

**SYLLABUS FOR BI 240
CONSERVATION BIOLOGY
JAMR 1318**

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My commitment to diversity and inclusion: I want to acknowledge that we are on the ancestral homelands of the Anishinaabe Nation and that the Anishinaabe people are among the First Peoples of the Great Lakes. In addition, I believe the diversity all students bring to my classroom is a resource, strength, and benefit to our shared pursuit of scientific knowledge. My goal is that the learning needs of students from all backgrounds and perspectives will be well served in my classroom and that all students in my class are supportive and respectful of the diversity represented here: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, immigration status and religion. Further, I believe that all people have the right to be addressed and referred to in accordance with their personal identity. As such, please let me know the name you prefer to be called as well as your preferred pronouns and I will do my best to refer to all students accordingly and support your fellow classmates in doing so as well. If my academic schedule conflicts with any of your religious events, let me know so that I can make arrangements for you to not miss out important activities and assignments. Please let me know if/how I can make you feel more welcome, valued and supported in our shared pursuit of conservation knowledge.

Sincerely, Dr. Lafferty

Course Learning Objectives

Through a lens that embraces justice, equity, diversity, and inclusion (JEDI), by the end of the semester, you should be able to...

- Explain the purpose, need and value of Conservation Biology from myriad perspectives by considering the view of people from diverse demographics and geographies.
- Explain why the integration of perspectives from people that represent the diversity of our human society are essential for developing ecologically relevant and socially just conservation initiatives and explain how/why lack of JEDI limits long-term conservation advances.
- Describe the role that Traditional Ecological Knowledge has in contemporary conservation.
- Explain and discuss the systemic barriers that limit participation of underrepresented minorities in conservation.
- List, describe, and explain why the conservation of natural resources is intimately linked to social justice.
- List, describe, explain, and create visualizations to convey your understanding of the intricate relationships among fundamental concepts in Conservation Biology (e.g., extinction and its causes, population growth, dispersal, habitat fragmentation, metapopulations, biodiversity, protected areas, ecosystem services, environmental justice, adaptive management, population control).
- Identify, list and in some cases apply basic Conservation Biology tools (e.g., climate toolbox, population growth modeling, structured decision making) to explore the causes and consequences of global conservation challenges.
- List, describe, explain, and create visualizations to convey tenable approaches for achieving SMART (i.e., Specific, Measurable, Achievable, Realistic, and Timely) conservation objectives while applying a JEDI lens.
- Explain why ecosystems services are not equally distributed or accessible to people from different demographics.
- Constructively evaluate the costs/benefits of various conservation plans and/or actions.
- Demonstrate that you understand the embedment of sustainability issues in environmental, societal, and economic systems and the relevance of conditions, interrelations, and dynamics of these systems.

Required book: *Conservation Science: Balancing the Needs of People and Nature* by Peter Kareiva and Michelle Marvier, 2nd Edition, Macmillan Learning, New York. 2017.

Other readings and videos

Over the course of this semester, in addition to reading *Conservation Science: Balancing the Needs of People and Nature* by Peter Kareiva and Michelle Marvier, we will read many peer-reviewed journal articles, gray/white literature (e.g., government documents) many web-based documents, and we will watch several videos (e.g., Ted Talks).

Class Schedule & Expectations

Class meets Tuesdays & Thursdays from 2:00 PM until 3:40 PM in JAMR 2315. Please arrive on time, bring your book, computer and >iClicker, and be prepared to work. Attendance is critical because this is an engaged learning class and there will be activities and discussion during almost every session. You can bring food and drink to class.

Course EduCat page

See the course EduCat page for a week-by-week listing of topics we will explore during the semester.

Expectations

This semester you will have **4 Bundles** of assignments (see below). Each bundle is worth a total of 100 points and has a set of specifications that you must meet to attain those points. In many cases, specifications are either met or not; there is no partial credit. This makes evaluation straightforward. If you do not understand a specification, ask for clarification.

Critical note: You must reach a threshold of 70 points to get credit for any bundle. If you do not attain at least 70 points, you get no credit (*as in zero*) for the bundle; otherwise, you get whatever points you earn based on the specifications. Achieving 70 points for each bundle allows me to determine if you met the minimum specified learning outcome (i.e., C or better). The 70 point or 70% threshold is important because it says that anything less than a "C" is not acceptable

Bundle 1: Classroom preparation (100 points)

Every week you will complete readings (and/or watch a video, or interview a conservation practitioner) in advance and answer a set of questions to prepare for class discussions and activities; you can expect each of these preparations to take about 1-3 hours. Your responses to these questions are due by the time class begins on Tuesday. Classroom preparation assignment will be graded and each assignment is worth up to 10 points. Classroom preparation assignments may include multiple-choice questions, true and false questions, short answer questions, as well as occasional calculations. To receive credit for short answer/typed response questions, your response must be relevant, complete, and thorough (e.g., professional: grammatically correct, appropriate punctuation, complete sentences, logical argument). To receive credit for any classroom preparation assignment, you must answer every questions for that assignment.

