FIELD METHODS IN WILDLIFE AND CONSERVATION

AG 337 01E / 01L

FALL 2024

Instructor: Dr. Pedro M. Chavarria
Course Location: McDowell Administration 106 (Lecture); AG/ET 255 (Lab)
Course Hours: T-Th 0800-0915 (Lecture, 3 credits); 2:00-4:50 pm (Lab, 1 credit)
Office Location: AG/ET 253
Office Hours: By appointment, schedule by e-mail
Office Phone: 903.886.5615 (E-mail preferred)
University Email Address: Pedro.Chavarria@tamuc.edu
Preferred Form of Communication**:** e-mail

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook: (required)

Title: The Wildlife Techniques Manual (2 volume set)
Author(s): Nova J. Silvy (Editor)
Edition: and/or Publication Date: 7th Edition
ISBN: 9781421401591
Publisher: The Johns Hopkins University Press

Supplemental Materials: Presented by the instructor or on myleoonline.tamuc.edu; Students are encouraged to acquire on their own proper clothing, field hat, and footwear for fieldwork (i.e. hiking boots or snake-proof boots). Students are encouraged to acquire on their own a field backpack for carrying personal gear and field equipment. Students are encouraged to purchase their own personal set of binoculars, a multitool (e.g. “Leatherman” pocket knife), and compass.

Course Description

This course provides students with practical training in the methods used to collect quantitative data on plant and animal populations, animal movements and home ranges, habitat associations, and animal behavior. Field exercises are integrated with lecture material emphasizing study design, statistics, and data interpretation. Students must be registered for both the lecture and laboratory component. The laboratory component will introduced students to skills, methods, and techniques for studying wildlife populations in local outdoor environments including Blackland Prairie and Oak Savanah habitats and the TAMUC university farm and wetlands.

The *syllabus/schedule are subject to change.*

Student Learning Outcomes

1. Exemplify the ability to prepare and properly outfit for field work with safety of oneself and others as the goal.
2. Index and characterize ecological conditions by the use of field documentation.
3. Employ equipment for deterministic assessment of variables such as animal presences, range, habitat association and use.
4. Employ equipment for quantitative assessment of variables such as wildlife habitat, populations, animal behavior, and community interactions.
5. Read and analyze peer-reviewed articles of field methodology from diverse evolutionary clades.
6. Professional Skills
7. Demonstrate the ability to work as a productive team member on a large field project.
8. Articulate ideas through writing.
9. Demonstrate interpersonal skills of critique, collaboration, and project management.

COURSE REQUIREMENTS

You must be proficient in navigating myleoonline.tamuc.edu, using Microsoft Word and PowerPoint, e-mailing your instructor, writing papers, and opening .pdf documents.

GRADING

The lecture and laboratory components will be combined for a single grade. The lecture component will total 700 pts. (70%) and the lab will total 300 pts. (30%) of the course point total. Final grades in this course will be based on the following scale:

A = 90%-100%; B = 80%-89%; C = 70%-79%; D = 60%-69%; F = 59% or Below

Assessments (Lecture)

1. Midterm Exams: 2 x 100 pts. = 200 pts.
2. Weekly Participation Quizzes: 10 x 20 pts. = 200
3. Wildlife Techniques Paper: 100 pts.
4. Final Exam: 200 pts.

Assessments (Laboratory)

1. Field Notes: 12 x 10 pts. = 120 pts.
2. Lab Participation: 12 x 5 pts. = 60 pts.
3. Field Writeups and Reports: 4 x 30 pts.= 120 pts.

Attendance and Participation:

Each student is expected to attend all classes, participate in all discussions, and complete assignments in a timely manner. The lecture component will be graded separately from the laboratory component but will be combined for a single grade. Attendance to labs in especially crucial since there is a participation component and a “field notes” component. Students not participating in a lab will be unable to complete the field notes and will receive no credit for that portion of that assignment as well. Labs cannot be made up but in some instances opportunities to make up the grade will be available if students assist with any available and ongoing undergraduate or graduate projects subject to availability.

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Outdoor and Indoor Laboratory Exercises

The laboratory for this course will be a combination of indoor and outdoor exercises. This will include exposure to 1) modern tools used to identify and inventory wildlife (i.e. iNaturalist, Merlin, eBird), 2) vegetation measurements, 2) radio-telemetry, 3) capture-mark-recapture, 4) surveys of abundance for birds, and 5) aquatic sampling techniques.

