

BIO 5490/7490
Population and Community Ecology
Course Syllabus
Winter Semester 2019

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CLASS LOCATION

115 State Hall

CLASS MEETING TIME

Tuesday, Thursday 2:30-3:45pm

OFFICE HOURS

Tuesdays and Thursdays 1pm-2pm, or by appointment (please contact Dr. Steiner via email at least one day in advance to schedule a meeting)

COURSE DESCRIPTION AND OBJECTIVES

This course will use a combination of lectures and discussions of primary literature to explore advanced topics in population and community ecology. Both empirical and theoretical perspectives will be examined. Topics will include: population dynamics of animals and plants, life history theory, population regulation, species interactions and the structure and dynamics of communities.

Upon successful completion of this course, students should be able to:

- 1) interpret and construct mathematical models of ecological systems and apply their predictions to novel ecological scenarios
- 2) interpret and critically evaluate data from the primary literature
- 3) synthesize findings from the primary literature and present syntheses in a written and oral format
- 4) demonstrate an understanding of the fundamental processes that influence the dynamics and structure of natural populations and communities
- 5) demonstrate an understanding of the influence of community structure on the functioning of ecosystems (including trophic dynamics, energy flow, and stability).
- 6) graduate level students should be able to synthesize findings in a sub-discipline of ecology and present areas of further research exploration in the form of a research grant proposal.

COURSE PREREQUISITES

Students are required to have completed and passed the following courses: basic introductory biology (BIO1500 or equivalent) and an undergraduate level ecology course (e.g., BIO 4130 or equivalent). Those not meeting these requirements must seek approval by the instructor for admittance into the course. Proficiency with basic calculus and algebra will be beneficial but prior courses in these topics are not required.

GRADING

900 points total for the course:

- 200 points midterm exam I
- 200 points midterm exam II
- 200 points midterm exam III
- 10 points for attending class (only lectures)
- 90 points for participating in case study discussions
- 200 points oral presentation

In addition to the above, those seeking graduate level credit (BIO 7490) must also complete and pass a writing assignment due near the end of the semester (a detailed description is provided below). You will not be allowed to pass the course unless a passing grade of C- or higher is attained on the writing assignment. If a passing grade is attained on the writing assignment, your grade for the course will then be based on the grading scheme provided above. Students who fail to attain a C- or higher after revision of their assignment will be given an incomplete (I) for the course and a due date for further revision will be established for the following semester.

The final letter grades for the course will be based on the total percentage accumulated at the end of the semester and assigned based on the following:

A	93.5 – 100%	C	72.5 – 75.4%
A-	89.5 – 93.4%	C-	69.5 – 72.4%
B+	85.5 – 89.4%	D+	65.5 – 69.4%
B	82.5 – 85.4%	D	62.5 – 65.4%
B-	79.5 – 82.4%	D-	59.5 – 62.4%
C+	75.5 – 79.4%	F	≤ 59.4%

EXAMS

There will be three in-class, non-cumulative midterm exams covering material presented during lectures and class discussions. Exams will be a combination of multiple choice and short-essay questions. Exams will be closed book and held in class. No electronic devices of any kind will be allowed unless indicated otherwise in advance. Anyone who leaves the exam room will not be allowed back in. Late-arriving students should know that admittance into the exam room will not be allowed after the first student has left the room.

Students with scheduling conflicts for the midterms must notify Dr. Steiner by email at least two weeks in advance of the exam dates. No make-up exams will be given unless notification in writing is provided by this date. Reasonable exceptions will be granted in cases of illness which will require notification prior to the exam and must be followed up with an original signed note from a physician (all physician notes will be verified; notes that cannot be verified by the signing physician will result in an automatic zero on the exam).

CLASS READINGS AND CASE STUDY DISCUSSIONS

Required textbook - “Community Ecology” by Gary Mittelbach (2012, Sinauer Associates)

In addition to assigned book readings, supplemental readings may also be assigned from time to time (and posted on Canvas). These are meant to serve as background for materials presented in lectures and should be read.

We will also routinely discuss case studies (i.e. journal articles) in class (see the Case Studies Readings list for papers and discussion dates). Each student must develop a list of 3 or more key questions that will serve as a basis of discussion. Discussion questions should be submitted in Canvas to Dr. Steiner by 5pm the day before a discussion. To do so, go to the assignments section in Canvas and there you will find an "assignment" for the discussion paper. If I feel that the questions are inadequate in their depth or show that you have not read the paper, I may send them back to you and ask you to revise them. Every student should be familiar enough with the paper to critically evaluate it and/or point out issues you think are strengths or weaknesses of the paper (these can serve as the discussion questions). All students are expected to actively participate in the discussion of papers by asking questions and making points you think are relevant to the discussion. Your class participation points will be equally dependent on your active contribution to the discussions and on the submission of discussion questions.

