

# ZOOL-5010-363 ECOL AND EVOL PARASITOLOGY

This seminar will cover concepts in ecological and evolutionary parasitology. The ecology and evolution of parasitism (aka host-parasite interactions) has roots that go back about a century. However, it did not begin to emerge as a discipline until the past 30 years based on the works of John Holmes, Peter Price, Claude Combes, Gerry Esch and their students among others.

We will spend the first part of the semester covering basic concepts about parasite host specificity and life cycles, the second part of the seminar we will concentrate on the ecology of parasitic organism and finally the third portion of the semester we will focus on evolutionary concepts in parasitology. I will usually give an introductory lecture on the topic at hand and we will continue the discussions with student-led presentations and discussions based on readings in Combes (2001) or other papers that might be interesting.

**Text:** Claude Combes. 2001 Parasitism: The Ecology and Evolution of Intimate Interactions. The University of Chicago Press, Chicago and London.

**Instructor:** Dr. Matthew G. Bolek, 415 Life Sciences West, 744-9675  
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**Website:** www.matthewbolekm.com; go under teaching, and Ecology and Evolution of Parasitism.

**Attendance:** You are expected to attend class and lab and are responsible for assigned readings and all material presented in lecture and in lab.

**Academic Dishonesty:** I assume that you have read and understand the OSU policies on academic dishonesty. The penalty for **ANY** act of dishonesty in this class is a grade of **ZERO** on the assignment, see (<http://academicintegrity.okstate.edu>).

**Special Needs:** If you have a disability and need special accommodations of any nature, I will work with you and the Office of Disabled Student Services to provide reasonable accommodations to ensure that you have a fair opportunity to perform successfully in this class. Please let me know about your disability and the accommodations you desire by the end of the second week of class. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. Call 744-7116 v/t for more information.

**Drop Policy:** I assume you are aware of the drop and withdrawal dates and policies listed in the OSU class schedule. See (<http://osu.okstate.edu/acadaffr/aa/syllabusattachment-Fall.htm>). Last day to drop without a grade is August 30<sup>th</sup>; with an automatic W is November 12<sup>th</sup> and the last day to withdraw completely is December 3<sup>rd</sup>.

**Tentative Course Schedule**

**Part I: Introduction to Parasites and Parasitism**

Parasitism, Mutualism and Commensalism (PEEII Chapters 1; 19)

A Parasitological Primer: the ten general rules of parasitism and parasitology

Overview of Common Types Parasite Life Cycles

Host Specificity and Transmission Strategies (PEEII Chapter 2)

**Part II: Parasite Ecology**

Parasite Populations and Communities (PEEII Chapter 3)

Parasite Distribution (PEEII Chapter 4)

Parasite Population Regulation (PEEII Chapter 12)

Parasites and Host Populations (PEEII Chapter 15)

Parasites and Ecosystems (PEEII Chapter 16)

**Part III: Parasite Evolution**

Parasite Diversity in Time (PEEII Chapter 5)

Parasite-Host Coevolution (PEEII Chapter 6)

Genes and Parasites (PEEII Chapters 7; 8)

Genes and Parasites II (PEEII Chapters 9; 10)

How do Coevolutions Evolve (PEEII Chapter 11)

**Grading policy/scale: Grades will be determined based on the following percentages based on overall point accumulated in the course.**

<b>Letter Grade</b>	<b>Percentage Needed</b>
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	below 60%

**Graduate Calculations**

Participation.....	140 points
Presentation .....	<u>160</u>
	Total 300