INSTRUCTOR:
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Administrator:  
Dr. Rhonda Pinckney  
Pathobiology Academic Program  
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COURSE DESCRIPTION/OBJECTIVES

Description: The course will focus on the biology, epidemiology and control of clinically important  
nematode parasites of ruminants and horses. Emphasis is placed on clinical and diagnostic issues  
relating to host-parasite interactions and the development of evidence-based parasite control programs.  
Traditional programs for parasite control are no longer valid and often fail due to the high prevalence of  
anthelmintic resistant parasites. Consequently, new strategies and approaches are required that consider  
broad issues relating to the biological factors associated with the development of drug resistance as well  
as modern principles of evidence-based veterinary medicine. This course will cover broad issues relating  
to host-parasite interactions, parasite epidemiology, parasite diagnosis, and the development of drug  
resistance. This information will then be used to explain how to control parasites in ruminants and  
horses using evidence-based principles, and how drug resistance can be prevented and managed, while  
still achieving superior parasite control that is sustainable.

Registration: contact Dr Rhonda Pinckney.

Prerequisite: Term 3 students or above or alternatively proof of having completed a Parasitology  
course.

Objectives: Upon completion of this course, students will be able to diagnose and treat parasitic  
infections of ruminants and horses and design medically sound parasite control programs tailored to the  
needs of individual farms.

GRADING POLICY:
A = 90% or >  
B+ = 85-89.4%  
B = 80-84.4%  
C+ = 75-79.4%  
C = 70-74.4%  
D+ = 65-69.4%  
D = 60-65.4%  
F = 59.4% or <

Scheduled Quizzes 60%  three – 30 minute quizzes  
Class Project 40%
TEXT/REFERENCE MATERIAL:

No textbooks are required; reference material will be taken from the current veterinary literature. Required readings will be provided as pdf files on the class web page or will be distributed. Content of these assigned readings will be considered as testable material. Additional optional readings also will be made available on the Angel class web site.

CLASS PROJECT:

Each student will select a primary research paper (as opposed to a review paper) from the veterinary literature dealing with some aspect of parasite control (i.e., drug efficacy trial, survey of anthelmintic resistance, novel parasite control method, parasite epidemiology, parasite diagnosis, pathophysiology of parasitic disease, etc). The paper should be fairly recent (published in the last 5 years), or can be an older paper of historical importance. Students will prepare a 10-12 minute PowerPoint presentation that addresses the following:

1. Background as to why the research project was performed
2. What was done – overview of methods etc.
3. Who did the work – what research facility was it performed at? How many publications do the first author and last author have? Do they have many other publications in this area of research?
4. What was learned as a result of the research?
5. Assessment of the quality of the research that was performed (include any criticisms you have).
6. What impact do you think this paper has had, or might have on how parasite control is practiced?

To properly answer these questions you will need to read a few other papers in the same area of study. Reference all research papers and other sources (books, web sites, etc.) that are used in the writing of your paper on a final slide in your presentation. At least 2 other original research papers must be cited in addition to any review papers, books or web sites. All papers selected for the class project must be approved in advance by Dr. Kaplan.

LECTURES: (There will be a 30-45 minute discussion period following lectures 2, 4, 6, 8, and 10)

1. Introduction to course, Host-parasite interactions, Pathological impact of parasites
2. Epidemiology of nematode transmission, Concepts and principles in the control of gastrointestinal nematodes, Interpretation and use of fecal egg counts in clinical practice
3. Ruminant anthelmintics and considerations for appropriate drug choice
4. Equine anthelmintics and considerations for appropriate drug choice
5. Anthelmintic resistance I

Quiz 1: lectures 1-4

6. Anthelmintic resistance II
7. Parasite control programs for sheep/goats

Quiz 2: lectures 5-6 + selected required readings

8. Parasite control programs for cattle
9. Parasite control programs for horses I
10. Parasite control programs for horses II
Quiz 3: lectures 7-10

Class Presentations

LAB:

1. Visit local sheep or goat farm: perform FAMACHA, collect blood for PCV, collect fecal samples for FEC, do body condition scoring (store samples)

2. Perform FEC and PCV on previously collected samples, discuss results from lab

3. Perform FEC on fecal samples from horses, discuss results