

ANEQ 565 – Interpreting Animal Science Research
Course Syllabus
Fall 2025

Instructor

Terry Engle

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Class location: Room 135 Animal Science Building

Time: Monday, Wednesday, and Friday from 8:00 a.m. – 8:50 a.m.

Location: Room 135 Animal Sciences Building

Lecture type: Face-to-Face

Credits: 3 Hours

Prerequisites: ANEQ 101 or ANEQ 102, 3 Credits of Statistics

Grading: Traditional (A, B, C, D, F)

Assignments:

- Homework 300 Points (3 x 100 points)
 - Article reviews (1 page summary evaluating scientific literature)
- Examinations 200 Points (2 x 100 points)
- Presentation 100 points
 - Team presentation

Purpose:

Agricultural technology, policy, financial management and marketing are all strongly influenced by scientific research. Science is a necessity for the agricultural industries and is constantly influencing our daily lives. Without the ability to comprehensively understand scientific findings, individuals in agriculture place themselves at risk to make uninformed decisions, which may impact their livelihood and the well-being of the industry. This course will enable students to critically evaluate and communicate effectively on the design, analysis, and reporting of animal science research.

Objectives:

- Acquire the capability to understand technical publications resulting from scientific study and to critically assess design, protocol, analyses, and reporting of scientific investigations.
- Become familiar with different types of animal science research, varied purposes for conducting research, and ethical considerations for scientists.
- Improve technical communication skills.
- In addition to scientific interpretation, this course will cover the core competencies of Responsible Conduct of Research (RCR) and fulfill CSUs face-to-face training requirement for trainees funded by the National Institutes of Health (NIH), National

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Science Foundation (NSF), and USDA–NIFA. Core Competencies of RCR Training include:

- Ethics and social responsibility in research
- Conflict of interest
- The use of animal/human subjects and safe laboratory practices
- Mentor/mentee responsibilities
- Collaborative research
- Data acquisition, management, sharing, and ownership
- Research misconduct
- Responsible authorship, publication and peer review
- Financial management and responsibilities

Expectations:

This course is designed to empower students with the tools necessary to evaluate scientific research. The instructor's goal is not to teach students what to think, but rather how to think in a way conducive to improving their understanding of scientific results. Consequently, course grades will not be an immediate reflection of technical knowledge per se but, rather, your effort towards achieving the stated course objectives. Achievement of the course objectives requires a dedicated commitment outside of class. It is imperative that you read the written materials, participate in discussions concerning the materials, and complete out-of-class assignments on time (unexcused tardiness in submitting assignments results in a 5 point/day deduction in score). Additionally, a fundamental understanding of statistical analysis is essential. It is understood that graduate students are frequently required to miss class due to research commitments. It is the responsibility of the student (graduate or undergraduate) to discuss the absence with the instructor prior to the date to be missed and to reach an agreement on how missed lecture time and late assignments might be addressed. Course content will vary year-to-year based on the technical knowledge of students enrolled and based on the progress of the class. Therefore, it is in the interest of all students to make every attempt possible to attend class each day.

Materials:

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All materials will be posted on Canvas. This is necessary in order for the instructor to tailor the course in a way that maximizes the success of students. This format also makes it absolutely essential for all students to read the course materials prior to discussions. It may also be necessary for students to review some statistical principles prior to class.

Out-of-Class Assistance:

The “help” policy of the instructor is “open-door.” This means that if the instructor is in their office and the door is open, they are more than willing to help you. However, a pre-arranged appointment may be necessary to ensure your questions can be answered in a timely fashion.

Academic Integrity:

You should be familiar with the University’s policy on academic integrity found under the Students Rights and Responsibilities section in the University’s General Catalog. The Colorado State University General Catalog can be found at <https://catalog.colostate.edu/general-catalog/>. The content included in the Student Rights and Responsibilities section applies to this course. Your signature on a test or assignment means that you have neither given nor received unauthorized aid and represents your commitment to honorable and trustworthy behavior that is in the spirit of the Honor Pledge. It is permissible for you to share class notes, study in groups, and review tests from previous years.

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. Academic integrity, and the personal and social integrity of which academic integrity is an integral part of, are 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 (<https://resolutioncenter.colostate.edu/academic-integrity/>).

