

**Disease Ecology
Biology 1220**

Instructor: Dr. Shane M Hanlon
Office Hours: By appointment
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Required Text:

Schmid-Hempel, Paul. 2011. Evolutionary Parasitology: The Integrated Study of Infections, Immunology, Ecology, and Genetics. Oxford University Press. ISBN # 978-0199229499

Suggested Reading:

Conant, R. and J. T. Collins. 1998. A field guide to reptiles and amphibians of Eastern and Central North America. 3rd edition. Peterson Field Guide Series. Houghton Mifflin. ISBN #0-395-90452-8

Field Equipment: A 'Rite in the Rain' field notebook (supplied to you in class) and waterproof pen or #3 pencil (need to purchase on your own) is required. You will also need clothing and footwear that can get wet and dirty, and a flashlight for survey work at night.

Course Description and Objectives: This course will serve as a general introduction to the world of wildlife disease ecology. Infectious diseases are a major cause of populations declines across taxa. This course will focus multiple levels of disease consequences, from molecular to ecosystem processes, all within the context of conservation management. The course will explore host-parasite interactions, evolutionary processes the drive disease emergences, physiological responses to disease, and parasitic co-infections, among other topics.

The course will be divided into three sections: 1) Lectures, 2) Field experiences, and 3) Group policy projects. While at PLE, lectures will usually be held each morning, after which we will break for lunch, followed by a field excursion. Lecture topics will vary and roughly follow material from the required reading; however, secondary readings and peer-reviewed manuscripts will also be used as required readings and will be posted prior to the course on my website. Field excursions will vary in their foci; however, the course will likely be amphibian/reptile heavy. We will also take multiple day-long field trips to locations throughout the region.

This course will provide a contemporary assessment of disease/parasite ecology and evolution, as well as the public policy implications of wildlife diseases.

Text Readings: The assigned readings cover the material presented in lecture, but in a different way and often with more examples. The readings will help you understand the material presented in lecture and to study for exams. Please read the assigned material before class.

Course Postings: Pertinent course documents will be posted on my website. Specifics will be communicated to the class prior to the beginning of the session. Relevant materials include but are not limited to lectures and field documents.

Field Excursions: Participation in field excursions is required. All students will participate in each procedure and record notes using professional techniques in their waterproof notebooks. Outdoor exercises are usually held regardless of weather conditions.

Grading: Sources of points for all students are:

Final Exam	30%
Presentation	30%
Blog Entries (4 x 10)	20%
Field Notebook	10%
Participation	10%

The following scale will be used to convert your percentage into a letter grade:

100-90	A
89-80	B
79-70	C
69-60	D
≤59	F

Exam: There will be one final, comprehensive exam for the course. Because of the accelerated timeline of the course, it is suggested that students stay up to date on the assigned readings throughout the course. Exam material will cover lecture and / or textbook information. Examination generally takes the entire allotted time period; students who arrive late are at a decided disadvantage. The exam will not be given out any later than 15 minutes after the start of the exam or after the first student leaves the exam room, whichever comes first.

Presentation: Students will give an individual presentation and write an accompanying report on a public policy issue related for wildlife diseases. Students are expected to do a literature search using professional scientific journals, and develop a 10 - 12 minute oral presentation. A brief (3 - 4 min) question / answer session will follow each presentation. Students must approve their topic with me within the first week of class. There will be no duplicate topic presentations, so students are encouraged to reserve their topic as soon as possible. Duplicate topics and / or failing to approve your topic will result in point deductions. Presentations should be developed using a PowerPoint format. Presentations will be evaluated and scored based on: (1) research effort, (2) depth of knowledge, (3) organization, (4) clarity of presentation, (5) creativity, and (6) quality of answers to audience questions. More details will be provided in class.

More Grading: I take special care to grade all students fairly. If mistakes in grading are found, I will gladly correct the error and point total. If a grading question is presented to us by comparing your score or answer to those of a classmate, we will reassess both students' entire exams or other graded exercises. During this process, overall scores may change, but not always in a positive direction.

Blogging: Students will be required to post blog entries on a wide variety of herpetology-related subjects over the course of the semester. All students will be required to post four blogs. More information will be provided in class. The blog site can be found at: <https://pleandiseaseecology.wordpress.com/>

Field Notebooks: Students should record field activities in a waterproof Rite in the Rain notebook. Instruction for proper journal entry format will be provided at the beginning of the class.

Participation: Students are expected to prepare for lectures and field excursions by having done the required readings. Attendance at all lectures and field excursions is mandatory; points will be deducted for absences. Students will also be graded on their participation during field excursions and lecture. Participation in all field excursions is crucial.

Attendance and Cancellations: Attendance at all lectures and field excursions meetings will maximize the probability of scoring well in the course. Make up exams are not allowed. If a class is cancelled because of inclement weather, exam date will not change.