# WILDLIFE DISEASE -- WLF 305
## SPRING 1998 -- LECTURES

Room 252 AHRB  
Lectures: MW 10:30-11:30am  
Lab: T 2:00-5:00pm

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e-mail: ffjeb@uaf.edu  
Office hours: M-F: 8:30-10:00  
M: 1:30-3:00

<table>
<thead>
<tr>
<th>LEC#</th>
<th>DATE</th>
<th>TOPIC</th>
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| 1    | Wed Jan 21 | Introduction to course (change to Lab Jan 20)  
Mechanisms of Disease  
- the study of disease  
- diagnostics          |
| 2    | Mon Jan 26 | Mechanisms of Disease  
- causes of disease  
- cell injury          |
| 3    | Wed Jan 28 | Mechanisms of Disease  
- disturbances of blood flow |
| 4    | Mon Feb 2  | Mechanisms of Disease  
- inflammation/immunity |
| 5    | Wed Feb 4  | Mechanisms of Disease  
- inflammation/immunity |
| 6    | Mon Feb 9  | Mechanisms of Disease  
- healing and repair  
- disorders of cell growth |
| 7    | Wed Feb 11 | Mechanisms of Disease  
- disorders of cell growth  
- MECHANISM OF DISEASE REVIEW |
| 8    | Mon Feb 16 | Epidemiology |
| 9    | Wed Feb 18 | Mammalian Disease  
- viral |
| 10   | Mon Feb 23 | Mammalian Disease  
- viral |
| 11   | Wed Feb 25 | Mammalian Disease  
- bacterial |
| 12   | Mon Mar 2  | Exam 1 (lectures 1-8 and labs)  
- written  
- kodachrome slides |
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<tr>
<th>LEC#</th>
<th>DATE</th>
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<tbody>
<tr>
<td>13</td>
<td>Wed Mar 4</td>
<td>Mammalian Disease - bacterial</td>
</tr>
<tr>
<td>14</td>
<td>Mon Mar 9</td>
<td>Mammalian Disease - bacterial</td>
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<tr>
<td>15</td>
<td>Wed Mar 11</td>
<td>Mammalian Disease - bacterial - fungal</td>
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<td></td>
<td>Mon Mar 16</td>
<td>SPRING BREAK</td>
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<td></td>
<td>Wed Mar 18</td>
<td>SPRING BREAK</td>
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<tr>
<td>16</td>
<td>Mon Mar 23</td>
<td>Mammalian Disease - parasitic</td>
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<td>17</td>
<td>Wed Mar 25</td>
<td>Mammalian Disease - parasitic - non-infectious</td>
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<tr>
<td>18</td>
<td>Mon Mar 30</td>
<td>Mammalian Disease - non-infectious</td>
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<tr>
<td>19</td>
<td>Wed Apr 1</td>
<td>Marine Mammal - Guest lecturer: Dr Kimberlee Beckmen</td>
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<tr>
<td>20</td>
<td>Mon Apr 6</td>
<td>Exam 2 (lectures 9-18 and labs) - written - kodachrome slides</td>
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<tr>
<td>21</td>
<td>Wed Apr 8</td>
<td>Avian Disease - viral</td>
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<tr>
<td>22</td>
<td>Mon Apr 13</td>
<td>Avian Disease - bacterial</td>
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<td>23</td>
<td>Wed Apr 15</td>
<td>Avian Disease - bacterial</td>
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<tr>
<td>24</td>
<td>Mon Apr 20</td>
<td>Avian Disease - parasitic</td>
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<tr>
<td>25</td>
<td>Wed Apr 22</td>
<td>Avian Disease - non-infectious</td>
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<tr>
<td>26</td>
<td>Mon Apr 27</td>
<td>Avian Disease - non-infectious</td>
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<td>27</td>
<td>Wed Apr 29</td>
<td>Avian Disease - review</td>
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<td></td>
<td>Wed May 6</td>
<td>FINAL EXAMINATION 10:15am - 12:15am</td>
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<td>LAB</td>
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| 1   | Jan 20   | A&B (rm 252) | Introduction to course  
Lab/Field safety and zoonotic disease  
Necropsy procedures/Specimen handling |
| 2   | Jan 27   | A&B (necropsy) | Clinical Pathology  
- immobilized animal demo  
- important anatomy  
- blood collection/preservation  
- uses and limitations |
| 3   | Feb 3    | A&B (necropsy) | Demonstration necropsy (dog)  
Basic anatomy review  
Specimen collection |
| 4   | Feb 10   | A (necropsy)  
B (rm 252)  
| Dog necropsy  
Assignment |
| 5   | Feb 17   | B (necropsy)  
A (rm 252)  
| Dog necropsy  
Assignment |
| 6   | Feb 24   | A&B (rm 252)  
| Assignment Presentation and Discussion |
| 7   | Mar 3    | A&B (necropsy) | Demonstration necropsy (ungulate) |
| 8   | Mar 10   | A (necropsy)  
B (rm 252)  
| Necropsy (ungulate)  
Assignment |
| 9   | Mar 24   | B (necropsy)  
A (rm 252)  
| Necropsy (ungulate)  
Assignment |
| 10  | Mar 31   | A&B (rm 252)  
| Assignment Presentation and Discussion |
| 11  | Apr 7    | A&B (necropsy) | Bird/small mammal demonstration  
Miscellaneous lesions/parasites |
| 12  | Apr 14   | A(necropsy)  
| Bird/small mammal necropsy |
| 13  | Apr 21   | B (necropsy)  
| Bird/small mammal necropsy |
| 14  | Apr 28   | A&B (rm 252)  
| Slide review |
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 develop a standard technique for the post-mortem examination (necropsy) of vertebrates. 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 an 8 lecture series introducing the mechanisms of disease ending with a discussion on epidemiology. This is followed by lectures on common infectious and noninfectious diseases of mammals and birds. Structure of these lectures is 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 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 critiques published articles in the field of wildlife disease.

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.!
** available for purchase through the IAB Business Office (Room 308 Irving I)
*on reserve in the Biosciences Library

**General Texts on Wildlife Disease:**


**General Veterinary Pathology/Epidemiology Texts:**

General Wildlife/Exotic Animal Disease Journals:
  Journal of Wildlife Diseases
  Journal of Zoo and Wild Animal Medicine

Veterinary Journals:
  Veterinary Pathology
  Journal of the American Veterinary Medical Association
  American Journal of Veterinary Research
  Canadian Veterinary Journal
  Canadian Journal of Veterinary Research

Biology/Wildlife Journals:
  Journal of Wildlife Management
  Wildlife Society Bulletin
  Journal of Mammalogy
  Journal of Parasitology
  Many, many more!

Species Journals:
  Alces
  Rangifer
  Etc.
Wildlife Disease – WLF 305
Grades

Lab 30%
Term 1: 20%
Term 2 20%
Final 30%

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