

## BIOL 3970 - Wildlife Diseases

Biology Department, College of Arts and Sciences, Valdosta State University  
BIOL 3970A (CRN 26256) 3 credit hours

Spring Semester, 2023

Instructor - Dr. J. Mitchell Lockhart

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Office Hours: 10:00-11:00 Monday and Friday or by appointment

Course hours: Lecture – MWF, **9:00-9:50AM** Biology-Chemistry Building Room 2022

Textbook – *Field Manual of Wildlife Diseases in the Southeastern United States, Fourth Edition*, William R. Davidson (**suggested**), *Field Manual of Wildlife Disease – General Field Procedures and Diseases of Birds*, National Wildlife Health Center (**suggested** – free online at [http://www.nwhc.usgs.gov/publications/field\\_manual/](http://www.nwhc.usgs.gov/publications/field_manual/)). Various other readings may be provided.

Other resources:

Journal of Wildlife Diseases – [www.jwildlifedisorg/archive/](http://www.jwildlifedisorg/archive/)

Wildlife Disease Information Node – <http://wildlifedisease.nbii.gov/>

Manual of Common Diseases and Parasites of Wildlife in Northern British Columbia  
[http://www.unbc.ca/nlui/wildlife\\_diseases\\_bc/](http://www.unbc.ca/nlui/wildlife_diseases_bc/)

**Course Description:** This course will provide an introduction to the field of wildlife disease biology. Topics examined will include specific avian, mammalian, fish, reptile, and amphibian diseases as well as methods to survey for, recognize, and diagnose diseases. Information concerning biosafety, biosecurity, proper permitting, and working with the public will be presented.

**Prerequisites:** BIOL 1100, BIOL 1107, BIOL 1108, BIOL 3200, BIOL 3250 or permission of instructor

**MANDATORY!** I do keep track of who is and isn't attending lecture and laboratory. This course has a considerable amount of new concepts and terminology and it is in your interest to attend class regularly. Any student disrupting the classroom and affecting the learning experience of others will be asked to leave. Along these lines, **NO** cell-phones, beepers, and/or associated earpieces or headphones are allowed either in the **lecture room or laboratory**. If you bring them to class, they must be turned **OFF (not on vibrate)** and placed **out of view**. Students are not permitted to leave the lecture or laboratory rooms to receive messages during regular course time. My policy is not to give a warning, rather, if a cell-phone or beeper activates during lecture/laboratory or you attempt to view or send messages, **you will lose one LETTER GRADE from your final grade**. Viewing a cell-phone or pager that activates on "silent" mode during a quiz or exam will be treated as an instance of **CHEATING** and handled accordingly (**in addition to the above penalty**). Those wishing to utilize laptop computers **as part of the class** are required to sit in the first few rows of the classroom. Viewing any material other than class material will result in the same penalties above.

If students must be absent due to a quarantine or isolation requirement for COVID-19, they must report this situation via the COVID Self Reporting Link in MyVSU and through the [Dean of Students Office](#)

From the Valdosta State University Catalog:

**Whether online or face-to-face, a student who misses or does not participate in more than 20% of the scheduled course or course activities could be subject to receiving a failing grade in the course.**

The University does not issue an excuse to students for class absences. In case of absences as a result of illness or special situations, instructors may be informed of reasons for absences, but these are **not excuses**.

**I will enforce this absence limit**, therefore after 9 lecture absences (for any reason) a student will be assigned an F for the course. **Repeated tardiness** will be dealt with by **administratively withdrawing** the student(s) from the course AND/OR mandatory first of class quizzes for the entire class.

**Students With Documented Disabilities:** Students requiring accommodations or modifications because of **documented** disabilities should discuss this need with Dr. Lockhart at the beginning of the semester. Students with disabilities who are experiencing barriers in this course may contact the Access Office (<https://www.valdosta.edu/student/disability/>) for assistance in determining and implementing reasonable accommodations. The Access Office is located in University Center Room 4136 Entrance 5. The phone numbers are 229-245-2498 (V), 229-375-5871. For more information, please visit VSU's Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu). To request reasonable accommodations for pregnancy and childbirth, contact Christina Kidd, Student Conduct Coordinator at [chkidd@valdosta.edu](mailto:chkidd@valdosta.edu). Please note, you will be required to provide documentation from an appropriately licensed medical professional indicating the requested accommodations are medically necessary.