GRADUATE LEVEL (BIO 7490) WRITING ASSIGNMENT

Students seeking graduate level credit (BIO 7490) will be required to submit a writing assignment in the second half of the semester (due dates will be announced in lecture). The assignment will take the form of a research grant proposal (in the style of a National Science Foundation dissertation improvement grant) on a population/community ecology topic of the student's choice. All topics must be pre-approved by the instructor. Proposals should be at least 8-10 pages in length (double-spaced), not including references and figures. Details on the format of the proposal will be provided in class. As described above, obtaining a grade in the course is contingent upon passing the writing assignment with a C- or higher.

ORAL PRESENTATIONS

In lieu of a final exam, each student will give an oral presentation on a population or community ecology topic of the student's choice. All topics must be pre-approved by the instructor (see class schedule). Presentations should be approximately 12 minutes in length, with 2-3 minutes left open for questions from the class and must use computer-based presentation software (e.g., PowerPoint, pdf, etc.). The presentation should provide a review and synthesis of the topic, highlighting the current state of knowledge as well as potential future areas of research. Presentations must use information obtained from the primary literature (i.e. scientific journal articles) and a list of references must be provided at the end of the presentation. A copy of the presentation should be emailed to Dr. Steiner by 12 noon of the day of the presentation. Oral presentations will take place during the last week of class during the normal class times and if needed during the scheduled final exam period (April 25, 2:45-4:45 pm). Students are expected to attend all days of presentations.

EXAM GRADE DISPUTES / CHALLENGE OPTION

Students will have one (1) week after the return of an exam or a written assignment to challenge a grade for any question. Failure to challenge the grade within this period indicates a willingness to accept the grade as is. The challenge should consist of a written description of why the answer is correct based on other published material that you cite. It is not an opportunity to complain.

CHEATING

Cheating is covered in detail in the Wayne State University Code of Conduct, found at <https://doso.wayne.edu/conduct>

Students found to be cheating during an exam (using a “cheat sheet” in physical or electronic form, looking at another’s paper, or allowing another to look at yours), will receive a zero for that test with no opportunity to drop or replace that score. A second episode of cheating will result in a grade of F for the course and may also result in initiation of university disciplinary action.

No electronic devices (cell phones, tablets, computers, smart watches, cameras, calculators, etc.) are to be present at an exam. Those present will be confiscated until the exam is completed, and students using such devices to cheat on an exam will receive a zero on the exam.

POSTING OF EXAM GRADES

Exam grades will be posted on Canvas as soon as possible after the exam has been administered.

SPECIAL CONSIDERATIONS FOR INDIVIDUALS WITH DISABILITIES

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. The SDS telephone number is 313-577-1851 or 313-202-4216 for videophone use. Once you have met with your disability specialist, I will be glad to meet with you privately during my office hours to discuss your accommodations. Student Disability Services’ mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. You can learn more about the disability office at www.studentdisability.wayne.edu.

RELIGIOUS HOLIDAY CONFLICTS

If you have a conflict with any of the scheduled class or exam times due to religious reasons, you must notify Dr. Steiner via email at least two weeks in advance of the date of conflict.

ADD/DROP POLICY

September 12, 2018 is the last day you can drop classes and get your tuition refunded. From September 13, 2018 until the last withdraw date (November 11, 2018), if you withdraw from the course you will receive a WN on your transcript if you never completed any exams; a WP if you have greater than 60% of the points possible at the time of your request on exams; or a WF if you have less than 60% of the points possible at the time of your request. No exams are dropped or replaced in this calculation. You can initiate a withdrawal request in Academica, and the system will contact me. I will respond within five business days. Failure to withdraw before the deadline will result in the student receiving the grade earned in the course. See <https://reg.wayne.edu/students/calendar18-19> for more important dates.

UNEXPECTED UNIVERSITY CLOSURES

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day. Closure of the University is announced by the following mechanisms:

1. the University Newline (313) 577-5345 *
2. WSU Homepage (www.wayne.edu) *
3. WSU Academica portal (academica.aws.wayne.edu) *
4. WDET-FM (Public Radio 101.9)
5. by other local radio and television stations

* Note: The information on closures and class cancellations is likely to be found at these locations before it is broadcast by local radio and television stations

Any specific issue not covered by this syllabus will be resolved using University policies. Disputes that cannot be resolved following the guidelines present in this syllabus will be resolved by following the guidelines of the University "Student Due Process".