

Biology 834—Conservation Biology

(3 Credits)

Fall 2021

Instructor: Dr. Keith Geluso (please feel free to call me Dr. G or just “Keith”)
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Office Hours: By appointment arranged in advanced (**just send me an email**) is likely best because for most this may entail a phone call as this is an online class. I’m in my office MWF 900-950 for walk-ins but phone calls are also welcome at this time. If someone is already in the office, I will let you know and have to call you back. I am open to phone calls during the evening, and possibly, on weekends to fit everyone’s schedule; BUT FIRST just drop me an email so we can set up a time! Some days I may be unavailable and not check emails etc. due to field research or other obligations, so I may not check email for 24 hours, but that is rare.

Lectures: Online Class. Some lectures will be prepared by me and available for viewing via Voice Thread, but most of the class entails reading and watching preparing short (taped) mini-lectures and write-ups on areas of your interest regarding conservation biology. As you will read below, this is **NOT** a lecture-driven class where you would be responsible for regurgitating large quantities of facts on exams. My graduate classes, especially special topic classes (i.e., those not required for all students), were graduate-student driven; I will structure this class in such a manner.

Textbook: None. We will read peer-reviewed scientific literature and prepare presentations from such papers on topics of your interest.

Prerequisites: None.

Course Overview: Planet Earth has evolved an amazing diversity of life forms during its 3.6 billion year history. However, this amazing biological diversity is now threatened from rather rapid forms of environmental change. We will examine and discuss the causes and ramifications of biodiversity loss by surveying different topics related to conservation biology. I will select some topics, but others will be of your interest. We will discuss potential topics in the first few weeks of the class.

Course Objectives:

- Demonstrate ability to use vocabulary needed to understand and converse about Cons. Biology
- Become familiar with the many causes for the loss of biodiversity on earth
- Understand and discuss how to mitigate and reduce loss of biodiversity
- Become familiar with some tools and techniques associated with conservation biology
- Become readily familiar with finding papers in the primary literature
- Read, evaluate, discuss, and present information from peer-reviewed journal articles
- Summarize information from primary literature with written and oral communication skills

Course Policies:

Participation: Students are expected to participate in all class readings, writing assignments, exams, and oral presentations. Participation will be evaluated by me, the professor. Failure to contribute in a meaningful way will result in a grade reduction based on my professional judgment.

Absences: If you are ill or have another extenuating circumstance during the semester where you cannot participate in online-class activities please let me know. Neither absence nor notification of absence

relieves the responsibility for meeting all course requirements. All readings, oral presentations, and written assignments are a course requirement. **Items missed due to unexcused absences cannot be made up.** It is recognized that unavoidable situations do arise that are legitimate excuses for absence (i.e., lack of participation with the online structure of the course). Severe injury, hospitalization, death in the immediate family, and illness are all acceptable reasons for absences. Final determination of the acceptability of an absence is my prerogative. Please inform me ASAP of such absences.

Student code of conduct: As is standard procedure in all university classes, this course follows the rules and procedures outlined in the UNK Student Handbook. Cheating, plagiarism, harassment, and abuse of academic materials or equipment will not be tolerated and the consequences for violating the code can be severe, ranging from a zero on an assignment or exam to failing the course and expulsion from the university.

Disruptive behavior: If you are disruptive to the online class more than once during the semester, steps will be taken to permanently remove you from class.

Grades: Grades will be assigned using the grading scale: A+ (97-100), A (92-96%), A- (90-91%), B+ (87-89%), B (82-86%), B- (80-81%), C+ (77-79%), C (72-76%), C- (70-71%), D+ (67-69%), D (62-66%), D- (60-61%), and F (below 60%). Grade assignments are final unless a calculation error exists.

Grades will be determined by the following rubric (There is no extra credit; do not ask for it)

Presentation #1 and write up	25% of total grade
Presentation #2 and write up	25% of total grade
Meaningful participation in discussions (Voice Thread)	25% of total grade
Writing assignments	15% of total grade
Quizzes and/or Tests	10% of total grade

The way I calculate grades is by weighted average, where I add up all the points earned in the above categories out of the points possible, and then I multiply by the percentage shown above. At this point, I do not know how many points we might have in each category, as I like to have flexibility in assignments given throughout the semester.

Assignments etc.: I will open up Canvas every two weeks at the same time for new assignments, except for the first week. This time will be no later than Mondays by 5:00 pm central time. If the module is ready to go, I'll likely open it early or mid-morning on Monday. More details to come on specifics of assignments.

Due dates: We will have the same biweekly "due date" for all assignments, unless explicitly stated otherwise. All assignments, posts, presentations, etc. will be due at 11:59 pm Central Time on the last Sunday of the two-week period, unless otherwise stated. The one major exception will be Week 1 where assignments will be due by Sun (29 Aug.) at 11:59 pm Central Time. Weeks 2 and 3 assignments will be due during the end of 3rd week of class on Sunday 12 Sept. at 11:59 pm Central Time. (Note: Nebraska is a state that follows Daylight Savings time, so on 6 November, we will put our clocks back to end Daylight Savings).

Late assignments: For each day late, 10% of the grade will be taken off. If an assignment is over 7 days late, you will receive no credit for it.

