

ANEQ 565 – Interpreting Animal Science Research Spring 2018

Instructor: Dr. Keith E. Belk

Office: Room 37 Animal Sciences Building

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Class: Room 31 Animal Sciences Building

Credits: 3 Hours

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

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

Assignments:

- Homeworks 300 Points (3x100 points)
- Examinations 300 Points (3 x 100 points)
 - 2 Midterms
 - 1 Final Exam

Purpose:

Agricultural technology, policy, financial management and marketing all are 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 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 or TA's 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:

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, in which case the TA's can be consulted as to the resources available.

Out-of-Class Assistance:

The "help" policy of the instructor and TA's is "open-door." This means that if the instructor or TA's are in their office and the door is open, they are more than willing to help you. However, both the instructor and TA's have substantial research and travel commitments throughout the year. Consequently, a pre-arranged appointment may be necessary to insure your questions can be answered in a timely fashion.

Teaching Assistants:

Maggie Weinroth
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Haley Davis
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Important Dates:

- *Exam One Material – What is Science, Statistical Design*
- February 27th Homework Due
- March 1th 2016 Exam One
- *Exam Two Material – Data Analysis, Conclusions, Presentations*
- April 3th Homework Due
- April 10th Exam Two
- *Final Exam Material – Ethics in Science*
- April 26th Homework Due
- May 3rd, 2017 Final Exam

****Dates are tentative and subject to change based on the progress of the class.**