

PCB4402: Disease Ecology & Eco-immunology

Course Syllabus, Information, and Policies

Description: (3,0) Examination of how hosts, parasites and environment interact to shape organisms, populations and communities.

Prerequisites for PCB4402: A grade of B or better in Genetics (PCB3063 or equivalent) and Ecology (PCB3044 or equivalent), or the instructor's consent.

Prerequisites for PCB5447: Instructor's consent or graduate standing.

Class Time: TH: 1:00-2:15 room Bio 0104.

Lecture Password: deei2021

Instructor: Dr. Ken Fedorka
BL 401B / BL 412
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I. SCOPE: All organisms are under the constant threat of parasites (e.g. humans, crops, livestock, and all other types of wildlife). In this course we examine how host-parasite-environment interactions dramatically influence host physiology, host populations dynamics, and host ecosystem dynamics. Topics include understanding how parasites are transmitted and spread through natural populations, their impact on host trait evolution, and their impact on food webs and community structure. In the end, we aim to provide a synthetic understanding of how parasites fundamentally shaped all life on earth.

II. Course website:
See webcourses

III. SUPPLEMENTAL MATERIAL: There will be weekly reading assignments from the primary literature. These will be posted on webcourses

IV. ATTENDANCE: Attendance is mandatory. A significant portion of the grade will be based on student participation. If you're absent, you can't participate.

V. OFFICE HOURS: By appointment

VI. ASSESSMENT and GRADES:

A. Assignments:

1. **Exams:** exams will be short answer and designed to test your ability to synthesize course material in new ways, not always to regurgitate facts. No exam will be dropped.
 - a. **Missed Exam Policy:** Make-up exams for exams will be provided for the following reasons: (1) *Official university business*. If your presence was required for an official university event (e.g. a university-sponsored team event) a make-up exam will be provided. Hard-copy documentation must be provided 48 hours in advance from the appropriate university body. (2) *Unforeseen emergencies*. You must contact me as soon as reasonably possible and provide hard-copy

documentation (a signed document from a doctor, police officer, judge etc. - not by e-mail). The absence must have been caused by a valid emergency as defined by UCF and/or the professor, including but not limited to: major illness, serious family emergency, jury duty, military obligation, etc. If approved, a make-up exam will be administered. Please note, if more than one exam is missed for a valid reason, the student risks receiving an incomplete.

2. **Paper Reading:** Once each week, students will be assigned readings from the primary literature. Students must submit a formal summary of this required reading (the template for the summary is available on the course website). Approximately 22 readings worth 5 points each will be assigned.
3. **Paper Discussion Participation:** During each paper discussion, students can earn up to 5 points in participation. Education is driven largely by discourse amongst colleagues. Therefore, participation is essential to learning and understanding. Accordingly, students are expected to attend each class and actively discuss the assigned readings. **NOTE:** Active discussion is defined in this class as numerous and continued comments of an insightful nature that acts to clarify issues or present alternative views (“I didn’t understand X” does not qualify as active discussion).
4. **Paper Discussion Lead:** Each student will be assigned to “lead” the discussion for at least one paper. This entails summarizing the reading assignment to the class and opening discussion on the assignment. When discussion wanes, the student is expected to reinvigorate discussion with perspectives or question about the reading assignment.

B. Grades

Undergraduate:		
Exam I:	150pts	A = 480-432 pts
Exam II:	150pts	B = 431-384 pts
Reading assignments:	100pts	C = 383-336 pts
Participation:	55pts	D = 335-288 pts
<u>Discussion lead:</u>	<u>25pts</u>	F = 287 pts and below
	Total: 480pts	

Rounding Policy: If your course grade is $\leq 0.5\%$ below a higher grade (e.g., your total score = 89.5%), your grade will be rounded up to the higher grade (e.g., 90.0%). Only the final, total course score will be rounded – each grade component during the semester will not be rounded. There will be no exceptions to this policy and no other adjustments will be made.

VI. CLASSROOM CONDUCT: By enrolling at UCF, all students have agreed to abide by the Golden Rule. Please become familiar with this document at: <http://www.goldenrule.sdes.ucf.edu/>. Please also use common courtesy in class by arriving and departing on time, refraining from sleeping / talking during class, and **turning off** cell phones, music devices, etc. Students are responsible for all announcements made or assignments given during class. Students who fail to abide by the above may be asked to leave the class.

VII. DISABILITY ACCESS STATEMENT: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the instructor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the instructor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the instructor.

Final Note: The professor reserves the right to change the syllabus and management of the class at any time during the semester. These changes will be announced in lecture. Remember, this syllabus is **NOT** a contract between the professor and student.

TENATIVE LECTURE SCHEDULE

Week	DATE	Topics	Assignment
1	22-Aug	Orientation - What is Science	
	24-Aug	Parasites I	
2	29-Aug	Parasite II	R1 - Als, R2 - Lyon
	31-Aug	No class - football game	
3	5-Sep	No-class	
	7-Sep	No-class - Hurricane Irma	
4	12-Sep	No-class - Hurricane Irma	
	14-Sep	No-class - Hurricane Irma	
5	19-Sep	<i>R1 & R2 Paper Discussion</i>	
	21-Sep	Host immunity	R3 - Kurtz, R4 - Sadd
6	26-Sep	Immune Evasion & host Manipulation	R5 - Bakker, R6 - Warren
	28-Sep	<i>R5 & R6 Paper Discussion</i>	Proposal ideas due (Grads)
7	3-Oct	Evolution of Virulence	R7 - Messenger, R8 - Ebert
	5-Oct	<i>R7 & R8 Paper Discussion</i>	
8	10-Oct	Variation in Disease Susceptibility	R9 - Altizer, R10 - Jaenike
	12-Oct	<i>R9 Paper Discussion</i>	
9	17-Oct	<i>R10 Paper Discussion</i>	
	19-Oct	Midterm Exam	
10	24-Oct	Sex and Parasites	R11 - Duneau, R12 - Nunn
	26-Oct	<i>R11 & R12 Paper Discussion</i>	Rough draft due (Grads)
11	31-Oct	Community Ecology Meets Epidemiology	R13 - Hawley
	2-Nov	<i>R13 Paper Discussion</i>	
12	7-Nov	Parasites and Host Population Dynamics	R14 - Richner
	9-Nov	<i>R14 Paper Discussion</i>	Rough draft returned (Grads)
13	14-Nov	Parasites and Community Ecology	R15 - Wood, R16 - Johnson
	16-Nov	<i>R15 & R16 Paper Discussion</i>	
14	21-Nov	Parasites and Biological Invasion	R19 - Altizer, R20 - Daszak
	23-Nov	No-class - thanksgiving	R17 - Mitchell, R18 - Torchin
15	28-Nov	<i>R17 & R18 Paper Discussion</i>	
	30-Nov	<i>R19 & R20 Paper discussion (conservation)</i>	
	7-Dec	Final Exam 1:00 - 3:50pm	papers due (Grads)