EVPP 490: PRINCIPLES OF WILDLIFE ECOLOGY

SPRING 2020

TR 1:30-2:45 PM Robinson Hall B102 3 credits

Instructor: Dr. Travis Gallo
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Office hours: 11:30am-1pm Tuesdays or by appointment
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Course Description:
This course will cover basic principles in wildlife ecology and how those principles are applied in the conservation and management of wildlife populations. Topics will include predator-prey dynamics, population and community ecology, animal behavior, conservation issues, and special topics such as human-wildlife interactions, urban wildlife, wildlife policy, and careers in wildlife science.

This course will:

1. Provide an opportunity for students to discuss current issues and research in wildlife ecology and conservation.
2. Expose students to professionals in wildlife management agencies.
3. Provide experience working in teams to solve reality-based problems.
4. Provide each student with ecological knowledge base from which to operate as an effective applied wildlife ecologist and/or conservation scientist.

By the end of this course students should be able to:

1. Express the impact of individual and societal values, or conservation ethic, in determining conservation policy.
2. Demonstrate knowledge of general ecological principles, such as habitat, competition, and predation, as they affect wildlife populations.
3. Effectively apply knowledge of species-habitat relationships.
4. Demonstrate an ability to analyze wildlife data.
5. Develop hypotheses as they pertain to wildlife habitat use, collect data, analyze data, interpret results, and present outcomes.
6. Integrate knowledge of ecological systems with management needs into a defendable position on a wildlife conservation decision.

Assigned Readings:
Course materials include articles from the primary literature and occasionally from other media sources. All readings will be posted on Blackboard.

Textbook (optional):

John M. Fryxell, Anthony R.E. Sinclair, and Graeme Caughley. Wildlife Ecology, Conservation, and Management. Any edition.

Labs:
You will have two lab assignments that will teach you the fundamentals needed to complete your semester research project. One lab will teach you the basics of R programming and will require at-home work. This lab will be done individually. For the second lab, you will work in groups and collect and analyze data on squirrels using occupancy models. This lab will also require some at-home work. Each lab will be worth 25 points. Due dates will be posted on Blackboard.

Research Project & Poster Presentation:
Your research project will consist of an on-campus wildlife research project using camera traps. Students will work in groups and be responsible for setting up cameras and checking them periodically to make sure they are operating correctly. While the cameras are out collecting data, each group will decide on a focal species and develop their own hypotheses about what influences the presence of that species. After data has been collected, groups will analyze their data using the 'unmarked' package in R to test their hypothesis. At the end of the semester, groups will showcase their results with a poster presentation. More details will be posted on Blackboard.

Seminars:
You are required to go to 5 out-of-class lectures or research seminars that pertain to wildlife ecology or conservation. To receive credit you must write a 2 paragraph summary (4-5 sentences each) for each seminar you attend. The first paragraph should summarize the presentation, and the second paragraph should describe something new you learned from the presentation. Both the Department of Environmental Science and Policy and Biology Department hold weekly research seminars. Other on-campus or off-campus seminars are also acceptable. If you have questions about whether a topic will count as a "wildlife talk", please ask.

Participation:
Attending class is important. There will be 8 participation assignments throughout the semester. These will consist of "responses" to various topics we will be discussing in class. Each response will be worth 5 points and you will need to obtain 25 points for full participation credit. Note that I will offer 3 more participation assignments than needed, so you essentially have 3 free absence – no questions asked.

Midterms and Final Exam:
We will have two midterm and a final exam. The midterm will cover all material up to the previous class period. The final exam will be designed to encourage students to review and synthesize all course material. Exam questions will be taken from lectures, discussions, presentations, and assigned readings. **Everything discussed in class is fair game, even if I do not post it on Blackboard**. An alternative exam date will only be approved if you speak with me at least several weeks in advance with a valid reason.

Grading:
Point allocation for evaluation of students (**all late assignments will incur a 10% drop in grade per day**):

	TOTAL POINTS
Research Project (200 points total)	
Presentation	100 points
Participation	50 points
Student Evaluation	50 points
R Lab	25 points
Occupancy Lab	25 points

Seminars	25 points
Participation/Attendance	25 points
Exam I	50 points
Exam II	50 points
Final	100 points
TOTAL	**500 points**

Cutoffs for grades will be based on the following percentages: 100-98 = A+; 98-93 = A; 92-89 = A-; 88-87 = B+; 86-83 = B; 82-79 = B-; 78-77 = C+; 76-70 = C; 69-60 = D; ≤ 59 = F.

Lecture Slides:
I will do my best to post the a PDF of the lecture slides by midnight the night before class. Please note that portions of the posted lecture slides will be missing information that can be filled in during lecture.

Mental Health:
Diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of symptoms might be strictly related to your course work; if so, please speak with me. However, problems with relationships, family worries, loss, or a personal struggle or crisis can also contribute to decreased academic performance and I recognize that.

Counseling and Physiological Services (CAPS) http://caps.gmu.edu provides mental health services to support the academic success of students. Their free and confidential psychological services include group counseling, skills-based workshops, case management, crisis consultations, time-limited individual counseling as well as faculty and staff consultation. They also have great online resources under the Well-Being tab.

In the event I suspect you need additional support, I will express my concerns and the reasons for them, and remind you of these resources that might be helpful to you. It is not my intention to know the details of what might be bothering you, but simply to let you know I am concerned and that help, if needed, is available.

Getting help is a smart and courageous thing to do -- for yourself *and* for those who care about you.

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:
As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

Academic Integrity:
It is expected that students adhere to the George Mason University Honor Code as it relates to integrity regarding coursework and grades. The Honor Code reads as follows: "To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University

community and with the desire for greater academic and personal achievement, we, the student members of the University Community have set forth this: Student members of the George Mason University community pledge not to cheat, plagiarize, steal and/or lie in matters related to academic work." More information about the Honor Code, including definitions of cheating, lying, and plagiarism, can be found at the Office of Academic Integrity website at http://oai.gmu.edu

Special Needs:

If you have special needs for lectures, assignments or tests, please contact me as soon as possible after the first day of class to explain these needs. Please also speak with me anytime if something should develop later in the semester.