

BSC 337 – Field Methods in Wildlife and Conservation Science

Instructor: Dr. James W. Cain

Office: Science 215

Phone: 468-3271

Email: James_Cain@tamu-commerce.edu

Course objectives:

The overall objective for this course is to provide students with an understanding of the field techniques used by wildlife biologists in collection and analysis of data on vertebrate and plant populations to address natural resource research and management objectives. Topics to be covered will include experimental design, sampling strategies, development and testing of research hypotheses and common field techniques used to sample plant and animal populations.

IMPORTANT:

The only way to learn field methods is by getting hands-on experience. During this course we will spend a significant amount of time in the field. Some of the field methods will require the students to participate in outdoor lab exercises outside of normal class periods (see syllabus). In addition, on some Thursdays (see syllabus) we will spend both the lecture and laboratory times in the field; on these days you should bring something to eat with you to class because we will be in the field from 11:00 until 15:20. In addition, you should plan on doing the field labs regardless of the weather conditions (except in cases of university closures due to weather) so come prepared to work rain or shine. A lack of planning on your part to dress appropriately (i.e., warm and/or water-proof clothing) for weather conditions is not sufficient justification for not participating in field labs!!!!

Field Safety

Students should be aware that there are always risks to personal safety involved with wildlife field research. You can expect to encounter various insect pests (e.g., wasps, ticks, chiggers, and mosquitoes), thorny and poisonous plants (poison ivy), as well as hazardous animals (e.g., venomous snakes). If you are allergic to bee or wasp stings, be sure to bring your epi-pen during field laboratories; they will not be provided for you. Students are ultimately responsible for their own personal safety during this course.

Grading

Lecture Midterm exam	100 points
Lecture Final exam	200 points
Participation (lecture and lab)	100 points
Lab reports (5@ 20 points each)	100 points

Textbook:

- Braun, C.E. 2005. Techniques for Wildlife Investigations and Management. Sixth edition. The Wildlife Society, Bethesda, Maryland, USA.

•
Additional Reading: Additional reading will be assigned for some of the lectures and laboratories and will be uploaded to ecollege prior to the lecture or lab.

Laboratory reports: Format and content requirements of lab reports will be handed out prior to each lab exercise.

Expectations and responsibilities of students:

Regular attendance in lecture and laboratory is mandatory. Exams will be based on material contained in the assigned readings **AND** lectures/Labs. Final exam will cover material from the entire course. Students are expected to complete all homework and laboratory/computer assignments.

Students are expected to read the text chapters and readings prior to lecture in which the topics are discussed. Some exam questions will be based solely on required readings.

Make-up exams are generally not permitted except in the case of serious illnesses or family emergencies; permission for make-exams will be at the discretion of the instructor. Make-up exams will never be given without proof of a legitimate excuse for missing class on the date of exams. If you are seriously ill and know in advance of the exam that you are not likely to make it, you will be required to get approval from the instructor for the make-up exam **PRIOR** to the scheduled exam date.

Obligatory Statements:

All student enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student's Guide Handbook, Policies and Procedures, Conduct).

Plagiarism is a criminal activity. You must cite all sources of information. Copying of material, whether parts of sentences, whole sentences, paragraphs or entire articles, will result in a score of zero for your assignment and can result in further disciplinary action. Note that this is true throughout the University and we do have plagiarism-detecting software in place. Further information for avoiding this activity will be provided with your written assignments.

Students with Disabilities: 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, Gee Library, Room 132, Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, StudentDisabilityServices@tamu-commerce.edu**

Lecture Schedule (Tentative)

Date	Topics	Reading
1/19T	<ul style="list-style-type: none"> Course introduction Ethical considerations, animal care and use 	Friend et al. 1994
1/21R	<ul style="list-style-type: none"> Measures of central tendency and dispersion Scientific method, hypothesis testing, and management questions in field research 	Braun Ch 3
1/26T	<ul style="list-style-type: none"> Scientific method, hypothesis testing, and management questions in field research 	Braun Ch 3 Steidl et al. 2000
1/28R	<ul style="list-style-type: none"> Scientific method, hypothesis testing, and management questions in field research Sampling 	Braun Ch 3
2/2T	<ul style="list-style-type: none"> Research planning and choice of techniques 	
2/4R	LAB: Mist netting Arrive at Farm at 6:45-7:00am	
2/9T	<ul style="list-style-type: none"> Estimating animal abundance and detectability 	Braun Ch 5
2/11R	LAB: Small mammal trapping - Capture-mark-recapture (Sign up for trapping times)	Braun Ch 10, 13
2/16T	Small mammal trapping - Capture-mark-recapture	
2/18	No Class	
2/23T	LAB: Small mammal trapping - Capture-mark-recapture (Sign up for trapping times)	
2/25R	LAB: Small mammal trapping - Capture-mark-recapture Computer Lab Science 210	
3/2T	<ul style="list-style-type: none"> Distance Sampling 	Thomas et al. 2002 Braun Ch 5
3/4R	LAB: Campus squirrel survey – Distance sampling and double count methods	
3/9T	EXAM I	
3/11R	LAB: Distance sampling Computer Lab Science 210	
3/16-18	Spring Break	
3/23T	<ul style="list-style-type: none"> Radio Telemetry - Animal movements and home range estimation 	Braun Ch 14
3/25R	LAB: Radio Telemetry (Location TBD)	
3/30T	<ul style="list-style-type: none"> Measuring and monitoring vegetation 	Braun Ch 20
4/1R	LAB: Vegetation Sampling TAMU Wetlands/Biological Preserve	***
4/6T	<ul style="list-style-type: none"> Measuring and monitoring vegetation 	
4/8R	LAB: Vegetation Sampling TAMU Wetlands/Biological Preserve	***
4/13T	<ul style="list-style-type: none"> Animal Behavior Research 	Braun Ch 23
4/15R	LAB: Behavioral data collection	
	<ul style="list-style-type: none"> Activity budgets (Location TBD) 	
4/20T	<ul style="list-style-type: none"> Sampling reptiles and amphibians 	Braun Ch 10
4/22R	LAB: Sampling reptiles and amphibians TAMU Wetlands	***
4/27T	<ul style="list-style-type: none"> Aquatic Sampling 	***
4/29R	LAB: Aquatic Sampling – seine netting (Location TBD)	***
5/4T	<ul style="list-style-type: none"> Measuring species diversity and richness 	Kempton 2002
5/6R	TBD	
5/11	Finals Week	

**Additional readings will be distributed prior to lab exercises