	Day	Date	Topic	Lecturer
1	Thursday	Sept. 9	Introduction to disease	LeBlanc
2	Tuesday	Sept. 14	Health management	Leslie
3	Thursday	Sept. 16	Swine	Dewey
4	Tuesday	Sept. 21	Swine	Dewey
5	Thursday	Sept. 23	Swine	Dewey
6	Tuesday	Sept. 28	Calf health	Leslie
7	Thursday	Sept. 30	Heifer health	Leslie
8	Tuesday	Oct. 5	Immunology and vaccination	Leslie
9	Thursday	Oct. 7	Vaccination and infectious disease	Leslie
10	Tuesday	Oct. 12	Selected infectious diseases of cattle <b>(Assignment Part A due)</b>	Leslie
11	Thursday	Oct. 14	Udder health management	Leslie
12	Tuesday	Oct. 19	Metabolic disease/transition	Leslie
13	Thursday	Oct. 21	Metabolic disease/transition	Leslie
14	Tuesday	Oct. 26	<b>Midterm</b> – in class	Leslie
15	Thursday	Oct. 28	Small ruminant HM	Leslie
16	Tuesday	Nov. 2	Small ruminant HM	Leslie
17	Thursday	Nov. 4	Exotic & zoonotic disease	Kelton
18	Tuesday	Nov. 9	Lameness	Leslie
19	Thursday	Nov. 11	Reproductive disease <b>(Assignment Part B due)</b>	LeBlanc
20	Tuesday	Nov. 16	Cow comfort	Leslie
21	Thursday	Nov. 18	Beef HM - Cow/calf	Leslie
22	Tuesday	Nov. 23	Beef HM - Feedlot	Leslie
23	Thursday	Nov. 25	Drug use in food animals	Leslie
24	Tuesday	Nov. 30	Course wrap-up	Leslie
<b>Final Exam</b>	Thursday	Dec. 16	8:30am-10:30am, location TBD	

Drop Course Deadline = Thursday, November 4, 2010

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