Title IX/Interpersonal Violence:

Following national guidance from the Office of Civil Rights, professors must follow CSU’s policy as a “mandatory reporter” of any personal disclosure of sexual harassment, abuse, and/or violence related experiences or incidents shared with the professor in person, via email, and/or in classroom papers or homework exercises. These disclosures include but are not limited to reports of personal relational abuse, relational/domestic violence, and stalking. While professors are often able to help students locate appropriate channels of assistance on campus (e.g., see the CSU Health Network link below), disclosure by the student to the professor requires that the professor inform appropriate CSU channels to help ensure that the student’s safety and welfare is being addressed, even if the student requests that the disclosure not be shared. 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 web page at: <https://oeo.colostate.edu/title-ix-sexual-assault-sexual-violence-sexual-harassment/>.

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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 mentioned earlier, 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.

For counseling support and assistance, please see The CSU HEALTH NETWORK, which includes a variety of counseling services that can be accessed at: <http://www.health.colostate.edu/> and The Sexual Assault Victim Assistance Team is a confidential resource for students that does not have a reporting requirement and that can be of great help to students who have experienced sexual assault. The web address is <http://www.wgac.colostate.edu/need-help-support>.

Principles of Community:

The Principles of Community support the Colorado State University mission and vision of access, research, teaching, service and engagement. A collaborative, and vibrant community is a foundation for learning, critical inquiry, and discovery. Therefore, each member of the CSU community has a responsibility to uphold these principles when engaging with one another and acting on behalf of the University.

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.

Universal Design for Learning/Accommodation of Needs:

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As your instructor, 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 (<https://disabilitycenter.colostate.edu/>) 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. The 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.

Rams Against Hunger:

The goal of Rams Against Hunger at Colorado State University is to serve as emergency food relief for Colorado State University students experiencing food insecurity. Food insecurity broadly defined is “the state of being without reliable access to sufficient quantity of affordable, nutritious food.” Indicators of food insecurity include skipping meals due to lack of financial resources, cutting the size of meals due to lack of financial resources, experiencing hunger but not eating, the inability to afford balanced meals, and/or running out of food at the end of a pay period. According to a CSU survey conducted in the Fall of 2013, approximately 10% of students at Colorado State University experience food insecurity. See the list below for more details on Rams Against Hunger Programs. For more information please visit:

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<https://lsc.colostate.edu/slice/slice-engagement/rams-against-hunger/#1585868091985-77483de1-e2b0>

Tell Someone:

Rams take care of Rams. Helping others, speaking up when something does not feel right or when you are worried about someone else, and reaching out are foundational values at Colorado State University. Tell Someone is a Colorado State University service where anyone can report concerns about a student or employee who may be struggling with issues such as mental health, stress management, and safety, as well as share concerns about threats of violence (against themselves or others). Through Tell Someone, you can report anything that threatens your safety or the safety of others in the university community. Tell Someone is available to seek help for or report a concern about any CSU community member, including employees who work off campus. Tell Someone is not designed to get people in trouble; it is designed to help students and employees who may be struggling, as well as help enhance university safety. Tell Someone is your resource if you are worried about a friend's well-being. If a student or employee is disruptive, Tell Someone is the right place to turn for intervention as well as university support to help put consequences and boundaries in place. Tell Someone is run by the Office of Support and Safety Assessment. The office is comprised of trained specialists who can identify concerns, pathways to resolution, and university resources. Tell Someone online and phone reports are only reviewed during regular business hours. If you believe someone is at risk of immediate harm, call 911. For more information regarding Tell Someone please visit: <https://supportandsafety.colostate.edu/tell-someone/>.

CSU Land Acknowledgment:

Colorado State University acknowledges, with respect, that the land we are on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples. This was also a site of trade, gathering, and healing for numerous other Native tribes. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it. As these words of acknowledgment are spoken and heard, the ties Nations have to their traditional homelands are renewed and reaffirmed.

CSU is founded as a land-grant institution, and we accept that our mission must encompass access to education and inclusion. And, significantly, that our founding came at a dire cost to Native Nations and peoples whose land this University was built upon. This acknowledgment is the education and inclusion we must practice in recognizing our institutional history, responsibility, and commitment.

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](https://oeo.colostate.edu/religious-accommodation/) (<https://oeo.colostate.edu/religious-accommodation/>) and turn it in to the Division of Student Affairs, located on the second level of the Administration building.

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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.