

# Syllabus:

## WILD370 Wildlife Habitat Conservation & Management

### Fall 2018 – 4 Credits

**Dr. Daniel Gibson**, FOR 303, Email: [daniel.gibson@mso.umt.edu](mailto:daniel.gibson@mso.umt.edu)  
Office Hours: Thursday 12:20–2:00 PM (FOR 314) or by appt.

**Christopher Hansen**, Email: [christopher3.hansen@umconnect.umt.edu](mailto:christopher3.hansen@umconnect.umt.edu)  
**Office Hours:** 3-5 PM (STON 107) during weeks with a scheduled lab or by appt.

Lecture times: 11 AM – 12:20 PM Tuesday and Thursday (CHEM 102);  
On computer lab activities: 1 – 5 PM Tuesdays (STON 107)

**Final exam: 10:10 AM -12:10 PM, Friday, December 13, 2019.** *Note: final exam times are YOUR responsibility to confirm and conflicts need to be taken into account during registration. If you have a conflict, it is your responsibility to change your schedule or talk to professors early. No extra exams will be scheduled to accommodate conflicts after the last drop date. Please refer to the Academic Calendar on the main University of Montana website.*

**Prerequisites:** Ecology (BIOE 370/371) prior, *not concurrent*; Statistics (STAT 216/WILD 240); or approval by instructor. Additionally, students must have senior or junior level standing in Wildlife Biology.

**Laboratory (including field trips) times:** 1 PM – 3 PM (5 PM for off-campus trips) Tues on specified dates in the semester. Participation is mandatory. Missing field trips and lab activities result in being ineligible to turn in assignments associated with the lab.

**Course Objectives:** To gain familiarity with the theoretical importance of habitat to wildlife in terrestrial ecosystems, and to gain proficiency with the application of theory to wildlife habitat conservation issues. Students will gain familiarity with wildlife habitat study design, data collection, and statistical modeling of wildlife habitat. Practical hands on experience will be gained on field trips during the semester where students will be expected to be able to apply theories to practical conservation issues in Montana.

**Required Readings/pre-class activities:** Assigned readings from textbooks, scientific papers, and other materials will be posted on Moodle PRIOR to class – students are expected to have completed the readings and/or assignments and be prepared to discuss them in class. Some class topics will follow a flipped classroom style in which *you must prepare prior to class* to actively participate.

**Course Website:** MOODLE [UMOnline \(http://umonline.umt.edu/\)](http://umonline.umt.edu/). If you have not used Moodle in prior courses, there is 'Moodle 101 for Students' tutorial that can assist you in learning the basics. You need to login to Moodle to access this tutorial.

**Lecture Format:** Class meetings will generally be lecture-based but include 'break-out' and discussion exercises. Lectures will be PowerPoint presentations that are made available following lectures on

moodle. Additional material may be covered but not contained in Powerpoint presentations are considered part of testable class content. Additional materials include class discussions (including field trips), readings, films/web videos, discussion of current events, and questions.

**Lab format:** The course is structured to be approximately ½ lecture-based and ½ hands-on experience based. The lab will consist of a number of different activities ranging from computer lab exercises to off campus field trips, including everything in between. There will be 8 scheduled labs at various locations and times, some of which will require being outside for extended periods of time – so please dress appropriately. Computer labs will primarily focus on using the statistical program R, but some work may be completed in Excel.

Of the 8 labs, we are targeting 2 off-campus field trips for Tuesdays starting between 11:00 AM and 1:00 PM and finishing at 5:00 or 6:00 PM. We have provided you with tentative dates on the syllabus and course website; however, we may have to modify the timing of the trips if weather conditions impede our ability to effectively accomplish our goals. There will be mandatory follow up reports for each trip. **Participation in all field trips is mandatory and students are expected to schedule for the allotted time, get off work, make alternate arrangements for other courses, etc.**

### **Grading:**

Please note, this class is offered for traditional letter grade only, it is not offered under the credit/no credit option.