**Assessment:**

Assignments	100-200
Exam 1 (February 11)	100
Exam 2 (March 23)	100
Exam 3 (April 29)	100
Comprehensive Final Exam	200

For the lecture grade, three exams (tentative) plus a comprehensive final will be given. Questions will be based on material covered in lecture, in my notes, and from assigned readings. Exam questions will be in a variety of formats including (but not limited to) essay, short answer, multiple choice, fill in the blank, drawings, etc...Any questions concerning grading should be brought to the attention of the professor **NO LATER** than one week following return of the exam. **NO make-up exams will be given.**

Grade Scale: **90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, <60 = F**

**Privacy Act:** Because of the Buckley Amendment or Privacy Act, grades will not be discussed over the phone, via email, given to friends, or given to relatives.

**Title IX:** Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, [titleix@valosta.edu](mailto:titleix@valosta.edu), 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

**Cheating:** Refer to the Student Code of Ethics in the Valdosta State University Student Handbook. A student caught cheating will be penalized ranging from receiving a zero for that assignment or test to failing the class.

**Student Opinion of Instruction Statement:** At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available through SmartEvals. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Students who withdraw or drop a course will also be sent invitations to complete the Dropped Course Survey. Complete information about the SOIs, including how to access the survey, is available on the [SOI Procedures webpage](#).

**Coronavirus Resources:** VSU cares about student success both on and offline, and a variety of resources are available to help students both academically and personally during the Fall 2020 semester.

One of the best resources is VSU's Coronavirus FAQ page located at <https://www.valdosta.edu/health-advisory/faq.php>. Information is available there about a variety of topics in VSU's return-to-campus plan. A website devoted to the health and wellness of VSU students can be seen at <https://www.valdosta.edu/administration/finance-admin/campus-wellness/student-resources.php>.

You can find information, including how you can access the Brightspace Pulse app that will allow you to view BlazeVIEW on your smartphone at <https://www.d2l.com/products/pulse/>. In BlazeVIEW, all VSU students have a course with guides for how to use tools in BlazeVIEW; search for "VSU BlazeVIEW Student Tutorial 2020."

#### **Virtual Proctored Exams:**

##### **USING LOCKDOWN BROWSER AND A WEBCAM FOR ONLINE EXAMS**

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be built into your computer or can be the type that plugs in with a USB cable. Watch this short video (<http://www.respondus.com/products/lockdown-browser/student-movie.shtml>) to get a basic understanding of LockDown Browser and the webcam feature. A student Quick Start Guide (<http://www.respondus.com/products/monitor/guides.shtml>) is also available.

**Important Dates:** Mid-Term Day – March 2, **Final Exam – Friday, May 5, 8:00-10:00AM**

**\* The Instructor reserves the right to modify the above contents with proper notification.**

## Tentative Lecture Outline:

Introduction

Disease transmission in natural populations

Field techniques for investigation of wildlife diseases

Diagnostic and Laboratory techniques for investigation of wildlife diseases

Working with zoonotic disease/biosafety considerations

Permits and paperwork for wildlife disease investigations

Working with stakeholders

Foreign Animal Diseases

Specific Disease Lists

Avian

Cholera, Tuberculosis, Salmonellosis, Chlamydiosis, Mycoplasmosis, Miscellaneous Bacterial Diseases, Aspergillosis, Candidiasis, Miscellaneous Fungal Diseases, Duck Plague, Inclusion Body Disease of Cranes, Miscellaneous Herpesviruses of Birds, Avian Pox, EEE, Newcastle Disease, Avian Influenza, Woodcock Reovirus, Hemosporidiosis, Trichomoniasis, Intestinal and Renal Coccidiosis, Sarcocystis, Eustrongylidosis, Tracheal Worms, Heartworm, Gizzard Worm, Acanthocephaliasis, Nasal Leeches, Miscellaneous Parasitic Diseases, Algal Toxins, Mycotoxins, Avian Botulism, Organophosphorus and Carbamate Pesticides, Chlorinated Hydrocarbons, PCBs, Oil, Lead, Selenium, Mercury, Cyanide, Salt, Barbiturates, Miscellaneous Chemical Toxins, Electrocutation

