IBIO /PLB 355 – Introduction to Ecology

Fall 2020 Syllabus

Our course will use a mix of asynchronous and synchronous learning. We will meet weekly, using ZOOM, on <u>Thursdays</u> 3:00 – 4:20 PM. (See below for details.). <u>https://msu.zoom.us/i/92319097484</u> Passcode: eco2020

1) Course Information

Co-Instructors

Dr. Mary Tate Bremigan Zoom Office Hours: Tuesdays 3-4:20 using this Zoom link: <u>https://msu.zoom.us/j/96535023202</u> PW = puppy. When you enter the zoom, you will be in a waiting room, to assure student privacy. E-mail: <u>bremigan@msu.edu</u>

Dr. Ian McCullough Zoom Office Hours: Tuesdays 3-4:20 using this Zoom link: <u>https://msu.zoom.us/j/96502615456</u>. Password: **moose.** When you enter the zoom, you will be in a waiting room, to assure student privacy. E-mail: <u>mccul169@msu.edu</u>

Graduate Teaching Assistant

Scott Warner Zoom Office Hours: Fridays 9-10:30 AM using this Zoom link: <u>https://msu.zoom.us/j/96570805395</u>. Password: **Botany**. When you enter the zoom, you will be in a waiting room, to assure student privacy. E-mail: <u>warner91@msu.edu</u>

Course Description

Ecology is the study of how organisms interact with their environment. In this course, we will cover four broad topic areas spanning different levels of organization: (1) Individuals (2) Populations (groups of individuals of the same species) (3) Communities (multiple interacting species) and (4) Ecosystems (species interacting with the physical environment). In each section, we will focus both on basic ecological theory and on applying basic theory to current environmental problems. Ultimately, ecologists integrate knowledge from all these levels of organization. Similarly, in our course, new content builds on previous content throughout the semester.

Prerequisite

BS 162 or BS 182H or LBS 144 or equivalent. Experience with basic organismal biology is necessary for this course.

Textbook & Course Materials

Ecology: Concepts and Applications, 8th edition. Manual C. Molles, Jr. and Anna A. Sher, McGraw Hill. 2019. Copies may be purchased from the bookstores and e-commerce websites including the Student Bookstore e-book link: <u>https://sbsmsu.redshelf.com/search/?terms=9781260136913</u> The 6th, and 7th editions are also acceptable. Textbook reading assignments for the 6th and 7th editions are located in the **'General Course Information' folder** on our D2L page. E-textbooks are also available and can be obtained at www.coursesmart.com. **The textbook assigned readings are required.**

Recommended Texts & Other Readings

This course includes occasional additional required readings. These readings will help connect ecological theory to real world examples and will be posted on our D2L page. These will be announced in advance over email and on D2L.

Course Requirements

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to Desire2Learn (D2L)
- Use of Zoom software. Go to <u>http://zoom.msu.edu</u> to download Zoom.

Course Structure

This course will be delivered online through D2L and Zoom. You will need your MSU NetID to login to the course from the D2L homepage (http://d2l.msu.edu).

The <u>asynchronous</u> component of class will be delivered on D2L. Within the 'Content' tab, there will be weekly course modules posted. Within each weekly module, you will typically find two sub-modules. Each sub-module corresponds to what would be one class in a face to face setting. Most sub-modules require that you read one assigned chapter of our textbook. Sub-modules begin with a quiz that is based on the assigned reading. You must complete the reading quiz before being able to access recorded lecture material. Most sub-modules will include 2 recorded lectures (each about 15-20 minutes in length). Each recorded lecture will be followed by a short quiz on D2L or a short assignment to be submitted on D2L. All of the quizzes/short assignments for each weekly D2L module will be due by 11:59 PM on Friday night. At that time, the next weekly module will become available on D2L.

The <u>synchronous</u> component of class will occur on Thursdays, using Zoom, from 3:00 – 4:20 PM (our scheduled course time). During these Zoom sessions, students will be placed into 5-person teams, and teams will work on exercises that engage students with course content at a deeper level than the D2L quizzes. Participation will be monitored throughout the Zoom session. When submitting their weekly teamwork assignment, members of the team must agree to only include the names of team members who contributed to the submitted work. Each team will submit their work on D2L by 11:59 PM on Friday night. This work will contribute to students' semester grades (see below). Students will be in the same team for the 1st month of the course. After

that, students will have the option to stay with their original team or join a new assigned team. Each month, students will have this option. Three times during the semester, the synchronous time on Thursday will be used for exams on D2L. Exams will be completed by students individually (not in teams).

