

ABILENE CHRISTIAN UNIVERSITY

AGRICULTURAL AND ENVIRONMENTAL SCIENCES

ANSC 497: SPECIAL PROBLEMS IN ANIMAL SCIENCE

TTH: 3:00- 4:20PM

Spring 2013

Instructor: Dr. Ed Brokaw
Professor of Animal Science
Agricultural and Environmental Sciences

Office Hours: See myacu

Strengths: Harmony, Learner, Adaptability,
Responsibility, Consistency

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ACU MISSION:

To educate students for Christian service and leadership throughout the world

CAS:

Our mission is to educate students for worldwide Christian service and leadership through programs of study and other learning experiences that blend a liberal arts education with professional and career education.

A & E MISSION:

We will educate students for Christian stewardship of sustainable agricultural and environmental systems throughout the world.

PRIMARY AUDIENCE

Animal science majors in their senior year.

COURSE DESCRIPTION AND OVERVIEW OF CONTENT

An individual special project course; students will complete a project on a selected topic, issue or problem. Projects may relate to research, extension or care and management of livestock. This course serves as a writing intensive and capstone course for students majoring in animal science.

DESCRIPTION OF GENERAL CLASS FORMAT

This course meets two times a week for one hour and twenty minutes each period for a total of three hours of classroom instruction. Class discussions and interaction with speakers representing diverse philosophies and interests are prominent features of the course. Critical thinking and evaluation of information sources are stressed.

TEXT BOOK

None

RECOMMENDED READINGS

Articles from any of the agricultural journals including the following:

Journal of Animal Science, Journal of Dairy Science, Journal of Animal Breeding, Animal Reproduction Science, Animal Feed Science and Technology, Animal Biotechnology, Applied Animal behavior Science, Agricultural Research and Agricultural Systems

CHRISTIAN PERSPECTIVE

This course focuses on student participation as they present and debate issues related to animal agriculture. The course will help both students and instructors to view each other's opinions from a Christian perspective. As Christians we need to develop our abilities to think well as we aspire to understand the richness and complexity of God's creative work.

COURSE GOAL

The overall goal of this course is to enhance, in students, problem solving skills in addressing current issues encountered by the animal industry.

Student Competencies and Measurements

	Competency	Measurement Instrument	Measurement Standard
1	Consistently apply a personal ethic to contemporary issues in the animal science industry.	Class Presentations	A. Differentiate between popular perception of discussions and the scientific realities. B. Able to defend their own recommendations regarding specific issues. C. Willingness to reflect upon how the student's personal faith changes their viewpoint.
2	Develop critical thinking and problem solving skills	Review papers Research project	A. Ability to transfer concepts/principles from one context to another.

3	Establish professional contacts for solving industry related problems and to enhance professional networking	Reflective paper Reflective paper	A. Students will use multiple communication methods to have personal dialogue with industry professionals. B. Articulate tactics for maintaining these relationships throughout their career. C. Reflect upon how these professional dialogues have broadened their thinking.
4	Demonstrate written and oral presentation skills	Presentations Research proposal and project Reflective paper	A. Appropriate application of animal science terminology. B. Papers written in an acceptable style of a specific scientific journal and free from grammatical error
5	To gain an appreciation for the value of life-long learning and how to find appropriate resources to solve problems in industry	Presentations Research project	A. Students show a resolve toward continued growth. B. Students reflect upon their personal growth and how education has impacted it. C. Students articulate personal philosophies that have changed during their lives.

EVALUATION

Student Presentations: Each student will be assigned to a team of two or four students. Each team will choose a topic based on the industry contacts and current issues. Each team will give an oral presentation on any of the topical issue in Animal sciences that are currently being debated. See presentation tips given on the attached handout. In addition each student will be required to lead from one to two discussions pertaining to topic areas discussed in class.

Writing Assessment

At least three outside speakers will come at designated times to give talks related to their areas of research or expertise. It is mandatory that you attend these. For each talk, you will be required to write a one-page reflection on it. The speakers will be prompted to address some thought-provoking issues pertaining to the animal industry. You will be required to take one of your one-page reflection papers and expand on it by examining the issue(s) critically, taking a position, and developing a reasoned argument in support of your position. This expanded report will be forwarded to the Writing Across the Curriculum (WAC) for assessment.

Writing Center Information

The ACU Writing Center, located in the Learning Commons of the Brown Library, welcomes all students who would like assistance with their writing. Its trained and experienced tutors will provide feedback for any writing assignment at any stage of the writing process – from planning and drafting to formatting and editing. Their services are free. You can call them on 674-4833 for more information.