- Vegetation measurement techniques will include plot and plotless methods such as quadrat techniques, line intercept techniques, and visual obstruction techniques.
- Radio-telemetry is a standard technique that allows researchers to track wildlife from a distance to determine movements, survival, and habitat use. Students will practicing "homing" in on a beacon signal and use software for "triangulation" and determination of approximate location.
- Capture-mark-recapture is a standard method for estimating population size. We will do this using passive (non-intrusive) and active methods trapping such as the use of "game" camera traps and Sherman live traps for small rodents. Population size is estimated from the ratio of marked to unmarked animals in subsequent recaptures. This will also involve species ID and marking strategies.
- Students will learn to conduct "spot counts" for abundance of bird species. The first is a passive method of quantifying bird presence by their songs/calls and is usually done at sunrise to noon. This is the standard point count. Distance sampling is a more active absolute method of determining density (#/unit area) in that it involves walking transects of known lengths, detecting birds along the transect and measuring the right angle distance from the transect line to the flushing point.
- Students will conduct aquatic sampling of invertebrates and small vertebrates. This will involve sampling for fish and aquatic invertebrates using a 25 ft seine, Eckman dredge, D-nets, funnel traps, etc. We will ID organisms, take standard measurements, and determine and index of the health of the freshwater system.

If weather conditions do not permit safe conduct of field activities, the class will meet indoors at the lecture room.

Laboratory Field Notes and Reports:

Students are expected to keep a "field notebook" in the form of a looseleaf binder or a composition book. The field notes will be evaluated on accuracy and content, including information such as weather conditions, field observations, sketches, and inventory and monitoring data on wildlife. The field notes will be graded at the end of each lab for a partial grade (participation) and through a summarized digital version that must be submitted online through D2L.

There will be also a total of 4 field reports that will comprise of summarizing, analyzing, and synthesis of data in a formal lab report format: Introduction, Methods, Results, Conclusion. Lab reports must include supporting graphs, data tables, and figures (i.e field photos). Lab reports may be worked on individually or collectively in groups projects. At least one of the lab reports will be required to be worked on as a group to encourage collaboration in data collection.

Course week	Dates	Weekly agenda
Week 1	8/27-8/29	**Course introduction** **Research and Experimental Design (CRRISS)** 1. Syllabus overview 2. Readings: Chapter 1: Research and Experimental Design 3. Sampling theory for wildlife and vegetation I **Lab: Introduction to Field Equipment and Gear and Orientation Field Visit to TAMUC Farm Site 1 and Biomedical Veterinary Facility**
Week 2	9/3--9/5	**Avian Monitoring Methods** 1. Readings: 2. Passive methods for sampling wildlife: Birding 101 **Lab: Orientation Field Visit to TAMUC Farm Site 2** **1. Use of iNaturalist, Merlin, eBird and other apps for field ID** **2. Point-counts for Birds: Visual and Audio**
Week 3	9/10-9/12	**Passive and Non-intrusive Methods for Sampling Wildlife** 1. Readings: Chapter 9: Identification of Animals from Field Signs 2. Readings: Chapter 13: Use of Remote Cameras **3.** Readings: Chapter 15: Bioacoustic Monitoring **Lab: Remote Camera deployment and "Track Traps"**
Week 4	9/17-9/19	**Vegetation Sampling for Wildlife Management** 1. Readings: Chapter 19: Vegetation Sampling and Measruement 2. Readings: Chapter 22: Using Geospatial Technologies in Wildlife Studies **Lab: Vegetation I: Plot Methods and Insect Traps**
Week 5	9/24-9/26	**Vegetation Sampling for Wildlife Management II** 1. Readings: Chapter 19: Vegetation Sampling and Measruement 2. Readings: Chapter 22: Using Geospatial Technologies in Wildlife Studies **Exam #1 (9/26)** **Lab: Vegetation II: Plotless Methods and Insects**

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Week 6	10/1-10/3	**Herptile and Amphibian Inventory Methods** 1. Readings: Chapter 3: Capturing and Handling Wild Animals 2. Readings: Chapter 10: Techniques for Marking Wildlife **Lab: Herptile Cover Boards, Pit Traps**
Week 7	10/8-10/10	**Small Mammal Inventory and Monitoring Methods** 1. Readings: Chapter 3: Capturing and Handling Wild Animals 2. Readings: Chapter 10: Techniques for Marking Wildlife 3. Chapter 13: Estimating Animal Abundance **Lab: Sherman Traps and Pit Traps**
Week 8	10/15-10/17	**Mesomammal Inventory and Monitoring Methods** 1. Readings: Chapters 3, 10, 13 **Lab: Mammal Trap Demonstration; Camera Data**
Week 9	10/22-10/24	**Mesomammal Inventory and Monitoring Methods II** 1. Readings: Chapter 3, 10, 13 **Lab: Distance Sampling; Camera Data**
Week 10	10/29-10/31	**Radio and GPS Telemetry I** 1. Readings: Chapter 11: Radiotelemetry, Remote Monitoring, and Data Analysis **Exam #2** **Lab: Radio Telemetry I**
Week 11	11/5-11/7	**Radio and GPS Telemetry II** 1. Readings: Chapter 11: Radiotelemetry, Remote Monitoring, and Data Analysis **Lab: Analysis of Telemetry Data (Indoors)**
Week 12	11/12-11/14	**Aquatic Sampling I: Macroinvertebrates** 1. Readings: Chapter 18: Invertebrate Sampling Methods for Use in Wildlife Research **Lab: Cooper Lake WMA**