Reminder from above: Synchronous Zoom Information https://msu.zoom.us/j/92319097484 Passcode: eco2020

Technical Assistance

If you need technical assistance at any time during the course or to report a problem you can:

- Visit the MSU Libraries Discovery Services Site (https://lib.msu.edu/dls/)
- Visit the Desire2Learn Help Site (https://help.d2l.msu.edu/)
- <u>Visit the MSU IT Help & Support Site (https://tech.msu.edu/support/help/)</u>, call (517) 432-6200 or toll free (844) 678-6200, or email <u>ithelp@msu.edu</u>

Resource Center for Persons with Disabilities (RCPD)

We (Michigan State University and your instructors) are committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities. To make an appointment with a specialist, contact (517) 353-9642 or TTY: (517) 355-1293. RCPD can be accessed online at: https://www.rcpd.msu.edu/get-started

Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("VISA") form. Students with VISAs must email their form to Dr. Bremigan and Dr. McCullough within the first two weeks of the semester. Please include 'IBIO355 VISA' in the subject line. Requests received after this date will be honored whenever possible.

2) Course Objectives and Learning Outcomes

The primary learning objectives for this course revolve around 7 'Big Ideas' in Ecology. This course is designed for students to learn to describe/interpret experiments, models and empirical data that can be used to test hypotheses related to each Big Idea:

- 1) The physical environment varies in ways that influence the adaptations of individuals, the abundance of populations, and the composition of communities.
- 2) Species are not distributed randomly. A species' range and habitat use is determined by its interactions with both the abiotic and biotic environment.
- 3) All populations have the potential for exponential growth but rarely is exponential growth realized.
- 4) All species interact with other species both directly and indirectly.
- 5) Numerous species coexist in ecological communities but some communities are more diverse than others.
- 6) The flow of energy through ecosystems determines the abundance of organisms and the trophic complexity of communities.
- 7) Nutrients cycle between abiotic and biotic compartments within ecosystems, and ultimately, the Earth.

Learning outcomes:

By successfully completing this course, you should be able to:

- a) understand how ecological data are collected and used to develop and test ecological theory,
- b) interpret ecological data and scientific findings within the context of ecological theory, and
- c) place ecological research in a broader societal context.

You will meet the objectives listed above through a combination of components in this course that are designed to have you engage with the material in incremental steps of complexity and in a variety of ways. The general format associated with each assigned chapter of the textbook will be:

- I. Read the assigned chapter.
- II. Complete the D2L quiz that focuses on terms and straightforward content presented in the chapter.
- III. Watch the recorded short lectures that focus on overarching concepts, approaches and examples presented in the chapter, and
- IV. Complete the D2L quiz or short exercise (submitted to a D2L assignment dropbox) that follows each recorded short lecture. In many cases, in the quiz/exercise, students will engage with a novel example that was not presented in the reading, or students will engage with an example from the reading in greater detail.
- V. Working with a team of students practice ecology skills with novel examples and discuss questions regarding course content during our synchronous course meetings on Thursdays. Each team will submit materials by 11:59 PM on Friday (the day after the synchronous activity).

As described earlier in the syllabus, typically there will be 2 assigned chapters (or substantive readings) per week and 2 recorded lectures (each followed by a quiz or exercise) <u>per</u> reading. There will also be 1 synchronous meeting per week (Thursdays) with a team exercise completed by 11:59 pm the next day. *That means on a weekly basis, students can expect to read 2 textbook chapters, watch 4 recorded lectures (typically 15-20 minutes each), complete a short quiz or exercise associate with each lecture, and participate in 1 team exercise.*

3) Grading Policy

Graded Course Activities

The table below describes the graded course activities including points and activity description.

| Components | # during semester | Grade calculation | Percent Contribution to Course Grade |
|---------------------------------------|----------------------|--|--|
| Reading quizzes | ~22 | Drop 2 lowest scores | Scale average to contribute |
| (before lectures) | | average % score. | 12/0 01 COULSE grade |
| After lectures quizzes and exercises. | ~44 | Drop 4 lowest scores and the calculate average % score. | Scale average to contribute 28% of course grade. |
| Weakly team exercises (Thursdays) | ~10 | Drop 2 lowest scores and then calculate average % score. | Scale average to contribute 24% of course grade. |
| Outdoor assignment | 1 | | Scale grade to contribute 4% of course grade. |
| Exams | 4 | Calculate average % score. | Scale average to contribute 32% of course grade. |

Synchronous Thursdays: Participation and Engagement

During each synchronous Thursday zoom session, students are expected to be fully engaged and prepared to interact with their assigned team members. Participation will be monitored throughout the Zoom session. When submitting their weekly teamwork assignment, members of the team must agree to only include the names of team members who contributed to the submitted work.

Engagement and active participation include, but are not limited to, the following behaviors:

- 1. Asking and answering questions of the instructors and peers
- 2. Bringing forth new ideas, information, or perspectives to academic conversations
- 3. Discussing your readings and reflections with instructors and peers
- 4. Meeting with the instructors to discuss your interests, questions and assignments
- 5. Questioning information presented and discussed
- 6. Participating in small group discussions and activities
- 7. Assuming responsibility for personal behavior and learning

While working on group exercises, students should be mindful of other students in their group; therefore, it is important for all participants to exercise:

- Respect for themselves, and each other
- Openness and a positive attitude toward new ideas and others' ideas
- Flexibility and tolerance of ambiguity
- Good communications amongst themselves.