*** Late submissions are not accepted because the value of the work is in preparation for discussion and in-class activities. (Exception for documented, excused absences; however work must be made up within 1 week of the due date) ***

Bundle 2: Classroom participation (100 points)

You will receive participation points for participating during in-class activities. These activities are diverse, may require your computer for doing research, preparing documents, creating PowerPoint presentations, or crafting data visualizations that you will submit through EduCat, share with the class to facilitate critical and constructive discussions and debates about diverse conservation issues. In-class activities are worth 5 points each. If I see you on your phone during an activity, I will deduct 5 points off your class participation total for each day I notice you on your phone.

*** Participation points cannot be made up. ***

Bundle 3: Conservation Campaign (100 points)

During the first week of class, we will identify (a) pressing international issues of conservation concern, (b) pressing national conservation issues, and (c) issues of local conservation concern. Once our class list is complete, you will have the opportunity to indicate your preference for a topic. Based on your stated preference, you will be assigned to a project topic during the 2nd week of class. You will work with a team to complete one project during the semester, which you will present at the Celebration of Student Scholarship on April 9, 2020. Everyone will sign a team contract governing team interactions and mediation of conflicts. You can find milestones, due dates, specifications, and point values for this bundle on EduCat.

*** Assignments are due before class on the due date; late submissions will not be accepted. All group members will sign a group project contract governing group activities; any member dismissed from a group will receive a 0 for this bundle. ***

Bundle 4: Exams (100 points)

Exam 1 (50 points): I will distribute Exam 1 on February 20 and it is due by the start of class on February 27. I will grade this take-home exam in a conventional manner, but you must obtain at least 35 points (i.e., 70%) to get any credit at all. You will have the opportunity to resubmit your response to one question within one week after your exam is returned to you.

*** Late submissions will not be accepted. ***

Exam 2 (50 points): I will distribute the Final Exam on Thursday, April 9 and it is due by the start of class on Thursday, April 16. I will grade this take-home exam in a conventional manner, but you must obtain at least 35 points (i.e., 70%) to get any credit at all. Because of the time of the semester, there will be no resubmissions for this exam. *** Late submissions will not be accepted.*

***Take home exams are 'Open World', which means you may consult almost any resource, animate or inanimate; however, there is one exception: you may NOT consult with any other participant in this class (student or faculty), directly or indirectly. This does not prevent you from asking me clarifying questions. Any evidence that suggests students conferred with one another to answer any exam question will result in a zero for these students and these students will be reported to the Dean of Students (NO EXCEPTIONS). Similarly, plagiarism will not be tolerated. When answering exam questions that require you to back up statements with published sources, cite your source in text and provide a literature cited section at the end of your exam. All exams will be checked with VeriCite. Any evidence of plagiarism will result in no credit for the specific question in which there is evidence of plagiarism and the student will be reported to the Dean of Students (NO EXCEPTIONS). ***

Allowances....

- The three lowest scores will be excluded from your classroom preparation bundle (Bundle 1).
- The three lowest scores will be excluded from your classroom participation bundle (Bundle 2).
- You have the opportunity to revise and re-submit one question from Exam 1 within one week after your exam is returned to you (Bundle 4).

Feedback & Grading

Please focus on learning in this course rather than grades. I want our Conservation Biology classroom to be a place where you get excited about ideas, challenge your personal believe system, unleash your creativity, and embrace opportunities to learn from your classmates. Please reflect on the feedback you receive and make appropriate changes to improve your work products.

I will be using Specifications Grading to evaluate much of your work. As such, I will (a) provide clear guidance about what is expected (*the specifications*), which makes (b) evaluation more straightforward and fair, and (c) "raises the bar" on what is acceptable for each assignment. If you're interested, you can read more about specifications grading here:

[//WWW.UTIMES.PITT.EDU/?P=30598](http://WWW.UTIMES.PITT.EDU/?P=30598).

Please track progress throughout the semester by checking your grade on EduCat. I will enter the points you earn into EduCat as quickly as possible and it is your responsibility to know where you stand. If you notice a discrepancy in a grade item that has been returned to you, let me know immediately. You have 48 hours to challenge a grade you receive on a graded assignment; after that time, your recorded grade stands. Your final grade will depend on the total number of points you accumulate, as follows:

The following scale will be used:

A	> 94%
A-	90%
B+	87%
B	84%
B-	80%
C+	77%
C	74%
C-	70%
D+	67%
D	64%
D-	60%
F	59% or <

Please do not ask for extra credit and do not ask for a grade bump. In this class, you get exactly what you earn. No exceptions!

You must attend class for the scheduled Final Exam. If you are late or miss the university-assigned Final Exam time for Conservation Biology, I will deduct 10 points from your final exam (Exam II) grade! No exceptions!

Please think carefully about this assessment. If you get a 70 in every bundle, you will (barely) get a C. You could completely skip or fail to reach the 70-point threshold on one bundle (and get a zero for it) and still pass the course with a C, if you do perfectly in the remaining three bundles ($3 \times 100 = 300$). Note that if you skip a bundle and get 90's in the three remaining bundles (270 total), you will get a D+. The point is that there is strong incentive to do well in all bundles to get an A or B. That is my intent.

