

COURSE SYLLABUS
Diseases of Wildlife – PATB 4120/5120
Spring 2008

Instructor: Dr. Todd Cornish

E-mail: Tcornish@uwyo.edu

Phone: 742-6638

Office Hours: After class or as arranged

Office: 118A Wyoming State Veterinary Laboratory (1174 Snowy Range Road)

Graduate Assistants: Dave Edmunds (Edmunds@uwyo.edu)

Amanda Fluegel (Afluegel@uwyo.edu)

Course Prerequisites: 12 hours of biological or zoological sciences or consent of instructor.

Course Description: Diseases of wildlife will be examined with emphasis on causes and mechanisms of disease, pathobiology of disease, and epidemiology and population significance of disease. Broad categories of wildlife diseases, including viral, bacterial, fungal, parasitic, metabolic, traumatic, toxic, and neoplastic processes will be covered.

Disability Statement: If you have a physical, learning, or psychological disability and require accommodations, please let the instructor know as soon as possible. You must register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall.

Course Objectives:

1. To become familiar with and understand the terminology and techniques used in the study of animal diseases, with emphasis on wildlife.
2. To learn about some of the important diseases of wildlife, particularly those of Wyoming and the Rocky Mountain west, including diseases transmissible between humans, domestic animals, and wildlife.
3. To become familiar with the wildlife disease literature and sources of information.
4. To understand how the knowledge and study of wildlife diseases are integrated into the field of wildlife management and conservation.
5. To gain experience in written (term papers and examinations) and oral (student reports and class participation) communication.

Approach to Instruction: The class will be presented in a variety of formats including lectures, often illustrated by slides of techniques, diseases and lesions discussed. Video presentations may be used when available for the particular topic. Discussion is encouraged! There will be several guest lecturers during the course to take advantage of expertise across disciplines – students will be required to adapt to different lecture styles and techniques. Some classes will start with a discussion of ongoing wildlife diagnostic cases being evaluated at the Wyoming State Veterinary Laboratory, in order to familiarize the class with techniques used, interpretation of the results, and to give practical appreciation of what is involved in actual study of wildlife diseases. Students will be invited to participate in necropsy or other examinations at the Wyoming State

Veterinary Laboratory during the course of the semester, and if possible, there will be opportunities to become involved with wildlife disease field investigations or field research projects. Participation is optional (but strongly encouraged) for 4120 students; 5120 (graduate) students will participate in three necropsy/case studies during the semester and will prepare three case reports to be submitted for a grade. All students (in pairs or small groups) will give oral presentations on wildlife diseases significant to Wyoming and western North America, in PowerPoint or other format.

Texts/Readings: Textbooks are optional, but the following books and journals are recommended as reference sources or for your personal library (most of these are available at UW libraries, or may be checked out from the course instructor):

- Infectious Diseases of Wild Mammals; Williams and Barker (Eds.), Iowa State University Press, 2001
- Parasitic Diseases of Wild Mammals; Samuel, Pybus, and Kocan (Eds.), Iowa State University Press, 2001
- Noninfectious Diseases of Wildlife; Fairbrother, Locke, and Hoff (Eds.), Iowa State University Press, 1996
- Infectious Diseases of Wild Birds; Thomas, Hunter, and Atkinson (Eds.), Blackwell Publishing, 2007
- Diseases of Wild Waterfowl; Gary Wobeser, Plenum Press, 1997
- Field Manual of Wildlife Diseases in the Southeastern United States; William R. Davidson and Victor F. Nettles, Southeastern Cooperative Wildlife Disease Study, 2006
- Handbook of Wildlife Chemical Immobilization; Terry J. Kreeger, Wildlife Pharmaceuticals Inc., 2002
- The Merck Veterinary Manual; Merck & Co., Inc., 2005
- *Journal of Wildlife Diseases* (journal)
- *Journal of Zoo and Wildlife Medicine* (journal)
- *Avian Diseases* (journal)

Course Requirements/Assignments: There will be two (2) midterm examinations held during class hours. There will be one (1) final examination held during the appropriate UW scheduled block time during finals week. All students will prepare and give one (1) oral presentation in pairs or small groups on topics to be assigned early in the course, as described below. All graduate students enrolled in PATB 5120 will complete three (3) case reports, based on materials provided during laboratory sessions to be held at the Wyoming State Veterinary Laboratory, and all graduate students enrolled in PATB 5120 also will prepare and submit one term paper as described below.

Grading Standards/Examinations: Midterm and final examinations generally will be in short answer, matching, and short essay format. The final examination will be cumulative. The questions will cover technique and disease material covered in class, as well as present practical situations that will require knowledge and synthesis of the subjects discussed in class. Grading will follow the standard format (90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, < 60 = F) and will be weighted as follows:

Grading:

	<i>Pathobiology 4120</i>	<i>Pathobiology 5120</i>
Examination 1	25%	20%
Examination 2	25%	20%
Final Examination	35%	25%
Oral presentation	15%	15%
Term Paper	N/A	15%
Case Reports	<u>N/A</u>	<u>5%</u>
	100%	100%

Attendance/Participation Policy: University sponsored absences must be cleared through the Office of Student Life. Absences for other reasons must be cleared with the course instructor ahead of time – course attendance is mandatory and you are expected to demonstrate personal responsibility and initiative and attend each class session.