Project Proposal: You are expected to develop and present a research proposal on a selected topic, issue or problem that you wish to address during the semester.

Project Report: Individual student projects addressing a major problem of interest will be submitted in the form of a thesis write-up (see attached guideline). You will be required to make a PowerPoint presentation of your project at the conclusion of the semester. Research findings may be presented at National meetings as well.

Resume: You will be expected to develop a resume that presents a comprehensive skills and accomplishments inventory that reflects your scholarship (research and creative activities), accomplishments, co-curricular activities, service, leadership, internships, integrative thinking, knowledge, etc.

COURSE GRADE

The grade will be computed on the basis:

Activity	Value
Project Literature Review & Presentation	15 %
Class Presentations	20%
Final Project report/thesis	40%
Post Project presentation	15%
WAC	5%
Resume	5%

GRADING CRITERIA

Each activity will be graded on the basis of 100%. Weighted averages will be computed at the end of the semester. The grading system for the course is given in the following table.

% Range	Grade
90 – 100	A
80 - 89	B
70 -79	C
60 - 69	D
< 60	F

COURSE POLICIES

Attendance

Attendance in lecture is required. You will be dropped from the course if you miss 20% of the class meetings and you will be assigned a grade of WF. If a student misses more than four lectures her/his grade will be lowered one letter grade for each additional absence. You are late to class if you arrive five minutes after the scheduled start time. Every three late arrivals will be counted as one absence. You will be asked to initial a daily attendance roster for class. If you fail to sign the roster, you will be counted absent even if you are in attendance. It is your responsibility to sign the roll.

Academic Integrity:

Violations of academic integrity and other forms of cheating, as defined in ACU's Academic Integrity Policy, involve the intention to deceive or mislead or misrepresent, and therefore are a form of lying and represent actions contrary to the behavioral norms that flow from the nature of God. Violations will be addressed as described in the Policy. While the university enforces the Policy, the most powerful motive for integrity and truthfulness comes from one's desire to imitate God's nature in our lives. Every member of the faculty, staff and student body is responsible for protecting the integrity of learning, scholarship and research. The full Policy is available for review at the Provost's office web site (<http://www.acu.edu/campusoffices/provost>) and the following offices: provost,

college deans, dean of campus life, director of student judicial affairs, director of residential life education and academic departments.

Statement of Cooperation for Students with Disabilities

Abilene Christian University and the College of Arts and Sciences comply with the American with Disabilities Act (ADA) in making reasonable accommodations for qualified students with a disability. If you have an established disability as defined in the ADA and you would like to request an accommodation, please see me as soon as possible.

General Policies

1. Students who sleep in class will be asked to leave and will be counted absent.
2. Disruptive behavior will not be tolerated. This includes playing games, writing email, engaging in instant messaging, or similar activities during class periods. If you disrupt the class, you will be asked to leave and will be counted absent.
3. The use of cell phones or pagers is not permitted in class.
4. Headgear (e.g., caps or hats) is to be removed by men and women upon entering class
5. Students are expected to conduct themselves at all times in accordance with the policies outlined in the ACU Student Guide.
6. Late work will not be accepted. Assignments are due at the beginning of class.
7. No extra credit will be offered
8. No makeup exams will be given

COURSE OUTLINE AND COURSE CALENDAR

WEEK	TOPIC
1	Introduction: Teaching Philosophy, Ethical reflection, and Practice, Syllabus, Writing center
2	Scientific Literature search,
3	Roles of Animals and Animal Products in Human Welfare
4	Roles of Animals and Animal Products in Human Welfare: Literature Review: Presentation and submission
5	Biotechnology in Livestock Production and Health: Reflection paper 1 due:
6	Discussion, writing and submission of Methods and Materials
7	Impact of Animal Agriculture on the Environment
8	Students Presentations
9	Role of International Organizations in Animal Agriculture: FAO, ILRI Consultancy opportunities in the Animal Industry: Reflection paper 11 due:
10	Writing Project: Results and Discussion Section
11	Resume Writing; Job application and Preparing for interviews
12	Resume writing: WAC paper due
13	Student Presentations
14	Project progress reports
15	Student Project Presentations,

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Guidelines for Project Preparation
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Preparation of Project Report

The project report/ thesis consists of three parts namely, the preliminary pages, the body of the thesis (minimum length of 2000 words (approximately 7 pages) and lastly the reference materials. The sequencing of the different parts is given below:

- Title page
- Abstract
- Acknowledgements (Optional)
- Table of Contents
- List of Tables (where applicable)
- List of Figures (where applicable)
- Introduction
- Objectives
- Review of Literature
- Materials and Methods (Procedures)
- Results
- Discussion
- Conclusion or Implications
- Literature Cited (References)
- Appendices

In the final project report, all major headings must be centered and highlighted (i.e. bold). Note that the final project document does not have to have all the subsections listed above.