Students with Disabilities: It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

UNK Statement of Diversity & Inclusion: UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: <https://www.unk.edu/about/equity-access-diversity.php>

Students Who are Pregnant: It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact Cindy Ference in Student Health, 308-865-8219. The following link provides information for students and faculty regarding pregnancy rights. <http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault: Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes she or he may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

Local Domestic Violence, Sexual Assault Advocacy Agency 308-237-2599
Campus Police (or Security) 308-865-8911
Title IX Coordinator 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

If you have questions regarding the information in this email please contact **Mary Chinnock Petroski, Chief Compliance Officer** (petroskimj@unk.edu or phone 8400).

Veterans Services: UNK works diligently to support UNK's military community by providing military and veteran students and families with resources and services to help them succeed. Veterans Services assists with the GI Bill process and acts as a liaison between the student and the Veterans Administration. If you need assistance or would like more information, please contact Lori Weed Skarka at 308-865-8520 or unkveterans@unk.edu.

Virtual Classroom Protocol: Communication with instructor: All correspondences should be through email (at first). If you email me, I will generally try to respond within 24 hours on workdays. On weekends, I may not check emails, so some replies will be addressed on Monday or at the latest Tuesday. If you would like to speak to me directly on the phone, it is often **best** to set up an appointment via email. Again, I am very open to phone calls; I find it much easier to talk rather than attempting to write everything out! If you are in town, on-campus, or nearby, please feel free to come talk in person. I will let you know in advance if I will be unavailable to respond to emails for multiple days in a row, for example, if I have to go out of town for field research.

Respect and Professionalism: Although this is an online course, many of our interactions will occur via Canvas, Voice Thread, and emails. Thus, we will have interactions with one another throughout the

semester. It is important and required that you always be respectful of others in the virtual classroom. All thoughtful and professional opinions and comments are welcome. Students should try to have a positive attitude and willingness to listen to and consider other opinions. Students who are unable to act in a professional manner will be docked for specific assignments and for overall participation.

Tentative Lecture/Class Schedule: At this time, I am not going to show a detailed schedule throughout the entire semester. Here is a general schedule as of now, and I might add in other discussions on papers (and details of other paper) as needed, but we will see how much time is taken up by discussions regarding student presentations as this is quite a bit more students than I've had in such classes in the past.

Week 1 Introduction to Class and Procedures

Assignment (Call & Topic search) due by Sunday 29 Aug. at 11:59 pm (phone calls due ~ 3 Sep.)

Weeks 2 & 3 History & rise of Cons. Biology; Exps. of presentations; VoiceThread Intros, etc.

Geluso presentations: (Glass Bottles Vertebrate Mortality & Importance of Caching Rodents)

Writing Assignment: (natural area reflection; VT 1st post, Topics) **Due 12 September at 11:59 pm**

Watch professional video: (1.5 h long) and have discussion (due later) on VoiceThread (VT)

Reading Assignments: (I will post these biweekly on Canvas, so you don't have to get them)

1. Soule, M.E. 1985. What is conservation biology? Bioscience 35(11):727-734.
2. Kareiva, P. and M. Marvier 2012. What is conservation science? Bioscience 62(11):962-969.

Weeks 4 & 5 Biodiversity and Global Patterns (These items will be **due 26 September at 11:59 pm**)

Student presentations (See list in Weeks 2 & 3 of students)

Discussion Assignment: VoiceThread about Soule 1985/Kareiva and Marvier 2012

Discussion Assignment: Voice Thread about professional video from last weeks

Reading Assignments:

1. Mora, C., et al. 2011. How many species are there on Earth and in the ocean? PLoS Biology 9(8):p. e1001127.
2. May, R.M. 1988. How many species are there on Earth? Science 241(4872):1441-1449.
3. Gaston, K.J., 2000. Global patterns in biodiversity. Nature 405(6783):220-227.

Weeks 6 & 7 Biodiversity Functioning and Services (These items will be **due 10 October at 11:59 pm**)

Student presentations: (See list in Weeks 2 & 3 of students)

Geluso presentation: (Scatter-hoarding Rodents-actually posted already on Weeks 2&3)

Discussion Assignment: VoiceThread about Mora et al 2011, May 1988, Gaston 2000

Reading Assignment:

1. Kunz et al. 2011. Ecosystem services provided by bats. Annals of the New York Acad. of Sci. 1223:1-38.
2. Longland, W.S., and L.A. Dimitri. 2019. Significance of seed caching by rodents for key plants in natural resource management Rangelands 41:248-254.

Weeks 8 & 9 Loss of Biodiversity on humanity and ecosystem services (Items will be **due 24 October**)

Geluso presentation: (Bats and WNS)

Midterm Exam: Exam will be posted by 11 October (if not earlier) and **DUE 17 Oct 11:59 pm**

Student presentations: (See list in Weeks 2 & 3 of students)

Reading Assignment:

1. TBD (to be determined)

Weeks 10 & 11 Threats to Biodiversity (These items will be **due 7 November at 11:59 pm**)

Geluso presentation: (Bats and Wind Turbines)

Student presentations: (See list in Weeks 2 & 3 of students)

Reading Assignment:

1. TBD (to be determined)

Weeks 12 & 13 **Approaches to Conservation** (These items will be due 21 November at 11:59 pm)

Student presentations: (See list in Weeks 2 & 3 of students)

Reading Assignment:

1. TBD (to be determined)

Weeks 14, 15 & 16 **Future of Conservation Biology** (These items will be due 12 Dec. at 11:59 pm)

Student presentations: (See list in Weeks 2 & 3 of students)

Reading Assignments:

1. TBD (to be determined)

Finals Week

Writing Assignment: (Natural Areas Reflection: Part 2)

Discussion Assignment: VoiceThread about last readings

Final Exam: (more information to come)