Mammalian

Deer

Hemorrhagic Disease, Cutaneous Fibroma, Miscellaneous Viral Diseases, Anthrax, Dermatophilosis, Brain Abscess, Miscellaneous Bacterial and Rickettsial Diseases, Toxoplasmosis, Liver Fluke, Lungworm, Stomach Worm, Meningeal Worm, Arterial Worm, Abdominal Worm (*Setaria*), Tapeworm, Ecto's – Ticks, Louse Flies, Lice, Ear Mite, Demodectic Mange, Piebald Anomaly, Capture Myopathy

Elk

Infectious Diseases, Parasitic Diseases

Feral Swine

Pseudorabies, Vesicular Stomatitis Virus, Swine Brucellosis, Tuberculosis, Lungworms, Kidney Worm, Liver Flukes, Acanthocephalans, Ascarids, Trichinosis, Hog Lice

Black Bear

Rabies, Canine Distemper Virus, Trichinosis, Canine Heartworm, *Spirometra*, Ascarids, Demodectic Mange

Raccoon

Rabies, CDV, Parvovirus, Tularemia, Leptospirosis, *Trypanosoma*, *Spirometra*, *Baylisascaris*, *Dracunculus*, Stomach Worms, Acanthocephala

Striped Skunk

Rabies, Canine Distemper Virus, Leptospirosis, Ascarids

Red Fox

Rabies, Canine Distemper Virus, Leptospirosis, *Echinococcus*, Canine Heartworm, Subcutaneous Worm, Sarcoptic mange

Gray Fox

Canine Distemper Virus, Rabies, Leptospirosis, Heartworm

Coyote

CDV, Parvovirus, Rabies, Brucellosis, *Echinococcus*, Heartworm

Bobcat  
Feline Panleukopenia, Rabies, Toxoplasmosis, Cytauxzoonosis, *Spirometra*

Opossum  
Rabies, Leptospirosis, Sarcocystis, Besnoitia, Stomach Worm

Mink  
Mink Virus Enteritis, Dioctophyme

River Otter  
CDV, Salmonellosis, Subcutaneous worm

Muskrat  
Tularemia, Tyzzer's Disease

Beaver  
Tularemia, *Giardia*

Cottontail Rabbit  
Shope's Fibroma, Tularemia, Staphylococcosis, Tapeworm, Ascarid, Warbles

Gray Squirrel  
Squirrel Fibroma, Warbles, Miscellaneous Skin Conditions - Congenital Alopecia, Dermatophytoses, Notedric Mange, Louse

Woodchuck  
Woodchuck Hepatitis, Rabies, Ascarids

Armadillo  
Leprosy

Others  
Chronic Wasting Disease, Cervid Adenovirus Infection, Malignant Catarrhal Fever, Brucellosis, Bovine Tuberculosis, Johne's Disease, Anaplasmosis, Elaphostrongylosis

### Course Outcomes/Assessments

1. To understand the diversity of wildlife diseases.
2. To understand epidemiological, ecological, and social factors that underlie the emergence and spread of selected wildlife diseases.
3. To learn potential strategies for surveillance and management of wildlife health.

Assessments for this course will include reading of scientific literature, written exams, various assignments, and classroom literature presentations.

### General Education Outcomes/Assessments

This course will help students achieve four of the general education outcomes for Valdosta State University:

3. Students will use computer and information technology when appropriate. They will demonstrate knowledge of computer concepts and terminology. They will possess basic working knowledge of a computer operating system. They will be able to use at least two software tools, such as word processors, spreadsheets, database management systems, or statistical packages. They will be able to find information using computer searching tools.
4. Students will express themselves clearly, logically, and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various disciplines; and to listen effectively and to understand different modes of communication.
5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices. They will understand the basic concepts and principles underlying scientific methodology and be able to collect, analyze, and interpret data. They will learn a body of scientific knowledge and be able to judge the merits of arguments about scientific issues. They will be able to perform basic algebraic manipulations and to use fundamental algebraic concepts to solve word problems and equations. They will be able to use basic knowledge of statistics to interpret and to analyze data. They will be able to evaluate arguments based on quantitative data.
7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written and visual materials. They will be skilled in inquiry, logical reasoning, and critical analysis. They will be able to acquire and evaluate relevant information, analyze arguments, synthesize facts and information, and offer logical arguments leading to creative solutions to problems.