Category	Description	Marks	%
Exams	Midterm	50	13.3
	Final	75	20
Quizzes	Quizzes focused on readings (7, grade 5)	25	6.7
Lab Assignments	Lab reports (6 worth 10 pts, 2 worth 20 pts)	100	26.7
Discussion Forums	Participation and performance in group discussions (7, grade 5)	25	6.7
Seminar Participation	Attendance and summary of a local research seminar	25	6.7
Grant Proposal	Describe a conservation objective and corresponding grant proposal.	50	13.3
Participation	Overall participation in class discussion, online MOODLE forums, labs, and field trips.	25	6.7

**Late Assignment Policy**

• *Late assignments will be considered at a -10% grade/calendar day penalty, including the day the assignment is due if not handed in during normal class or lab time.*

**Exams:** The mid-term (scheduled for Oct 17<sup>th</sup>, 11:00 AM to 12:20 PM) and final (Dec 13<sup>th</sup>, 10:10 AM -12:10 PM) exams will be multiple choice, true-false, short answer and short essay questions. Course material in lectures, labs, and readings will be considered for all exams. The midterm exam will cover all course content up to the class prior, and the final exam will be primarily weighted from material from the second half of the semester. But keep in mind that we will continue to build on the theoretical concepts and the application to conduct conservation as discussed in the first half throughout. *Note: final exam times are YOUR responsibility to confirm and conflicts need to be considered during registration. If you have a conflict, it is your responsibility to change your schedule or talk to professors early. No extra exams will be scheduled to accommodate conflicts after the last drop date*

**Quizzes:** There will be 7 'open-book' quizzes which will generally be associated with an assigned reading to ensure students are reading and understanding the material. Quizzes will be designed to be completed in less than 20 minutes and will be 'online' through the moodle web platform. Quizzes will be assigned on Tuesdays and must be completed by Thursday prior to class (11:00 AM). Quizzes are not group activities, they are meant to gauge your understanding of the assigned material. Only the 5 highest scores will be used to calculate the final grade.

**Lab Assignments:** There will be a total of 8 reports or write-ups associated with the lab section of this course, which will comprise of 3 field trip reports [including one for the campus telemetry exercise], 3 take-home assignments, and 2 computer lab exercises. The lab exercises will also focus on assessing proficiency in programming in R, and will be worth double the points relative to the other assignments. Assignments will all be take-home, some will involve group work, and formats will vary between assignments – detailed instructions will be given in lecture for each assignment. In general, lab assignments will be due the following Tuesday during lecture.

**The Intersection of Science and Policy:** All successful research and conservation actions have a common denominator, and that is that they were considered important enough to be funded. Here, students will draft a realistic theoretical conservation problem statement, and write a grant proposal that describes the importance of this issue, and what the researchers or land managers propose to do if awarded the allotted money.

**Participation at seminar at the University of Montana:** There are numerous opportunities on campus for students to learn about current, past, and future wildlife habitat conservation and management issues. For instance, the Wildlife Biology Program has a weekly seminar on Fridays from 1-3pm in which graduate students and guest speakers discuss the wildlife habitat conservation and management activity they are working on. The Organismal Biology and Ecology Program has similar seminars at noon and 4pm on Wednesdays. And there are many, many more in other programs such as Resource Conservation, Environmental Studies, Forestry, Systems Ecology, etc. Students need to attend 1 seminar of > 40 minutes throughout the semester. Students are responsible for informing the instructor and TA of what seminar(s) they plan to attend 2 days prior to the seminar. A 1-2 page well-written summary of the seminar is due 1 week after the seminar. Write-ups should be typed in 11 or 12-point font and double spaced.