Academic Honesty: The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean.

The instructor may make changes to the syllabus as the course proceeds. If necessary, these changes will be announced in class.

ORAL PRESENTATIONS (ALL STUDENTS)

Objectives:

1. To gain experience in gathering, organizing, and presenting scientific information for professional oral presentations.
2. To gain experience in fielding questions from an audience.
2. To learn about a specific wildlife disease problem, and to educate your audience (classmates) about this subject.

Approach: Each student pair or group will be assigned a subject of contemporary interest in wildlife disease ecology/management. A short (1-2 page) informational handout/fact sheet will be prepared for dissemination to classmates in the class period **prior to** the oral presentation. The group will prepare an approximately 25-minute presentation for the class with 10 minutes for questions. It is your decision how to divide up the work and present the information. Each team member must participate equally. The goals are to inform the class of the problem, some facts about the disease in question, the implications of the disease, and possible recommendations for managing the problem.

Format: Student groups may use any format they prefer for these oral/visual presentations – PowerPoint or similar vehicles are recommended, but are not required, as long as the pertinent information is relayed to the audience. Controversy is not to be avoided, careful use of humor is appropriate, and please feel free to be creative!

Responsibilities of the Class: The members of the class will be required to ask questions appropriate for the particular scenario that is being discussed. Class participation is critical to successful completion of these assignments!

TERM PAPER (PATB 5120 STUDENTS)

The purposes of this assignment are: 1) to acquaint you with the literature in the area of wildlife diseases, 2) to give you the opportunity to learn about a subject in the field of wildlife diseases in greater detail than could be covered in class, 3) to give you practice in writing and provide you with a chance to work in appropriate professional style.

Subject: You are requested to write a **SHORT review paper** in Journal of Wildlife Diseases style. Readers of this journal are multidisciplinary international scientists, biologists, and knowledgeable nonscientists. The subject of this review paper is your choice. However, I expect that you will choose a subject that you don't know much about (I want you to learn something!). Originality is appreciated. Feel free to come and talk to me for topic approval or for help in choosing an appropriate topic.

Proposed topic: due February 29: Please provide me with a short (no more than one page) proposal for your term paper. This will include a proposed title, why you chose the topic, and preliminary ideas about how you will address the subject of your paper.

Final term papers: due May 1: Papers should be typed, double spaced, in Journal style, with appropriate citations of the literature. They should be prepared in a professional manner. You should consult issues of the Journal of Wildlife Disease for appropriate style. These review papers should be long enough to adequately cover the subject (~ 5 to 10 pages, excluding literature cited). Instructions to authors for the journal may be found at: http://www.wildlifedisease.org/Documents/JWD/JWD_Changes_6_06.pdf

Evaluation criteria:

Content: The subject of the paper should be adequately reviewed to provide a technical overview and to let me know you have a solid grasp of the subject. The information included in the paper should be accurate and current. Logical organization and clear concise writing are important. Literature cited should be appropriate, accurate, and complete. Critical evaluation of the literature, including pro and con arguments, summary statements, the current state of knowledge/science, and gaps in knowledge are important to address. I recommend you read several review papers to gain an appreciation of the art before beginning your paper. Content will constitute 90% of the grade.

Mechanics/Style: The paper should be written in the third person, past-tense, adhering to the proper JWD format. Mechanics are important for a professional job. Spelling, punctuation, and grammar should be correct and **do count**. The final report must be proofread. Mechanics/style will constitute 10% of the grade.

CASE REPORTS (PATB 5120 STUDENTS)

You will be required to submit three complete case reports from wildlife necropsies conducted at the Wyoming State Veterinary Laboratory (WSVL). The choice of cases is up to you. You should let me review your first case report to be sure that the format, approach, and content are appropriate – please obtain sample reports from me prior to writing your first report!

The case reports will consist of a gross necropsy description, following the general format on the template provided. Sentences should be complete. Necropsy reports can be written in either present or past tense. Gross descriptions should provide information on the lesions you observe at necropsy, using correct terminology and anatomic locations, so that a reader can effectively visualize in their mind what you have seen (in essence, you are painting them a “mental picture” of your necropsy observations) – I encourage you to take advantage of the expertise of the person leading the necropsy examination (usually Dr Cornish or Dr. Tate) – ask questions until you have terminology down and are comfortable with making descriptions! You should not make conclusions as to the diagnosis at this point in the report - just provide the description.

The second portion of the case report should include results from laboratory tests, if any. This would also include the microscopic findings. I will provide you with this information on the cases you select.

The third portion of the case report should be your interpretation and conclusions as to the cause of death, based on the gross and laboratory findings. You probably will have to consult with diagnosticians at the WSVL conducting the tests or the literature to understand the significance of the laboratory tests.

Finally, you should provide a brief (less than one page) review of the disease and implications of the findings for the wildlife manager – this is where you tell your biologist, warden, or other field colleague what the problem is, what it means, and what can be done about it.