Wildlife Diseases – WLF 305, Spring 2016
CRN: 37375
Dr. Todd O’Hara (draft March 9, 2016)

Department of Veterinary Medicine

Syllabus & Course Objectives
Original Documents provided courtesy of Dr. John Blake, Attending Veterinarian
(adapted by O’Hara)

Murie 303 (lecture and lab; smart classroom/lab)
*suite requires escort into secured facility

3 credits, Prerequisites: Biol 310 or Biol 115 and 116.

Instructor, Dr. Todd O’Hara; Teaching Assistant; Amanda Grimes

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Office Hours: By Appointment (one on one meeting about presentations)

WLF F305 Wildlife Diseases 3 Credits
Basic concepts of parasitic, infectious, environmental and nutritional diseases. Specific study of Alaska wildlife diseases. Basic necropsy technique and chemical immobilization. Special fees apply. Prerequisites: BIOL F115X and BIOL F116X or equivalent; or permission of instructor. Recommended: BIOL F310. (2+3)


Website for USGS texts
Field Manual of Wildlife Disease (this is cited in the syllabus)
http://www.nwhc.usgs.gov/publications/disease_emergence/
Disease Emergence and Resurgence: The Wildlife-Human Connection

Helpful website - http://www.wildlifeinformation.org

Course policies

Attendance/tardiness:
Attendance is vital to the grade. Much, if not all, of the exam information will be based on information from lectures, notes, discussion, laboratory exercises, etc. during class and from activities in the laboratory. “Notes” from lectures must be obtained from another student when absence is unavoidable. Attendance is recorded occasionally to maintain an idea of who is actually attending. Repeated tardiness will be noted. Out of respect for the instructor and classmates please be on time – disruptive tardiness is not appreciated and is considered in the participation grade. Laboratories cannot be missed without prior permission, they are impossible to make up due to the nature of our work (e.g., necropsies, handling biological materials).
Missing laboratories inherently will impact the final grade.

**Making up an Exam**
An exam may be taken ahead of schedule if a suitable time can be agreed upon if there is a good reason. Exams can be made up after the scheduled date but this is at the discretion of the instructor (i.e., it is not guaranteed) and a very good reason for missing the exam must be documented. The instructor often requests input from the Biology and Wildlife Department Chair on how to best handle these situations. The make-up exam, or the early exam, will not be the same exam given to the other students. There will only be one make-up exam offered. Students who miss more than one exam will have difficulty passing the course.

**Plagiarism**
Simply will not be tolerated in any form. When in doubt cite and quote your sources. If you do not know what this refers to please meet with Dr. O’Hara or the TA. In the past, plagiarism has resulted in student dismissal from the class with no financial refund. Dismissal from the University is an option for the instructor and Dean of Students to choose. There is software available that can easily check for duplicated text. All assignments must be submitted in Microsoft Word (email is fine) along with a printed hard copy.

**Academic integrity**
Examinations are to be performed by the individual and any attempts to gain assistance or knowingly provide assistance during an examination will be punished according to University policy towards “cheating.” Those taking early or make up exams are to not request assistance with the exams nor provide it. The exams should not be discussed until ALL members of the class have taken a specific exam. Please note plagiarism above, and that this applies to any written or oral assignments that are independent projects.

**Disabilities Services**
The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. The Instructor will work with the Office of Disabilities Services to provide reasonable accommodation to students with disabilities. Please make the Instructor aware of any disabilities that may affect access or performance.

**OBJECTIVES**
The objective of this course is to introduce the natural resources management, fisheries (e.g., marine mammals), wildlife biology and/or biology (e.g., pre-health professional) student to disease processes at the individual animal and population levels. This course is intended to impart a basic understanding of disease processes and a basic knowledge of some common disease entities with a focus on the Arctic and sub-arctic regions (marine and terrestrial). Effects on populations and diseases of human health significance are addressed as well. There are numerous taxa to consider and in this course the bias is towards mammals, with some avian and fish subjects covered.

The objectives for the laboratory include: 1) To develop a standard technique for the post-mortem examination & sampling of vertebrates (there is no intent to make pathologists out of anyone) 2) To become familiar with the instruments needed to conduct a satisfactory field necropsy and field sampling (capture, biosampling and release) 3) To learn how to collect and preserve suitable specimens for submission to a diagnostic and/or research laboratory 4) To develop an understanding of zoonotic diseases and the importance of a "clean" technique while handling diseased and decomposing tissues.
**APPROACH**

The course starts out with a lecture series introducing the mechanisms of disease. This is followed by lectures on common diseases of mammals and birds using a structure based on disease causing agents (etiology). Using a variety of diseases occurring in wildlife we will discuss the cause, species affected, occurrence, ecology, clinical disease, pathology, differential diagnoses, specimens for diagnosis, and the significance to the animal and population. It is impossible to discuss all causes of disease but our review of certain disease causing agents will emphasize the importance of proper diagnostics and how the biologist can facilitate this. The focus is on mammals with some time spent on avian and fish species.

The laboratory is divided into 2 parts allowing students to obtain hands on experience in the necropsy suite and to better understand basic biosampling and laboratory techniques (e.g., hematology). *Due to limited space for necropsies the class may be split into at least two groups.*

Presentations (oral) by students will be conducted during the course as part of the laboratory. This involves direct mentoring by the instructor and TA during the laboratory (early in semester) and the schedule is outlined in the Laboratory Schedule towards the end of the semester. The student is encouraged to select topics of interest to them and then adequately convey this subject matter via oral presentation to the entire group (class); **15 minutes + 10 minutes for questions/per student.** The student is also expected to prepare a report 8-10 pages (double spaced text, additional pages allowed for figures, images, tables, citations, etc.) that is **handed in prior to the oral presentation (due the day of presentation)** and graded by the instructor and the TA.

**WHAT THE COURSE CANNOT DO:**

A single semester course in wildlife diseases cannot impart diagnostic skills or research capacity to address wildlife diseases for an individual. Work that requires diagnostics or research tools must involve trained diagnosticians/researchers. For diagnostics usually veterinary pathologists with wildlife experience and consultation from experienced wildlife biologists is needed. This by no means limits wildlife disease work to individuals with diagnostic training. Wildlife diagnostics is only one part of wildlife disease work and may or may not be necessary in all research projects. In fact, the best wildlife disease work is generally done by teams that include wildlife biologists, population biologists, ecologists, pathologists, toxicologists, microbiologists, parasitologists, etc!

**Wildlife Disease – WLF 305 - Grades**

Laboratory performance and lecture attendance/participation: 17% (50 points)

Presentations (oral and written, 25 points each): 17% (50 points)

[Graduate students will have addition demands and higher expectations with respect to presentations]

Midterm Examination: 33% (100 points)

Final examination: 33% (100 points)

Total Points = 300

Letter grades: no +/- grades given.

A = 90-100%, B = 80-89.5%, C = 70-79.5%, D = 60-69.5%, F <60%