

Community and Population Ecology

Biology 3250

Winter 2022

Instructor:

Dr. Nigel E. Hussey

Office: 218 Biological Sciences

Email: nehussey@uwindsor.ca

Phone: Ext. 4957

Office Hours: Thursday 14:00 – 15:00 by appointment only

TEXT: There is no assigned or required textbook for this course. The course will closely follow the structure of: Mittelbach, GG (2012) Community Ecology. Sinauer Assoc. Inc. I recommend you purchase a copy of this text for your reference.

ADDITIONAL READINGS: Supplemental readings, primarily peer reviewed published papers will be assigned throughout the course. These readings will either be overview papers to provide general background for class discussion, or material required for specific lectures/quizzes undertaken in class (see quizzes below). In most instances, I will provide these materials, but I will also expect students to find relevant published material using university/library search tools.

CLASS TIMES: Lectures will take place twice a week (3 hrs/wk); Tuesday and Thursday 11:30 – 12:50. All lectures will be virtual via the internet but all will be live unless otherwise informed by the instructor. Please be prompt to join the virtual classes as they will begin immediately at the above times.

COURSE OBJECTIVES: The goal of this course is to provide a scientific understanding of community and population ecology, including how communities and populations are assembled, altered by humans, diverse interactions among species and how the physical environment mediates those interactions. By the end of this course, each student will have the ability to:

1. Discuss the importance of biodiversity and calculate common biodiversity and population metrics;
2. Understand species interactions, for example, herbivory, predation, competition and their context in Ecological Networks, Food chains and Food webs and Metapopulations and Metacommunities;
3. Interpret and summarize data/concepts in refereed journal articles on population and community ecology;

4. Identify and put in context important theoretical concepts in population and community ecology.

GRADES and GRADE ALLOCATION: The standard University of Windsor grading scheme will be used throughout this course as posted on the University of Windsor website. Grade breakdown is as follows:

Activity	Date	Percent of Grade (%)
Midterm Examination	March 8 th	35
Assignments (x3)	At set dates throughout the course	30
Final Examination:	Date to be scheduled	35

Note: Reading week is 19th – 27th February.

LECTURE NOTES: PowerPoint presentations of lecture notes will be posted on the relevant university website. These will be posted just prior to the start of each class. Please download these and have them with you for each class. In summary, these presentations provide an overview or outline of the material covered in each class. It is therefore your responsibility to take additional notes in each class that build on the framework provided in the PowerPoint files. You will be tested on all material discussed in classes in your midterm and final examinations. Please contact the University of Windsor if you have concerns over accessing a computer or PowerPoint files.

Importantly, these PowerPoint lecture notes are not intended as a replacement for not attending lectures. If you do not attend lectures, where substantial additional information will be relayed to that included in the slides, you will not achieve well on this course.

ASSIGNMENTS: There will be a total of three assessed class quiz assignments that will take place on three separate dates spread throughout the course (see tentative schedule below). Prior to the class quiz assignments, students will be assigned a peer reviewed publication to read. Within class, students will undertake various activities related to either the peer reviewed publication (but will be allowed to consult the publication throughout this time) and/or materials that will be provided in class. Quizzes may take the form of class discussion, written short answers, drawing figures, interpretation of figures etc. Each class quiz assignment will be worth a total of 10%, equaling a total of 30% across the semester.

If you do not attend the class quiz assignment, you will be assigned zero marks.

Proposed dates for these class quiz assignments are 10th February, March 22nd and April 5th. Dates may be altered and students will be notified in advance.

MIDTERM (LECTURE) and FINAL EXAMINATION: Exams will include a combination of multiple choice and short answer questions. You may be asked to draw graphs/diagrams and also

interpret figures. The mid-term will cover material covered in the course up until that point, the final exam will be a comprehensive exam covering the entire course not just the material since the mid-term. All exams will be undertaken online through a chosen medium. Cheating during exams will result in a grade of zero and referral to the Dean's office for disciplinary action.

Missed exams: You are expected to write your exam at the appointed time. If a student misses an exam for medical reasons (documented illness – UW Biology Medical Certificate Form available and must be completed by the attending physician) or due to a death in the family, the student may request a make-up exam. A student missing the mid-term and/or final exam for the above reasons must notify the instructor within 24 hours of the exam having taken place and provide the required documentation. Make-up exams **MUST** occur within one week of the original scheduled exam date. There are no exceptions to the above rule. If you do not provide the required documentation or fail to attend a rescheduled exam you will receive zero marks.

