Biology 3870 Parasitology
CRN 86216 – 4 credit hours
Fall Semester, 2023

Instructor - Dr. J. Mitchell Lockhart
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Office Hours: Monday 10:00-11:00AM, Tuesday 8:30-9:30AM, Wednesday 11:00AM-2:00PM (virtual by Microsoft Teams) or by appointment

Course hours: Lecture – Monday, Wednesday, Friday 8:00-8:50 AM, BCB 2202
Laboratory – Monday, 11:00AM – 1:50PM, BCB 2071

Textbook – Foundations of Parasitology, 9th edition. Gerald D. Schmidt and Larry S. Roberts, McGraw Hill (**Suggested**). Text is available online through CourseSmart.

Laboratory Textbook – None. Lab material will be available on Blazeview.

Prerequisites: BIOL 1107, 1108, 3200 and 3250 or permission of instructor.

Course Objectives: A study of the morphology, life cycles, and host-parasite relationships of representative protozoan and metazoan parasites. Human parasites are emphasized.

Attendance: **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 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 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 2 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 or laboratory sessions for this class are subject to receiving a grade of "F" regardless of their standing in the course.

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

Selenseia Holmes. To view the full policy or to report an incident visit: **https://www.valdosta.edu/administration/student-affairs/title-ix/**

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.

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: Midterm – October 7; Final Exam – Wed., December 6, 8:00AM-10:00 AM

* The Instructor reserves the right to modify the contents of this syllabus with proper notification.

Other Assignments: Your instructor MAY periodically assign some tasks to be completed during class or outside of class. These can be based on lab exercises or lecture material. Your grade will be determined by how well you complete the assignment. Point values remain to be determined.

Laboratory Portfolio (200 points)

In laboratory, you will be preparing an exhaustive series of photos and original drawings of your observations of parasites and vectors through the microscope. Each lab unit has a series of designated drawings/photographs.MC /P <</g (o)-6.6 221.3 (ig)2.6 (n)2Tw -19.413 -1.228 Td. Ea/n reg .413 .sm

Course Outcomes:

Learning Outcomes:

On satisfying the requirements of this course, students will have the knowledge and skills to:

1. Discuss the concept of parasitism and other animal associations; explain the concept of harm; understand the basic features and characteristics of hosts.
2. Tell the advantages and disadvantages of parasitic life style; discuss the economic consequences of parasitic diseases and difficulties associated with eliminating/controlling parasitic diseases.
3. Tell the major types of protozoan parasites, their adaptive strategies and damage; discuss fungal and plant parasites.
4. Articulate major helminth and arthropod parasites, their taxonomy and harms caused.
5. Discuss the major means of transmission of parasites and the factors that influence parasite transmission.
6. Explain the host defense mechanisms against parasitic infections and mechanisms of co-infections (e.g. parasite HIV co-infection).
7. Articulate the types of pathology caused by parasites, pathological mechanism, factors influencing pathology and damage to specific organs.
8. Discuss about useful parasites.
9. Explain the importance of correct parasite identification and methods of identification.
10. Articulate the major aspects of controlling parasites and treating parasitic diseases.

Course:

By the end of BIOL 3870, students who successfully complete the course should have:

1. Gained factual knowledge, to include anatomy/histology, terminology, methods, and principles, about Parasitology. (DO – 2,3,5; VSUGEO – 5)
2. Learned fundamental principles, generalizations, or theories of Parasitology. (DO – 2,3,5; VSUGEO – 5)
3. Learned to apply course material (to improve thinking, problem-solving, and decisions) in Parasitology. (DO – 2,3,5; VSUGEO – 5)
4. Developed specific skills, competencies and points of view needed by professional in the fields most closely related to Parasitology. (DO – 2,3,5; VSUGEO – 5)
5. Acquired an interest in learning more by asking questions and seeking answers about Parasitology. (DO – 2,3,5; VSUGEO – 5)

Department:

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral formats used in peer-reviewed journals and at scientific meetings.

2.

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.

6.

BIOL 3870 Parasitology
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Tentative Lecture Outline - This is the order in which we will cover topics.

TOPIC

Introduction to Parasitology
Basic Principles and Concepts I: Parasite Systematics, Ecology and Evolution
Basic Principles and Concepts II: Immunology and Pathology
Parasitic Protozoa: Form, Function, and Classification
Kinetoplasta: Trypanosomes and Their Kin
Other Flagellated Protozoa
The Amebas

Parasitic Insects: Diptera, Flies
Parasitic Insects: Strepsiptera, Hymenoptera, and Others
Parasitic Arachnids: Subclass Acari, Ticks and Mites

Lecture Exams:

1 – September 18
2 – October 25
3 – December 1
Final Exam: Wednesday, December 6, 8:00-10:00AM

Tentative Lab Schedule:

Lab 1 – Order Trypanosomatida – Trypanosomes

Lab 2 – Order Kinetoplastida – Leishmania

Lab 3 – Other Flagellate Protozoa

Lab 4 – Phylum Ciliophora

Lab 5 – Phylum Sarcodina

Lab 6 – Phylum Apicomplexa - *Plasmodium vivax*

Lab 7 – Phylum Apicomplexa – *Plasmodium falciparum*

Lab 8 – Phylum Apicomplexa – Coccidia

Lab 9 – Phylum Platyhelminthes – Order Strigeiformes

Lab 10 – Echinostomatiformes

Lab 11 – Nematoda I

Lab 12 – Nematoda II

Lab 13 – Cestoda

Lab 14 – Ectoparasites