



FW370 DESIGN OF FISH AND WILDLIFE PROJECTS



INSTRUCTOR INFORMATION

Instructor: Dr. Kyle Horton

Email: kyle.horton@colostate.edu

Phone: (970) 491-6990

Communication Policy: (I will try my best respond to emails will be provided within 36 hours).

Office hours: Monday 9:00-10:00 am & Friday 9:00-10:00 am (Wagar 106B)

Teaching Assistant: Trent Pearce

Email: trent.pearce@colostate.edu

Office hours: Tuesday 10:00-12:00 am (Wagar 210)

****All course materials will be delivered at our scheduled time (Tuesday and Thursday, 8:00AM-9:50 AM MT) in Behavioral Science Building, Room 105.****

PREREQUISITES FOR COURSE

Prerequisite: LIFE 320 or LAND 220 or LIFE 220) and (FW 260 or FW 360) and (NR 220) and (MATH 155 or MATH 160) and (STAT 301 or STAT 307).



COURSE DESCRIPTION & OBJECTIVES

The purpose of this course is to introduce you to the general principles of conducting research in fish, wildlife and conservation biology. The class will cover all phases of the scientific process, from generating hypotheses and study design, to data collection and analysis, interpretation and reporting of results. The course will emphasize philosophy and history of science, application of the scientific method in ecological research, preparation of research proposals, experimental design, data collection/analysis, scientific writing and scientific communication. These skills underpin modern natural resource management, and will increase competitiveness for those seeking careers in biological conservation, wildlife management, fisheries, etc. Individuals that have great difficulty with basic statistics and computing should not be discouraged but will have to spend extra time and effort.

TEXTBOOK / COURSE READINGS

Gotelli and Ellison (2013) A Primer of Ecological Statistics (Chapters on the tentative schedule refer to this book)

COURSE MATERIALS & EQUIPMENT

Canvas. All course materials will be posted on the Canvas. We will be using Canvas' Modules, Quiz, Assignment, and Announcement tools. The Discussion tool can be used amongst students to discuss course content but **should not** be used to exchange results pertaining to lab assignments, quizzes, or exam.

Software and computing needs. You will be using Microsoft Office (mainly word) to complete your assignments, as well as R (<https://www.r-project.org/>) and RStudio (<https://rstudio.com/>) for programming purposes. At times we've had trouble install R/RStudio on Google Chromebooks, however you'll be able to use a virtual machine with all the same capabilities (<https://www.rstudio.com/products/rstudio/#rstudio-server>).

COURSE ACTIVITIES

Lectures. PowerPoints covering key topics ~ 60-75 minutes in length. Topics will include 1) history and application of the scientific method to ecological problems, 2) experimental design, data collection, and statistical analysis in ecology, 3) scientific writing and communication.

Readings. Readings will be posted each week to deepen your understanding of topics presented in the lectures and labs. In addition to the assigned readings from Gotelli and Ellison, other reading materials will be posted, as necessary. Papers will emphasize philosophy of science, experimental design and the importance of using the scientific method in fishery and wildlife research. These papers will be available on Canvas. Reading materials should not be neglected since they will be used to design questions pertaining to assignments, quizzes, and the exam.



Lab assignments. Computer-oriented sessions designed to help practice quantitative topics presented in the lecture, namely statistical analysis. These labs will be graded individually, and your answers should be submitted online through canvas.

Quizzes. You will be required to complete multiple quizzes throughout the semester. These quizzes will consist of approximately 10 to 20 multiple-choice, fill-in-the-blank, matching and (or) true/false questions based on lectures, labs, and readings.

Exam. There will be one exam. It is designed to test your general knowledge of all topics covered in the class up to that point and will demand problem solving, short answers, and longer essays.

Research proposal. A research proposal describing a fish, wildlife or conservation biology investigation is required. The proposal will include a comprehensive literature review, a statement of the hypothesis being tested, justification for the importance of conducting the proposed research, methods including statistical analyses, expected results, and a budget.

PARTICIPATION/BEHAVIORAL EXPECTATIONS

Submitting Electronic Files. Please name your assignment file using the following convention: labnumber_yourname (e.g. lab1_kylehorton).

