

BIOLOGY 342: PARASITOLOGY
COURSE SYLLABUS
SPRING, 2016

INSTRUCTOR INFORMATION

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Office hours: Tuesdays, 1:00-2:15, Thursdays 2:30-3:45 and by appointment.

Course Description

In this course, we will examine parasites and parasitism, emphasizing the influence of parasites on the ecology and evolution of free-living species, and the role of parasites in global public health.

LEARNING OUTCOMES:

At the end of the course, students will be able to:

1. Differentiate among views of parasitism among scientists with various disciplinary perspectives, and explain the relationship between their goals and their definitions and perceptions of parasitism.
2. Demonstrate through quizzes, class activities and exams an understanding of the diversity of parasites and symbiotic associations, and their dynamic and populational nature.
3. Use scientific knowledge about parasites to interpret data and address real-life problems in Parasitology in class and during exams.
4. Explain the role of parasitism in the ecological interactions and the evolution of life on earth, including interpreting experimental and observational data
5. Locate, read and evaluate primary and secondary literature to update knowledge of parasites and communicate the new information effectively in class discussion, class presentations, and written assignments.
6. Demonstrate through class discussion and on take-home assignments and on tests an understanding of social and cultural attitudes to parasites and parasitism, and their impact on scientific research.

Accommodations for persons with disabilities: SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional or learning disabilities. Students should contact the Director in the Office of Disability Services (Tabitha Buggie-Hunt, 105D Erwin) and their faculty to discuss needed accommodations as early as possible in the semester.

REQUIRED TEXTS AND MATERIALS

There are two required texts for this course:

Loker ES, Hofkin B. *Parasitology: a Conceptual Approach*. New York and London: Garland Science (Taylor & Francis). 2015. 560 pp.

Zeibig EA. *Clinical Parasitology*. 2013. St. Louis: Elsevier. 370 pp.

Additional articles and case studies are available on MyCourses. You will need to bring copies (either electronic or paper) to class; bringing your laptop to class each day is strongly recommended. You may need to print articles for the written assignments and print materials for the final poster project. In addition, you may wish to print class handouts or other course materials. Please budget for these additional printing costs.

EVALUATION

Day-to-day (Reading quizzes, homework and in-class participation measures)	75
Tests (3 of 4)	150
Poster	75
Lecture total	300
Laboratory	100
Lab quizzes (20)	
Practical tests (2 at 25)	
Presentations (2 at 15)	
Total	400

ADDITIONAL INFORMATION ABOUT EVALUATION

Reading quizzes, homework and class participation: Reading quizzes are short quizzes covering the reading assigned for each class. Quizzes may be on paper or online, and may take place either inside or outside of class. Questions may be multiple choice or short answer. Homework includes short writing assignments on readings or other class materials that are completed before class. These assignments will be graded based on very simple rubrics emphasizing completeness, clarity and scientific insight. Class participation may include concept checks (short essays), short journaling assignments that ask you to reflect on your learning as well as notes from small group discussion. The role of the reading quizzes and homework assignments is to ensure that everyone has a common foundation of knowledge that will allow us to tackle more challenging and authentic problems in class. The purpose of the in-class participation assessments is to encourage class attendance and provide feedback to me about your understanding of class activities. Some day-to-day points will be available ONLY in class, and poor attendance will negatively affect your grade in this category.

Poster presentation: During the final exam period, you will present a poster on a topic of your choice related to parasites or parasitism. Poster construction will be simplified, and a series of assignments throughout the semester will be available to assist you in structuring the task.

Tests: Tests will generally consist of two components. The first component will be a traditional test taken online in class with a secure lockdown browser. These tests may include multiple choice, multiple select, justified true/false, short answer, and short essay questions. Class activities provide models of questions, which will almost always be application problems that require you to use information learned through the reading and in class in novel ways. You will be able to bring one sheet of notes to the test with you. The second section is an integrative question provided in advance that requires both summarizing and organizing information presented in class or in the reading as well as supplementing this information with new information. The integrative essay will be written in class, and submitted via a Turnitin dropbox.

Laboratory projects and presentations: Several small projects and presentations will take place in the laboratory. These will include group presentations on techniques, on minor parasitic phyla. There will also be a class project on a historical topic.

Laboratory practical quizzes and tests: Half of the laboratory grade will come from two practical tests. Practical tests require you to recognize parasites from microscope slides or photographs. These are open-book, but timed, and are very challenging for most students initially. Quizzes are intended to provide practice before the larger tests.

TENTATIVE SCHEDULE

Week	Monday	Laboratory	Wednesday
1 1/18-20	Martin Luther King Day -- no class	Martin Luther King Day -- no class	Introduction and syllabus
2 1/25-27	*Z1: Introduction	Z2: parasite samples; microscopy; examples of parasites and tissues	*LH1: Introduction to parasitism.
3 2/1-3	Z3: Amebas	Amebas	LH3: The parasite's way of life
4 2/8-10	Z4: Flagellates	Flagellates	LH5: Parasite vs. host: pathology and disease
5 2/15-17	Z5: Hemoflagellates	Technique presentations	Test 1
6 2/22-24	Z6: Malaria and babesiosis	Malaria and babesia	LH6: Ecology of parasitism
7 2/29-3/2	Z7: Miscellaneous other protozoa	Misc. protozoa	LH2: Parasite diversity
8 3/7-9	LH4: Host defenses	Practical	Test 2
	Spring Break		
9 3/21-23	Z8 Nematodes	Nematodes	LH7: Evolutionary biology of parasitism
10 3/28-30	Z8 Nematodes	Nematodes	LH7: Evolutionary biology of parasitism
11 4/4-6	Z9 Filarial worms	Minor phylum presentations; Filariarial	LH8: Parasites and conservation biology

		worms	
12 4/11-13	Z10 Cestodes	Cestodes	Test 3
13 4/18-20	Z11 Trematodes	Trematodes	LH9: The Challenge of parasite control.
14 4/25-27	Z11 Trematodes	Trematodes	LH10: Future of parasitology
15 May 2-3	Test 4	Practical	May 6, 12-3 Poster session

*In the table above, Z refers to the Zeibig text, and LH refers to the Loker and Hofkin text. Note that the schedule above is tentative, and that topics and readings may change. Please watch the announcements section and check the weekly folder in MyCourses regularly for changes and updates. Exam dates and other due dates will not change unless the College is closed.