Although what follows is a general guideline to what is expected to be in the specific sections of the project report, it is important for the student to work with the instructor and agree on what is appropriate for their work.

Title Page

A sample title page will be supplied to students.

Abstract

The abstract appears at the beginning of the project report; typed single-spaced and must not exceed a page. The abstract should summarize the objective(s), methodology used in the research and the pertinent results. The abstract must conclude with one or two sentences that highlight important conclusions or implications.

Acknowledgements (optional)

Most theses include this section, which contains a statement of appreciation for assistance or support given.

Dedication (optional)

If included this section must be brief.

Table of contents

The titles of the chapters or sections and major subdivisions should be listed. The wording must be the same as it appears in the document. Most word processing packages have the facility for the generation of tables of contents and this should be used to save on time and ensuring consistency and accuracy of the table.

List of tables

The list of tables uses the titles as they appear above each table in the document.

List of figures

The list of figures uses the captions as they appear below the figures in the document.

Introduction

The introduction follows the abstract and should not exceed 2 pages. The introduction briefly states the problem, justifies the research and specifies the hypotheses to be tested. The objective(s) of the study should be clearly, but concisely spelt out. Extensive discussion on relevant literature should be included in the review of literature, not in the introduction.

Review of Literature

This gives a comprehensive review of background literature relevant to the proposed research. Information should be limited to relevant literature pertaining to the study. References should be cited at all times to support specific biological concepts or statements. Refer to the Journal of animal science for the correct referencing within the text.

Materials and methods

This section includes all aspects of the methodology used in conducting the research, for example, animal(s) (in terms of breed, sex, age, weight etc), diets, weighing conditions, surgical techniques, physical and chemical analyses and other measurements or observations recorded. This section should also include the experimental design and the statistical models used to analyze the data.

Statistics is included in Materials and methods

Although biology needs to be emphasized, it is absolutely essential to use appropriate statistical methods to analyze and interpret the data. Please consult the instructor to ensure that you use the correct experimental design and statistical models for your project and analysis of data. Mention of a statistical package e.g. Stat Disk, MS Excel without stating the relevant features of the analysis is not sufficient. It is essential that you understand the experimental design(s) used, as this will enable you to make meaningful inferences.

Results

Results may be combined with discussion i.e. under a Results and Discussion section. However, if the results are presented in their own section, there is no need for discussion within that section. When feasible, results should be presented in tabular form under relevant subheadings. Where results are tabulated, text should briefly explain or elaborate on tabular data, but numbers should not be repeated extensively within the text. Statistical levels of significance, e.g. $P < 0.05$ should be included as part of data presentation in the results section.

Discussion

The discussion (which may be included with results) should interpret the results clearly and concisely in terms of biological mechanisms and significance, in the context of available literature. Statistical levels of significance **must not be included** in the discussion, nor any explanation of materials and methods. Citations of literature should accompany biological phenomena and explanations.

Conclusion (or Implications)

This section summarizes the major findings of the project (in a few sentences) and indicates the implications of the findings of the research to biology. The conclusions should also highlight further areas of research generated from the present findings.

References/ Literature Cited

All references cited should be arranged chronologically in the text and listed in alphabetical order at the end. Examples of referencing to be used in the project report can be obtained from any recent issue of the Journal of Animal Science.

Appendices

To provide instructors and advisors with full information, this section should contain summaries of collected and tested data, such as measurements, and give details on analytical procedures used (examples of statistical analyses such as a table of Analysis of Variance, or student t-test must be included).