Late Work Policy

Answers to each week's quizzes will be posted shortly after the weekly due date of Friday at 11:59 PM. Therefore, late submissions of D2L quizzes and exercises will not be allowed unless prior arrangement has been made with Drs. Bremigan and McCullough (most typically due to illness or a grief absence). Similarly, late submissions of the weekly team exercises will not be allowed. Note that for these course components, a specified number of lowest scores will be dropped, in recognition that 'things happen' such as intermittent internet access troubles, personal events, etc. A late submission of the outdoor assignment will have 5% deducted from its grade for each day that it is late.

Make-up exams. <u>Make-up exams will be given only if you have a written medical excuse or have</u> <u>made prior arrangements with the instructors</u>. Make-up exams are generally essay format or are oral exams.

- If you miss an exam because you are ill, contact Dr. Bremigan and Dr. McCullough as soon as possible. When you recover, you must send your medical note from your doctor as an email attachment and we will make arrangements with you to take a make-up exam.
- If you regrettably must attend a memorial service for a family member, please notify us in advance. Also, be sure to complete the University's Grief Absence Request Form.

Questions about exam answers. If you believe an alternative answer to an exam question is a better choice than the correct answer that we have indicated, please write a summary of your reasoning and give that to Dr. Bremigan (exam 1 or 4) or Dr. McCullough (exam 2 or 3) within the first week after the exam grades have been posted. We will review the question and your summary and credit points as appropriate. Instructions about this process will be provided on D2L.

Viewing Grades

All grades will be posted on D2L. For quizzes that are automatically graded, grades will be posted within a few days (<1 week) of the weekly deadline for submission of Fridays at 11:59 PM. Exam grades and the outdoors assignment grade will be posted within 2 weeks of each exam/due date (unless unforeseen complications arise).

Grade Point Assignment (Grading Scale)

The table below describes the relationships between letter grades, percent, and performance. The first column describes the letter grade. The second column describes the percentage associated with that letter grade. The third column describes the performance represented by that letter grade and percentage.

| Grade Point | Percentage | Performance |
|-------------|------------|--------------------|
| 4.0 | 90 to 100% | Excellent Work |
| 3.5 | 85 to <90% | Above average |
| 3.0 | 80 to <85% | Good Work |
| 2.5 | 75 to <80% | Mostly Good Work |
| 2.0 | 70 to <75% | Average work |
| 1.5 | 65 to <70% | Below average work |
| 1.0 | 60 to <65% | Poor work |
| 0 | <60% | Failing work |

Part 5: Course Policies

Diversity Equity and Inclusiveness

Diversity, Equity and Inclusion are important, interdependent components of everyday life at MSU and are critical to our pursuit of academic excellence. Our aim is to foster a culture where every member of MSU feels valued, supported and inspired to achieve individual and common goals with an uncommon will. This includes providing opportunity and access for all people across differences of race, age, color, ethnicity, gender, sexual orientation, gender identity, gender expression, religion, national origin, migratory status, disability / abilities, political affiliation, veteran status and socioeconomic background.

Commit to Integrity: Academic Honesty

Article 2.3.3 of the <u>Academic Freedom Report</u> states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the (insert name of unit offering course) adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See <u>Spartan Life: Student Handbook and Resource Guide</u> and/or the MSU Web site: <u>www.msu.edu</u>.)

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this

course. Also, you are not authorized to use the www.allmsu.com web site to complete any course work in this course. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also the <u>Academic Integrity</u> webpage.)

PART 6: GENERAL COLLEGE AND UNIVERSITY POLICIES

Standard Course Dates

Class Begins - 9/2/2020 Open adds end (8:00pm) - 9/9/2020 Last day to drop with refund (8:00pm) - 9/28/2020 Last day to drop with no grade reported (8:00pm) - 10/21/2020 Class Ends - 12/11/2020

All other general college and university policies applicable to this course are available at <u>https://www.canr.msu.edu/academics/courses/policies</u>. Please review these policies. Topics covered in these general policies include:

- Students with disabilities, Resource Center for Persons with Disabilities (RCPD) and accommodations
- Student rights under the family educational rights and privacy act (FERPA)
 Student release authorization form
- Religious holiday policies
- Grief absence policies
- Students in distress policies
- MSU student athlete policies
- Course add-drop policies
- Honors options
- Course Management system policies
- Final exam policy and attendance
- Grade dispute policies
- Academic honesty and integrity, plagiarism, and disciplinary procedures
- Disruptive behavior
- Harassment and discrimination policies
- RVSM University reporting protocols
- Limits to confidentiality
- Social media policy
- Web accessibility policies
- MSU Code of Teaching Responsibility
- SIRS
- Commercialization of lecture notes
- University Learning Goals