IMPORTANT POLICIES

Professional behavior in class: Your active participation in class activities contributes not only to your own learning but also to the learning of others in the class. Attendance in class is expected. Please plan to arrive on time and stay throughout the class. Use laptops, cell phones and other technology only for class-related purposes during the lecture period. In lab, take frequent breaks to prevent eye strain, but plan to use the entire scheduled laboratory time for reviewing slides and working on class projects.

Class attendance: No points are awarded for attendance alone, but class activities do not duplicate activities completed outside of class. Some points in the day-to-day category are only available to those attending class, and cannot be made up, regardless of the reason. If you miss classes, make sure that you obtain copies of notes from other students. Handouts will be online, and graded work can be obtained in office hours.

Tokens: Requests for extensions are sometimes necessary, and appropriate reasons include illness or family emergencies, representing the College, and graduate school interviews. While necessary, extensions slow grading and return of other students' work. In addition, extensions can be unfair to other students who powered through equally challenging circumstances without special accommodations. For this reason, extensions have to have a cost for recipients. Tokens function much like sick and personal days at a job; you have a limited number of them available, and I will generally trust that you are using them because you need to. Everyone will start the semester with 4 tokens. However, once gone, tokens cannot be replenished, regardless of the reason, so use your tokens wisely.

Making up tests: Making up a test late requires an extension, and therefore a token. Generally, there will not be a penalty for taking a test early. If it is not possible to make up the test quickly, you may be required to use the test in question as your dropped test. If you need to take your test at the Test Center, you must meet their requirement for booking 48 hours in advance; scheduling your exam late will require a token.

Day-to-day: Quizzes, homework and in-class participation activities are designed to promote active engagement. A few more points are available than can contribute toward your grade, but missing more than two classes will result in the loss of points from your total, regardless of the reasons for your absences. Avoiding missing class except in case of true illness or emergency is the best policy.

Making up laboratory practical tests: Laboratory practical tests are time-consuming and difficult to set up, and because the laboratory classroom is shared with another course, difficult to keep secure. For these reasons, it is difficult to provide an equivalent exam at another time, and you should make every effort to avoid missing these tests. In the event that you must miss a practical exam, you may have to take an exam that is substantially different from that taken by other students. For similar reasons, there are also some necessary limitations on the accommodations that can be provided for students with disabilities. Students seeking accommodations should discuss the issue with me early in the semester to discuss what is and is not possible, and seek additional support services from the Office of Disabilities Services.

Appealing grades: Any graded work may be submitted for re-evaluation along with a written appeal. Appeals must be submitted within one week of when the work is returned to you, and should contain a brief written explanation of your concerns, including your understanding of the question or assignment directions and why you believe your work meets the requirements of the question or assignment. Your appeal must also refer to the key or rubric, and any feedback provided. Appealing a grade requires the use of a token.

Explanation of final grades: Grades are determined using the scale presented below usually without any adjustment or curve. Helping others can only help you, and cannot hurt your grade in any way. The point distribution is as follows:

A (>93%)	B+ (87-89)	B- (80-82)	C (73-76)	D (60-69)
A- (90-93%)	B (83-86)	C+ (77-79)	C- (70-72)	E (<60)

FOR YOUR CONSIDERATION:

Instructional format: Transfer of information through lecture will make up only a small fraction of class time, and small group discussion or discussion with the full class will make up the rest. You must obtain your first exposure to new ideas outside of class through independent reading and other assignments. Although many students find the class format helpful for promoting deeper understanding, some students find it difficult to adjust. Please tell me if you are experiencing problems adapting to the class format.

Working in groups: In this class, you must work in groups in class. You will seldom have to meet with your group outside of normal class time, except for the laboratory projects.

Topics included: Parasitism is the predominant trophic mode on earth, and the range of organisms we could examine is enormous. In this course, we will focus primarily on protozoa, helminths and arthropods that parasitize animal hosts including humans. We will spend relatively little time on parasites of plants (traditionally considered in plant pathology courses), and on bacteria and viruses (traditionally covered in microbiology courses).

Difficult subject matter: In this course, you will see graphic images of parasites and the diseases that they cause. Discussion of the transmission of human parasitic infections will require consideration of a wide range of human behaviors including those related to personal hygiene and sexuality. Cultural differences are also a part of this discussion. Withholding judgment about cultural difference is central to having productive discussions about changing health behaviors. Be aware that your peers' comfort levels will vary as we discuss difficult topics. Maintaining an environment conducive to learning begins with treating everyone with respect, and recognizing different ways that people handle uncomfortable situations.

Evolution: The Theory of Evolution provides the central explanatory framework in biology, and will be an important theme running throughout the Parasitology course. I welcome the opportunity to discuss any questions or concerns you may have about evolution (including those related to religious belief) during office hours or individual appointments.