BIOL 3970/5970 - Wildlife Diseases
Biology Department, College of Arts and Sciences, Valdosta State University
BIOL 3970 (CRN 20710) and BIOL 5970 (CRN 20736) (3 credit hours)
Spring Semester, 2013
Instructor - Dr. J. Mitchell Lockhart
Office – Biology/Chemistry Building, Room 2029
Phone: 333-5767 / 333-5759
Email: jmlockha@valdosta.edu
Office Hours: As posted or by appointment
Course hours: Lecture – Tuesday and Thursday, 11:00 – 12:15 BC 2022
Other resources:
Other resources will be placed on the course homepage: http://www.valdosta.edu/biology/jmlockha/WildlifeDiseasesHomepage.shtml
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
Attendance: MANDATORY! I do keep track of who is and isn’t attending lecture. This course has a considerable amount of new concepts and terminology and it serves your best 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 are allowed either in the lecture room or laboratory. This includes viewing devices during class. 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 3 rows of the classroom. Viewing any material other than class material will result in the same penalties above. University guidelines dictate that students missing 20% of lecture sessions for this class are subject to receiving a grade of “F” regardless of their standing in the course.
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 not registered with the Special Services Program must contact the Access Office for Students with Disabilities. Their phone number is 245-2498.
Assessment: Undergraduate Graduate
Assignments 100-200 150-250
Exam 1 (February 7) 100 100
Exam 2 (March 14) 100 100
Exam 3 (April 25) 100 100
Oral Final Exam NA 100
Comprehensive Final Exam 200 200
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

Specific requirement differences for graduate students: Graduate students in this course are expected to be leaders and set an example in punctuality, attendance and effort for others to follow. Graduate students will have at least one additional assignment and will be required to take a comprehensive oral final exam at the end of the semester.

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. Final grades will be posted, only at your request, under an anonymous 6 digit number which you choose later in the semester.

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.

Important Dates: Midterm – February 28, Final Exam – Friday, May 3, 10:15am – 12:15pm

- The Professor 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,
Trancheal 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,
Electrocution

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

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, Cytaxzoonosis, Spirometra

Opossum
Rabies, Leptospirosis, Sarcocystis, Besnoitia, Stomach Worm
Mink
  Mink Virus Enteritis, Dioctophyme
River Otter
  CDV, Salmonellosis, Subcutaneous worm
Muskrat
  Tularemia, Tyzer’s Disease
Beaver
  Tularemia, Giardia
Cottontail Rabbit
  Shope’s Fibroma, Tularemia, Staphylococcus, 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.