**Participation in a group forum on Moodle:** We will post Discussion Topics on Moodle throughout the semester

that will follow current events in habitat and conservation policy, topics covered in lecture or lab, or conservation challenges specific to Montana. We plan to post approximately 7 topics this semester, of which, each student must participate in, and will be graded on, 4 of these discussions, but we encourage everyone to participate in more than 4 discussions if they are interested. Some of these topics will ask students to define concepts from class, and provide ecologically relevant examples. These will be set up in a question and answer format, which will prevent students from seeing the other students' contributions until they have submitted their own answer. Other topics will be more subjective and will be set up in an open forum where active discussions among students and faculty can occur. For these topics, students will not be graded on their opinion about a topic directly, but on whether they have provided sufficient information describing their logic. Although we hope that these forums allow for meaningful discussions involving differing viewpoints, it is imperative that we respect each other and their views, by following the [Student Conduct Code](#).

**Class Participation:** Students will be expected to participate in class discussions, online Moodle discussions and forums, and ask guest lecturers and field trip hosts respectful and thoughtful questions throughout the semester. Grades will be assigned based on all forms of class participation.

#	Date	Approximate Lecture Topic	Assignments	Lab Activities	Lab Assignments
1	27-Aug	Intro/What is Conservation?		No Lab	
2	29-Aug	Conservation	Forum Discussion (1) opens		
3	3-Sep	Habitat and Wildlife Management	Forum Discussion (1) closes	Telemetry on campus	Field trip (1) write up
4	5-Sep	Habitat and Wildlife Management	Forum Discussion (2) opens		
5	10-Sep	Niche Theory	Forum Discussion (2) closes	Telemetry in lab	Computer lab assignment (1)
6	12-Sep	Niche Theory	Forum Discussion (3) opens		
7	17-Sep	Niche Modeling	Forum Discussion (3) closes	Intro in R	Take home assignment (1)
8	19-Sep	Species Distribution Theory			
9	24-Sep	Island Biogeography		Habitat modeling in R	Take home assignment (2)
10	26-Sep	Critical Habitat	Forum Discussion (4) opens		
11	1-Oct	Disturbance (Guest Lecture)	Forum Discussion (4) closes	NO LAB	
12	3-Oct	Disturbance (Guest Lecture)			
13	8-Oct	<b>FIELD TRIP 1 (BANDY)</b>		Camera Field trip to Bandy	Field trip (2) write up
14	10-Oct	Restoration Ecology			
15	15-Oct	<b>CATCH-UP &amp; REVIEW</b>		NO LAB	
16	17-Oct	Midterm 1			
17	22-Oct	Measuring Habitat Use		Image Classification	Take home assignment (3)
18	24-Oct	Measuring Habitat Use			
19	29-Oct	Application of Habitat Models		Camera Trap Analysis	Computer lab assignment (2)

#	Date	Approximate Lecture Topic	Assignments	Lab Activities	Lab Assignments
20	31-Oct	Application of Habitat Models	Forum Discussion (5) opens		
21	5-Nov	Habitat Loss	Forum Discussion (5) closes	NO LAB	
22	7-Nov	Habitat Loss	Forum Discussion (6) opens		
23	12-Nov	Endangered Species Planning and Policy	Forum Discussion (6) closes	NO LAB	
24	14-Nov	Endangered Species Planning and Policy	Forum Discussion (7) opens		
25	<b>19-Nov</b>	Grant Writing	Forum Discussion (7) closes	NO LAB	
26	21-Nov	Community-Based Conservation	Due: Problem/conservation statement		
27	26-Nov	Community-Based Conservation		NO LAB	
29	<b>3-Dec</b>	<b>FIELD TRIP 2 (BLACKFOOT)</b>	Due: Grant Proposal	Blackfoot Challenge	Field trip 3 write up
30	5-Dec	<b>CATCH-UP &amp; REVIEW</b>			

## General Course Policies

### **Attendance Policy:**

Attendance will not be recorded in lecture because your desire to learn will dictate your presence. Students are individually responsible for all information presented in lectures, guest lectures, and on the course Moodle website. No make-up exams will be scheduled. In the case of medical or family emergency (e.g., legitimate, planned absences) I will work with the student individually in terms of rescheduling exam times, etc. Formal health care documentation will be required for legitimate emergencies.