Assignment Submission

This is Conservation Biology. As such, this is a paperless course and all assignments will be handled through EduCat. For each assignment, I will create a folder with the assignment title and due date. The location of the folder in EduCat will correspond with the due date of the assignment.

Tentative Schedule	Assigned Chapter	Points	In-class activities
Tuesday - Jan 14	Ch 1: Humans are the dominant ecological force		Introduction to Conservation Biology
Thursday - Jan 16		5	#1 Defining Conservation, Installing Programs (G)
Tuesday - Jan 21* (10 pts.)	Ch 18: Climate change demands new conservation strategies	5	#2 Climate data w/Ryan Boyles (I)
Thursday - Jan 23		5	#3 Climate trends, degree days, phenology (G)
Tuesday - Jan 28* (10 pts.)	Ch 7: Perils of small populations	5	#4 Elsitia Kickebusch – Butterfly case studies (I)
Thursday - Jan 30		-	----- Literature search & annotated bibliography (I/G)
Tuesday - Feb 4* (10 pts.)	Ch 2: Biodiversity and extinction	5	#5 Examining extinctions (G)
Thursday - Feb 6		5	#6 Drivers of Extinction - BioRender model (G)
Tuesday - Feb 11* (10 pts.)	Ch 3: Ecosystem services: nature's value	5	#7 Who pays for ecosystem services?
Thursday - Feb 13		5	#8 Jigsaw – biases in values
Tuesday - Feb 18* (10 pts.)	Ch 5: Protected areas: cornerstones of conservation	5	#9 Identifying protected areas (G)
Thursday - Feb 20 EXAM 1		5	#10 Controversial cornerstone of conservation (G)
Tuesday - Feb 25* (10 pts.)	Ch 13: Reversing deforestation	-	----- In-class project work day
Thursday - Feb 27 EXAM 1 DUE		5	#11 Protecting forests
Tuesday - Mar 3	Mid-semester break		
Thursday - Mar 5			
Tuesday - Mar 10* (10 pts.)	Ch 9: Assessing threats and choosing conservation actions	5	#12 Conservation priorities – BioRender model (I)
Thursday - Mar 12		-	----- In-class project work day
Tuesday - Mar 17* (10 pts.)	Ch 6: Conservation planning and priorities	5	#13 Logistics for conservation planning (G/I)
Thursday - Mar 19		-	----- In-class project work day
Tuesday - Mar 24* (10 pts.)	Ch 11: Restoration and reintroduction: measures of last resort	5	#14 Rewilding and resurrection conservation (G)
Thursday - Mar 26		5	#15 Killing for conservation (I)
Tuesday - Mar 31* (10 pts.)	Ch 12: Adaptive management: evidence based conservation	5	#16 Grizzly bear delisting (Excel) (I)
Thursday - Apr 2		5	#17 Grizzly bear delisting (G)
Tuesday - Apr 7* (10 pts.)	Ch 4: Policy responses to biodiversity loss, ecosystem degradation	5	#18 Jigsaw – Loving it to death (G)
Thursday - Apr 9 EXAM 2		-	Celebration of Student Scholarship
Tuesday - Apr 14* (10 pts.)	Ch 14: Balancing agriculture and conservation	5	#19 Food calculator (I)
Thursday - Apr 16 EXAM 2 DUE		5	#20 Balancing agriculture & conservation (I)
Tuesday - Apr 21* (10 pts.)	Ch 19: Making conservation a success story	5	#21 Measuring your impact – trash (I/G)
Thursday - Apr 23		5	#22 Conservation icons (G)
April 27 - May 1	Mandatory in-class Final Monday, April 27, 2020 2:00 – 3:50		

* A classroom preparation assignment is due (see EduCat).

ACADEMIC INTEGRITY: Do not cheat! Although you may be encouraged to work together in-class or out-of-class occasionally, and you may give or receive consulting help to/from each other at specified times, you must complete your own work or not tell others your answers to questions on exams, which you are to complete independently. All the work you submit must be your own. The minimum penalty for cheating or plagiarizing on any assignment or exam will be a zero grade for that assignment/exam (no exceptions) and you will be reported to the Dean of Student (no exceptions). If you are caught cheating on a second assignment you will be given a grade of “F” for this course. Do not cheat!

INDIVIDUAL CONSULTATION: Please come see me if you have difficulty understanding the material or have questions or concerns about any portion of this course. If my office hours do not work for your schedule, we can arrangements to meet at another time.

NMU’S NON-DISCRIMINATION STATEMENT: Northern Michigan University does not unlawfully discriminate on the basis of race, color, religion, sex, national origin, age, height, weight, marital status, familial status, handicap/disability, sexual orientation, or veteran status in employment or the provision of services, and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Anyone having civil rights inquiries may contact the Equal Opportunity Office, 158 Services Building 502, telephone number 906-227-2420.

DISABILITY SERVICES: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.