COURSE POLICIES (LATE ASSIGNMENTS, MAKE-UP EXAMS, FINAL GRADES, ETC.)

All lab assignments, discussions assignments, poster and research proposal assignments must be turned in on time for full credit. Please contact the instructor or teaching assistants when you need special accommodations. In case emergency in life happens and you miss a deadline, contact the instructor or teaching assistants at your earliest convenience to discuss make-up assignments. **Late assignments will be docked 25% of the grade for each day late and will no longer be accepted 3 business days past the deadline. I do not round final grades.**

GRADING POLICY

Grade	Range	Grade	Range
A+	100% to 96.67%	B-	<83.33% to 80.0%
A	<96.67% to 93.33%	C+	<80.0% to 76.67%
A-	<93.33% to 90.0%	C	<76.67% to 70.0%
B+	<90.0% to 86.67%	D	<70.0% to 60.0%
B	<86.67% to 83.33%	F	<60.0% to 0.0%

As a student enrolled in this course, one of your responsibilities is to submit course work by the due dates listed in Canvas. With that said, I take my role as your instructor very seriously, and, in fact, I care about how well you do in this course and that you have a satisfying, rewarding experience.

To that end, it is my commitment to you to respond individually to the work you submit in this class and to return your work in a timely manner. Smaller, weekly assignments and quizzes will be returned within 7 (week) days and major assignments, exams, and essays will be returned within 10 (week) days. (If, however, due to unforeseeable circumstances, the grading of your work takes longer than the times I have listed here, I will keep you informed of my progress and make every effort to return your work with feedback as soon as I can.)

ASSIGNMENT	GRADE PERCENTAGE
Discussion and reflection exercises	5
Quizzes (4)	10
Lab assignments (4)	25
Exam (1)	25
Poster Presentation	10
Research proposal	25
<i>Resume</i>	<i>1</i>
<i>Proposal topic</i>	<i>1</i>
<i>Literature Search</i>	<i>1</i>
<i>Proposal outline</i>	<i>4.5</i>
<i>Draft Figure and Budget</i>	<i>2.5</i>
<i>Full proposal</i>	<i>15</i>
Total:	100 %

*Keep a copy of all work created for the course, including work submitted through Canvas course learning management system.



CANVAS INFORMATION & TECHNICAL SUPPORT

Canvas is the where course content, grades, and communication will reside for this course.

- Login: canvas.colostate.edu
- Support: info.canvas.colostate.edu
- For passwords or any other computer-related technical support, contact the [Central IT Technical Support Help Desk](#).
 - (970) 491-7276
 - help@colostate.edu

The [Technical Requirements](#) page identifies the browsers, operating systems, and plugins that work best with Canvas. If you are new to Canvas quickly review [the Canvas Student Orientation](#) materials.

ACADEMIC INTEGRITY & CSU HONOR PLEDGE

This course will adhere to the CSU [Academic Integrity/Misconduct](#) policy as found in the General Catalog and the [Student Conduct Code](#).

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course.

Further information about Academic Integrity is available at CSU's [Academic Integrity - Student Resources](#).

CSU students are held accountable for academic misconduct. Violations include:

- Cheating
- Plagiarism
- Falsification
- Unauthorized possession or disposition of academic materials
- Facilitation of academic misconduct for others

Evidence of any of these violations will result in a zero for any assignment. A second violation will result in an F for the course.



UNIVERSAL DESIGN FOR LEARNING/ACCOMMODATION OF NEEDS

I am committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning.

If you are a student who will need accommodations in this class, please contact me to discuss your individual needs. Any accommodation must be discussed in a timely manner. A verifying memo from [The Student Disability Center](#) may be required before any accommodation is provided.

The Student Disability Center (SDC) has the authority to verify and confirm the eligibility of students with disabilities for the majority of accommodations. While some accommodations may be provided by other departments, a student is not automatically eligible for those accommodations unless their disability can be verified and the need for the accommodation confirmed, either through SDC or through acceptable means defined by the particular department. Faculty and staff may consult with the SDC staff whenever there is doubt as to the appropriateness of an accommodative request by a student with a disability.