### **Email Policy:**

I expect emails from students to myself and the teaching assistant to be composed professionally, with proper sentence structure and English writing style including clear, concise question(s). I will try to respond to emails that are received during normal work hours (9-5) during the day received. I may read emails received during off hours, but a reply should not be expected until the following work day.

You can improve the odds of your email being answered quickly by following a few simple suggestions:

1. Make sure the subject line is informative (e.g., Question regarding grading structure of lab exercises).
2. Include the course code in the subject line (e.g., WILD370).
3. Proof-read your email to make sure the issue at hand is clearly identifiable.

Furthermore, while I may be able to answer procedural and simple questions on email, the main use of email in this class should be to request a meeting outside of the normal office hours of myself and teaching assistant. **IF you have general questions about course material, the encouraged vehicle for class discussion will be via the MOODLE discussion forum on our class website.** Students emailing me or the TA with a general question will be directed to repost their general course question to MOODLE so that we can provide an answer for all students. Chances are – if you have a question about an assignment, material in class, or a class-related topic – someone else does. Answering your question for everyone will help the entire class.

### **Mobile (Cell) Phone Policy:**

Mobile phone use is disruptive to you and your fellow students' learning and my teaching. No use of mobile (cell) phones will be permitted in class. Students caught using mobile phones for texting, phoning, or browsing the internet will be immediately excused from class for the remainder of the lecture. After 3 incidence, I will start by deducting one letter grade from the student's grade.

### **Academic Dishonesty:**

Trust between student and instructor is of paramount importance in academic settings. Academic dishonesty will not be tolerated in the classroom, and students found cheating will be punished to the full extent that University policy permits. The University of Montana expects all students to conduct themselves as honest, responsible, and law-abiding members of the academic community and to respect the rights of other students, members of the faculty and staff and the public to use, enjoy and participate in the University programs and facilities.

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#)

### **Plagiarism:**

Paraphrasing or quoting another's work without explicitly citing the source is plagiarism and a form of academic misconduct. Even inadvertent or unintentional misuse of appropriation of another's work (such as relying heavily on source material that is not expressly acknowledged) is considered plagiarism. If you have any questions about using and citing sources, you are expected to ask for clarification. This includes websites like Google and Wikipedia, although note that not all information retrieved (in fact most!) from such sites is not peer-reviewed, and thus not often

scientifically valid.

***Credit for Work from Another Class:***

*Submission of materials that were written for credit in another class is not permitted, regardless of whether the subject matter is appropriate (as per the University of Montana Student Conduct Code). In other words, you are expected to turn in original work for this course. If you have any questions, whatsoever, it is better to speak with the professor or teaching assistant before you get a zero for an assignment.*

***Students with Disabilities:***

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you have a disability that adversely affects your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. We will work with you and Disability Services to provide an appropriate modification.

***Dropping/Adding:***

Drop/Add dates are posted at the [Office of the Registrar Calendar \(http://www.umt.edu/registrar/calendar.php\)](http://www.umt.edu/registrar/calendar.php).

**Important Dates Restricting Opportunities to Drop a Course Fall 2018:**

<b>Deadline</b>	<b>Description</b>	<b>Date</b>
To 15 <sup>th</sup> instructional day	Students can drop classes on CyberBear with refund	September 16 (5 pm) = last day
16 <sup>th</sup> to 45 <sup>th</sup> instructional day	A class drop requires a form with instructor and advisor signature, a \$10 fee from registrar's office, student will receive a 'W' on transcript, no refund.	September 17 through October 28
Beginning 46 <sup>th</sup> instructional day	Students are only allowed to drop a class under very limited and unusual circumstances. Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45 <sup>th</sup> instructional day of the semester. Requests to drop must be signed by the instructor, advisor, and Associate Dean and a \$10 fee applies.	October 29 – December 6