BIOLOGY 3160/Conservation Biology Fall, 2025

 **3 credits Live In-Person**

Instructor Contact

**Name:**Dr. Andrew J. Gregory

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**Office Hours:**Daily for 1 hour each day immediately after class or by appointment

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**Class Meeting Location:**Life Science ComplexA 419; MWF 1100-1150

**Communication Expectations:** The best way to contact me is via email. Please email me directly at my UNT email address above. Please do not email my CANVAS mail—like you I have suppressed CANVAS notifications. In addition, emails pertaining to this course must contain the phrase “BIOL 3160” in the subject line; emails received without that phrase, and especially those with a blank subject line, may be treated as SPAM and be deleted without being read. ***Also, please note***—***I will respond*** to all emails ***within*** **48 hours** unless I am traveling or the message is received after 4PM on a Friday, in which case it may take longer to respond. While I normally do respond much quicker than this, you should not expect faster responses. In addition, I often respond to general course inquiries in the CANVAS Course Announcements Page so that all students can benefit from the question and the response. Please check there for a response to your inquiry prior to emailing me about it again.

**Course Description**

Conservation Biology reviews the etiology of the field of Conservation Biology highlighting the field as an interdisciplinary venture to address threats to biodiversity at local, regional and global scales. We also highlight the major threats to biological diversity and contemporary techniques for investigating and addressing those threats. Students will gain a foundational knowledge of the history, theory, and principles of Conservation Biology.

**Required Text:**

Sodhi and Ehrlich 2010. *Conservation Biology for All*. Oxford University Press. ISBN 978–0–19–955423–2—Available on the CANVAS Course Shell.

***Access provided by the Society for Conservation Biology***

Course Prerequisites or Other Restrictions

Prerequisite(s): Completion of the Foundation requirements for your declared Biological Sciences major or Department consent.  If major is outside of Biological Sciences, follow the Foundation requirements for the Biology BA.

**Course Objectives**

The primary goal for the course is for students to gain an appreciation for the fields of conservation biology and wildlife management as well as gain a basic understanding of the North American Model of Wildlife Conservation and acquire basic competencies with analytical approaches used by conservation biologists and wildlife managers to assess and manage populations and landscapes. The field of Conservation Biology and wildlife management are applied scientific disciplines that merge traditional fields such as ecology; social justice; religion, economics; anthropology; geography; geology, climatology, and restoration ecology. Students will trace the etiology of the conservation ethos through the environmental movement and conservation biology’s roots in wildlife management.

**By the end of this course, students will be able to:**

1. Identify the 7 pillars of the North American Model of Wildlife Management
2. Identify the 4 Laws of Ecology and the Precautionary Principle
3. Explain and understand the implications of the statement, “conservation biology is an interdisciplinary and applied scientific discipline”
4. Be able to calculate and interpret basic metrics of biodiversity, population demography, harvest model principles, and landscape management metrics.
5. Increase their proficiency with MS Excel, Word, and Program R
6. Understand the Tragedy of the Commons and use it to articulate how economic development and natural capital reciprocally interact to necessitate conservation biology
7. How to correctly utilize generative AI to assist in academic studies and data visualization.

**Course Structure**

This class will meet MWF of each week for 3HRS 50min/class meeting. Each class starts with announcements or upcoming events/opportunities, brief review of previous courses content, and an overview of activities for that day. This class will be a mixture of Socratic lecture and assignments.  We will use class time for assignments, I recommend you bring a laptop or tablet that can run MS word, Excel and R.

**Flexibility Statement:**

This syllabus provides a plan for the execution of this course; however, because of potential unforeseen events or opportunities, the instructor reserves the right make reasonable adjustments in the schedule of topics, the material covered, or other aspects of this course.  Students will be notified of any such adjustments as much in advance as is possible.

**Grading**

A = >90%; B = 80-89%; C = 70-79%; D = 60-69%; F = <59%.

