Wildlife Disease – WLF 305

Spring 2000

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OBJECTIVES

The primary objective of this course is to introduce the wildlife biology student to disease processes at the individual animal and population level. 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. Effects on populations and diseases of human health significance are emphasized.

The objectives for the laboratory include: 1) To learn a standard technique for the post-mortem examination (necropsy) of mammals and birds. 2) To become familiar with the instruments needed to conduct a satisfactory field necropsy. 3) To learn how to collect and preserve suitable specimens for submission to a diagnostic lab. 4) To learn the importance of a history and the proper description of lesions. 5) To develop an understanding of zoonotic diseases and the importance of a "clean" technique while handling diseased and decomposing tissues. 6) To learn critical evaluation of published work in the area of wildlife disease research or investigations.

APPROACH

The course starts out with a 7 lecture series introducing the mechanisms of disease. To best illustrate disease processes we will draw on examples of many different diseases from all classes of vertebrates. This is followed by 2 lectures on epidemiology to introduce the concept of looking at disease within populations. The remaining lectures cover common infectious and noninfectious diseases of mammals and birds 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 needed for a 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 wildlife biologist can facilitate this.

The laboratory is divided into 2 parts allowing students to obtain hands on experience in the necropsy suite and time to critique published articles in the field of wildlife disease. Training in necropsy technique is of particular importance to the wildlife student since many field biologists are required to perform necropsies on their own. You will find out the importance of a complete necropsy and how poor technique can impair subsequent diagnostics.

WHAT THE COURSE CANNOT DO:

A single semester course in wildlife diseases can introduce the student to how diagnostics work but cannot impart diagnostic skills. Work that requires diagnostics must involve trained diagnosticians, usually veterinary pathologists with wildlife experience. 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.!
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Grades

Laboratory performance: 15%
Review of journal articles: 15%
Mid-term examination I: 20%
Mid-term examination II: 20%
Final examination: 30%

Letter grades:
There are no +/- grades given.
A = 80-100%
B = 70-79%
C = 60-69%
D = 50-59%
F <50%