Student Initiated Teaching and Learning

Oral Presentations

In ANSC 497, you are given the opportunity to briefly explore a subject area related to animal sciences and present your information to your peers. This is an opportunity to practice your public speaking and presentation skills. It is your instructor's strong held belief that communication skills are one of the most important skills you'll learn at Abilene Christian University. Most people are not born with excellent skills in this area and they need to be practiced and refined. This will be yet another opportunity to polish and refine these important skills. The presentation experience will count for 15% of your final grade. These points will be assigned as follows:

Instructor Evaluation: 60%

Peer Evaluations: 30%

Teaching Handout: 10 %

The following tasks need to be done to complete this project:

Task

- Break up into groups and discuss topic
- Discuss time to meet outside of class to select topic and prepare outline.
- Discuss group tasks and presentation order.
- Turn in topic and presentation outline
- Prepare one page learning synopsis
- Make sure this is mailed to me the night before you presentation
- Send me a copy of your presentation
- Make sure this is to me the night before you presentation
- Meet as a group and practice presentation

General comments:

The intention of this exercise is for you to pick a topic that is of importance to the livestock industry and prepare a short presentation and handout on the issue. You are to learn the material and then teach it to your peers. I encourage you to engage the audience with the use of technology when appropriate i.e. videos, websites etc. Your handout must include at least three references. Only journal articles can be used as references.

Presentation Hints and Suggestions

Below, I have outlined a few things that have been taught to me on giving successful presentations. None of these things are of independent thought. They were explained to me, and I am passing them on to you.

1. Review the Toastmasters 10 Tips for successful public speaking.

- a. <http://www.toastmasters.org/MainMenuCategories/FreeResources/NeedHelpGivingaSpeech/TipsTechniques/10TipsforPublicSpeaking.aspx>

2. Use Power Point to organize your thoughts

- a. In most cases, your overheads should serve as a guide/prompt for you as a presenter to fill in the gaps. DO NOT fill your overheads with words that the audience reads. If you have to convey a lot of material provide the audience with a handout containing that information. There is nothing worse than a presenter reading a cluttered overhead to the audience. This is a common mistake made by many students.
- b. In general, there should be no more than three (3) major points on any given slide. The presenter fills in the necessary information.
- c. You will spend 2-3 minutes minimum on each slide you have. So if you were to give a 20 minute presentation you would need 8-10 slides of information and no more.
- d. It is poor form to exceed the length of your presentation or not cover all your slides. If you have 20 minutes to talk, only talk for 20 minutes, and practice your presentation so you know it will fit into the assigned time.
- e. Resist the temptation to use excessive animation in your presentation. While it may look neat on the computer screen, things flying all over the screen are often times a distraction to the audience.
- f. Choose your background slide color carefully. Often colors that look good on the computer do not show up well for the audience. A white background with black lettering always shows up well.
- g. Use large font for text in your presentation. Resist the urge to clutter slides with text and decrease font size.

3. Dress professionally, do not chew gum and avoid excessive use of the pointer.

- a. Use the pointer to direct your audience to an important feature of your slides. When you are done put it down.

4. Use professional language appropriate for your audience

- a. Minimize the use of slang terms and communicate with your audience at a level that they will easily understand.

5. Practice your presentation

- a. Your first time through a new presentation you always stumble. Take the time to practice your presentation in front of another person. Run through it just like you will give it during the actual presentation. This is the biggest mistake I see students make. They go over their presentation in their mind but do not bother to stand up in front of someone and run through the presentation beginning to end. To this day when I give important presentations I practice everyone.

6. Identify YOUR nervous traits and stop them.

- a. This takes introspection. We all have things that we do that are distracting to the audience. Some of us say "UM" hundreds of times, some use the pointer like a weapon, some lack eye contact with the

audience etc. When you practice ask the person in the audience to help you identify these nervous traits so you can try and reduce them.

7. Relax and be a teacher and educator.

- a. You generally know more about the subject than anyone in the audience.

Oral Presentations

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EVALUATION FORM:

Each presentation is evaluated using these criteria and the 5-point scale below:

1 = Poor, 2 = Needs Improvement, 3 = Satisfactory, 4 = Very Good and 5 = Excellent

Metric	Score (1-5)
{a} Organization and clarity of presentation - (Specific introduction and conclusions, sequenced material within the body; and transitions) must be clearly and consistently observable and is skillful and makes the content of the presentation cohesive.	_____
{b} Knowledge of subject area - Including ability to answer questions	_____
{c} Effectiveness of teaching materials - Overheads, Power Point etc.	_____
{d} Overall effectiveness in teaching subject - Did you learn from the experience?	_____
{e} Professionalism - Appropriate dress, vocabulary and mannerisms (posture eye contact, vocal expressiveness, speaker appears polished and confident)	_____
{f} Supporting Material - A variety of supporting materials (explanations, examples, illustrations, statistics) make appropriate reference to information or analysis that significantly supports the presentation or establishes the presenter's credibility/authority on the subject	_____
{g} Overall score Total - Sum {a} – {f}	_____