Contesting exam grades: There is the possibility that a simple addition mistake will be made during marking, however, to avoid numerous appeals by students for a higher grade than obtained, the following procedures must be followed. Oral cases for regrading of exams will only be allowed following the below procedure:

- 1) If the issue is purely an addition mistake while I was totaling the grades, please write "Addition error" at the top of the exam and hand it back to the instructor. I will adjust your grade accordingly and return the exam in the following class.
- 2) If you wish to contest a mark assigned to a given question – please type out the original answer that was written in your midterm in a separate word document. Then provide a paragraph explaining why your answer/s addressed the original question or why you feel it deserves more marks. You can reference course notes, peer reviewed papers or information from text books to support your argument. I will read your original answer and explanatory paragraph and make a final decision on your grade. If a student raises concern over their grading of questions, I may choose to re-grade the entire exam. Please note that this type of re-evaluation can either increase or decrease you overall grade and is at the discretion of the instructor. You have one week after exams are returned to apply for a regrade.

UPDATED PROCESS FOR REPORTING ILLNESS (Winter 2022):

1. The University has an official policy for how to report illness during the Winter semester of 2022. The details are at the following website:
http://ask.uwindsor.ca/app/answers/detail/a_id/577
Specifically, you must fill out the "Report Illness" form on that website and submit it. Please note that it is an academic offense to report a sickness if you are not, in fact, sick.
2. Please send your instructor an email message to confirm you have submitted an Illness Report through the above web link.

TEACHING EVALUATIONS: Student evaluations of teaching forms will be distributed during the last two weeks of class.

PLAGIARISM: Plagiarism, whereby you submit work written by someone else under your own name, is not tolerated in this class. Please see the University of Windsor's official policy on Plagiarism at <http://www.uwindsor.ca/aio/plagiarism-policies-and-definitions>. In brief, if more than five words of identical text to that written elsewhere are found without relevant citation or quotation, you will be deemed to have plagiarized. Plagiarism will result in an automatic zero on an assignment.

PROFESSIONALISM: Any disruptive behavior (such as excessive talking, etc) will not be tolerated and students causing the disruption will be asked to leave. No texting or phone calls will be tolerated in class. Students should be organized throughout the semester with respect to the information provided in this syllabus, in lectures and on the website.

TENTATIVE LECTURE SCHEDULE

Please note, the Instructor will base the overall course content around the topics listed below, but content and order of content may vary. Invited speakers may also present course material.

COMMUNITY AND POPULATION ECOLOGY – NIGEL E. HUSSEY

Date	Topic	Additional Information
Jan 18 th	Course Overview and Syllabus	
Jan 20 th	What is community and population ecology	
Jan 25 th	What is Community and population ecology II	
Jan 27 th	Patterns of biodiversity	
Feb 1 st	Patterns of biodiversity II	
Feb 3 rd	Patterns of biodiversity III / Start Spatial patterns	
Feb 8 th	Spatial patterns	
Feb 10 th	CLASS Quiz ONE	Reading assigned
Feb 15 th	Spatial patterns II / Start biodiversity and ecosystem function	
Feb 17 th	Biodiversity and ecosystem function	
Feb 22 nd	No Class – READING WEEK	
Feb 24 th	No Class – READING WEEK	
Mar 1 st	Biodiversity and ecosystem function II / Start Population growth and density dependence	
Mar 3 rd	Population growth and density dependence II	
Mar 8 th	MID-TERM	
Mar 10 th	Fundamentals of predator-prey interactions	
Mar 15 th	Selective predators and responsive prey	
Mar 17 th	Selective predators and responsive prey	
Mar 22 nd	CLASS Quiz Two	Reading assigned
Mar 24 th	Interspecific competition	
Mar 29 th	Interspecific competition II	
Mar 31 st	Competition in nature	
Apr 5 th	CLASS Quiz Three	Reading assigned
Apr 7 th	Competition in Nature II	
Apr 12 th	Beneficial interactions in communities	
Apr 14 th	Species interactions in ecological networks	