*Be aware, I always round your final score up. Therefore, 89.00001% would round to 90% and earn an A. At the end of each unit there will be a quiz over terminology and basic concepts—points will vary based on the content covered in the unit. There will also be Six assignments worth 50 points each (300 points), 1 simulation worth 50 points, and the final project worth 100 points. For a total of 600-700 points depending on the assigned point values for quizes.*

**Grade calculations and what to do if you don’t know an answer:** I understand that from time-to-time studying may fall by the way side, or you may not have time to complete an assignment. Simply answering “I*don’t know, I did not prepare adequately*” or submitting a paper with your name on it that states “*I choose not to complete this assignment*” will earn you 50% credit on that question or assignment. ***This is still failing***, but at the end of the semester e.g., 5/10 points is better for your overall grade than 0/10 points. Additionally, 0 is not the lowest score you can receive on a question or assignment. Answers that clearly show a lack of preparation or reveal a blatant attempt to pull-the-wool-over-my-eyes about your level of unpreparedness or effort, may result in scores on those items of less than 0.

***Questioning a grade:***If you have concerns about your grade, or feel that you warrant a better grade than you currently have, I am open to discussing this with you, and encourage you to contact me to arrange a time to chat. However, such discussions will always include a wholistic view of your coursework and class participation as the basis of a formative assessment as to how well your current grade reflects your understanding of course material. Consequently, these discussions may result in you convincing me that you deserve: a higher grade,*a lower grade*, or the same grade you currently have.

***Policy on Use of Generative AI:****Artificial Intelligence is a powerful tool that has revolutionized our world in very short order. It can be a tremendous asset in terms of research and academic pursuits if used appropriately and ethically. It can also cause great deals of problems when used inappropriately or injudiciously. UNT considers the use of generative AI to create or in lieu of your own creativity and ingenuity to complete assignments the same as plagiarism or copying another's exam, and therefore subject to the UNT Code of Conduct and Academic Honesty policies. In this class, we will learn how to correctly use generative AI to enhance our learning and understanding. Additionally, I will use Generative AI to detect the likely misuse of Generative AI to complete assignments. Anyone whose works scores above 60% likely to have been completed by AI, will be subject to penalties commensurate with the violation. Therefore, I encourage you to use AI to enhance your educational experience and learning, but not in place of you learning the material.*

***Important Dates and Course Timeline:*** The following schedule is a tentative plan for the disposition of this course. It is subject to change, although changes will be rare.

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| **Topic** | **Content/Notes**  | **~ Dates** |
| **Final Project Green List of Species**  | Worth 20% of your final grade 1. Choice of Species and group assignments
2. Data Inventory and preliminary Assessment
3. Final Project Due
 | 1. 9/3/2025 *due in class*
2. 10/29/2025 *due in class*
3. Final Exam Period
 |
| **Unit 1: Conservation Biology History, Philosophy, and Scope**  | 1. 4 Lectures about the history of conservation biology, its roots in wildlife management and the North American model, and its evolution to an interdisciplinary science.
2. Assignment 1: Introduction to Excel and statistics
3. Assignment 2: Metrics for Measuring and Managing Biodiversity using R.
4. Unit 1. Quiz
 | 8/18 – 9/19, 20259/5/2025 *due 5PM*9/19/2025 *due 5PM*9/19/2025 |
| **Unit 2: Conservation Biology Methods and Metrics** | 4 lectures on metrics and methods used to measure conservation outcomes. 1. Assignment 3: Managing Populations—population demography and PVA
2. Assignment 4: Managing Populations on fragmented landscapes: Meta-population and source-sink dynamics.
3. Assignment 5: Managing Populations: population genetics and gene flow
4. Unit 2. Quiz
 | 9/22 – 11/21, 202510/10/2025 *due 5PM*10/24/2025 *due 5PM*11/7/2025 – *in class*11/10/2025 *due 5PM* 11/10/2025 |
| **Unit 3: Conservation Biology and Society****Thanksgiving Break****Reading Day** **Final Exam**  | 4 lectures on conservation practice and societal dynamics on conservation including climate change and green energy. 1. Assignment 6: School development simulation
2. **Unit 3. Quiz**
 | In class work 11/19/2025In class presentations 11/21/2025**11/24-11/30, 2025****12/3/2025** *in class***12/5/2025 *no class*****Saturday, 12/6/2025; 8-10AM** |