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Week 13	11/19-11/21	**Aquatic Sampling II: Water Quality** 2. Readings: Chapter 18: Invertebrate Sampling Methods for Use in Wildlife Research **Lab: Cooper Lake WMA**
Week 14	11/26-11/28	**Aquatic Sampling III: Lentic and Lotic Methods** 3. Readings: Chapter 18: Invertebrate Sampling Methods for Use in Wildlife Research **Lab: TBA (Private Landowner)**
Week 14	11/27-11/29	Thanksgiving Break – No Classes
Week 15	12/3-12/5	**Modern Technological Applications for Wildlife Inventory and Monitoring** 1. Readings: Chapter 17: Use of Unarmed Aerial Vehicles in Wildlife Ecology **Lab: TBA**
Finals Week	12/9-12/13	Finals

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TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements.

You will be required to download the Codific Attendance Radar App (https://codific.com/student-attendance-radar/) to your mobile devices for in-class attendance verification. If you do not have a mobile device, you will need to consult with the instructor with your student ID to verify your attendance in-person.

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor first.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

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Interaction with Instructor Statement

Student Success

To be successful in my class:

- Check the course daily (e-mail and myLeo D2L) and read all announcements.
- Some changes to the course content, including deadlines to assignments, may occur during the semester. These announcements will first be made in-class during lectures. Not all announcements and changes to deadlines may be posted immediately to myLeo online. It is the student's responsibility to check with the instructor, preferably by e-mail, if a class is missed.
- Read and respond to course email messages as needed; please understand that I will respond as quickly as conveniently as possible. Sometimes I will respond to messages late into the evening, but generally expect me to reply within regular business hours
- Because it may take me a while to immediately respond to your e-mail, I recommend you build a connection with peers in your class in which you can confide and rely (i.e. "study buddy") to keep you informed of the changes to the course schedule and material in case you miss a class.
- Complete assignments by the due dates specified; If you have extenuating circumstances that prevent you from meeting a deadline, please let me know ahead of time so I can consult with you about necessary accommodations or make-up opportunities.
- Communicate regularly with your instructor (office hours) and peers. I am very understanding of situations that may arise in the academic environment or in our personal lives which can create challenges to your performance. Please let me know what's going on so I can provide reasonable opportunities to help you recover and/or stay on track with the course.
- Create a study and/or assignment schedule to stay on track
- If you have any concerns regarding course content, need clarification on grading, or other matters related to the course, please make an appointment with your instructor to try to resolve the issue with the instructor first. If you find that the issue at hand cannot be resolved with the instructor after first consulting with the instructor, then feel free to seek support from the Chair of the department.
- Penalty enforcement (I reserve the right to adjust your grade for violation of the minimum expectations).
- Make-up assignments will only be given if arrangements are made with the instructor before missing the scheduled assignment. A documented excuse acceptable by the university standards will be required.
- If you miss class because of medical reasons, you will need to verify your illness through the TAMUC Student Health Services office (https://www.tamuc.edu/student-health-services/) or Student Disability Services office (https://www.tamuc.edu/student-disability-services/). A confirmation note (e-mail) from staff from either office is needed to make accommodations for missed assignments.
- Otherwise, missing assignments will be counted as zeroes in the overall grade computation.

I want you all to succeed in my courses and in life beyond your graduation. Schedule a time to come and chat with me formally or informally to discuss your interest in wildlife conservation and what kind of things you are expecting to learn while a student at TAMUC. I will make the strongest effort to adapt the degree program to the needs of our students and make the learning experience fun and exciting!

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COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf

Graduate Student Academic Dishonesty Form

http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

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Use of Artificial Intelligence (AI) Course Policy

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors 'guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit **www.tamuc.edu/counsel**

The instructor reserves the right to modify this syllabus during the semester, if needed. The instructor also reserves the right to extend credit for alternative assignments, projects, or presentations. Some elements of grading may be delegated to a teaching assistant for this course.

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