The goal of SDC is to normalize disability as part of the culture of diversity at Colorado State University. The characteristic of having a disability simply provides the basis of the support that is available to students. The goal is to ensure students with disabilities have the opportunity to be as successful as they have the capability to be.

Support and services are offered to student with functional limitations due to visual, hearing, learning, or mobility disabilities as well as to students who have specific physical or mental health conditions due to epilepsy, diabetes, asthma, AIDS, psychiatric diagnoses, etc. Students who are temporarily disabled are also eligible for support and assistance.

Any student who is enrolled at CSU, and who self-identifies with SDC as having a disability, is eligible for support from SDC. Specific accommodations are determined individually for each student and must be supported by appropriate documentation and/or evaluation of needs consistent with a particular type of disability. SDC reserves the right to ask for any appropriate documentation of disability in order to determine a student's eligibility for accommodations as well as in support for specific accommodative requests. The accommodative process begins once a student meets with an accommodations specialist in the SDC.



THIRD-PARTY TOOLS/PRIVACY

Please note that this course may require you to use third-party tools (tools outside of the Canvas learning management system), such as Skype and others. Some of these tools may collect and share information about their users. Because your privacy is important, you are encouraged to consult the privacy policies for any third-party tools in this course so that you are aware of how your personal information is collected, used and shared.

COPYRIGHTED COURSE MATERIALS

Please do not share material from this course in online, print, or other media. Course material is the property of the instructor who developed the course. Materials authored by third parties and used in the course are also subject to copyright protections. Posting course materials on external sites (commercial or not) violates both copyright law and the CSU Student Conduct Code. Students who share course content without the instructor's express permission, including with online sites that post materials to sell to other students, could face appropriate disciplinary or legal action.

UNDOCUMENTED STUDENT SUPPORT

Any CSU student who faces challenges or hardships due to their legal status in the United States and believes that it may impact their academic performance in this course is encouraged to visit [Student Support Services for Undocumented, DACA & ASSET](#) for resources and support. Additionally, only if you feel comfortable, please notify your professor so they may pass along any additional resources they may possess.

TITLE IX/INTERPERSONAL VIOLENCE

For the full statement regarding role and responsibilities about reporting harassment, sexual harassment, sexual misconduct, domestic violence, dating violence, stalking, and the retaliation policy please go to: [Title IX – Sexual Assault, Sexual Violence, Sexual Harassment](#).

If you feel that your rights have been compromised at CSU, several resources are available to assist:

- Student Resolution Center, 200 Lory Student Center, 491-7165
- Office of Equal Opportunity, 101 Student Services, 491-5836

A note about interpersonal violence: If you or someone you know has experienced sexual assault, relationship violence and/or stalking, know that you are not alone. As instructors, we are



required by law to notify university officials about disclosures related to interpersonal violence. Confidential victim advocates are available 24 hours a day, 365 days a year to provide support related to the emotional, physical, physiological and legal aftermath of interpersonal violence. Contact the Victim Assistance Team at: 970-492-4242.

RELIGIOUS OBSERVANCES

CSU does not discriminate on the basis of religion. Reasonable accommodation should be made to allow individuals to observe their established religious holidays. Students seeking an exemption from attending class or completing assigned course work for a religious holiday will need to fill out the [Religious Accommodation Request Form](#) and turn it in to the Division of Student Affairs, located on the second level of the Administration building.

Once turned in, the Division of Student Affairs will review the request and contact the student accordingly. If approved, the student will receive a memo from the Dean of Students to give to their professor or course instructor.

Students are asked to turn in the request forms as soon as the conflict is noticed. Similarly, unanticipated conflicts requiring a religious observance, such as a death in the family, can also be reviewed.

CSU PRINCIPLES OF COMMUNITY

Inclusion: We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions.

Integrity: We are accountable for our actions and will act ethically and honestly in all our interactions.

Respect: We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

Service: We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

Social Justice: We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies and procedures that promote justice in all respects.

Diversity and Inclusion

The [Mission, Vision, and Focus](#) webpage of the Vice President for Diversity includes a comprehensive statement of CSU's commitment to diversity and inclusion.