

COLLEGE OF AGRICULTURE AND LIFE SCIENCES
DEPARTMENT OF ANIMAL SCIENCE

A. COURSE INFORMATION AND PREREQUISITES

Title and Number:	ANSC 498 – Animal Science Capstone
Term:	Fall & Spring XXXX
Meeting Times and Locations:	MWF 9:10 – 10:00 KLCT XXX
Mode of Instruction:	Lecture and Laboratory; Traditional, Face-to-Face
Credit Hour:	4 hr. (2-2)
Prerequisites:	ANSC 399 and 1 ANSC Disciplinary Focus Course; junior or senior classification or approval of instructor.

B. COURSE DESCRIPTION

A senior capstone project for students preparing to enter a career related to animal science or a professional school. Individual projects, based on a self-selected topic in animal science, will be developed to include a paper containing both translational and technical descriptions plus statements regarding the expected financial and social impacts of their selected topic. This is a University-designated W-course (writing intensive) and must be taken the semester before graduation. To receive the W credit for this course, you must pass the W component.

C. COURSE PURPOSE

Students will have the opportunity to conduct an in-depth analysis of a specific problem germane to the field of animal science. Through production of written summaries regarding the translational, technical, financial, and social implications of their findings and an oral presentation students will demonstrate their competencies in implementing animal management strategies, utilizing animal production systems to sustain economic resources, and evaluating socially responsible techniques to produce animal products. Demonstration and further development of critical thinking, effective communication, lifelong learning, and integrated learning are expected.

D. CONCEPTS TO KNOW BEFORE TAKING THE COURSE

- Knowledge of species and breeds of livestock: <http://www.ansi.okstate.edu/breeds>
- A general understanding of Mendelian genetics:
<https://www.ndsu.edu/pubweb/~mcclean/plsc431/mendel/mendel1.htm>
- Knowledge of the basic concepts associated with the measurement of variation, co-variation, and accuracy: <https://datascienceplus.com/standard-deviation-vs-standard-error/>
<http://www.statpac.com/statistics-calculator/correlation-regression.htm>

E. INSTRUCTOR INFORMATION

Instructor:	XXX
Office Phone Number:	XXX
Cell Phone Number:	XXX
E-mail Address:	XXX
Office Hours:	XXX or by appointment
Office Location:	XXX
Graduate Teaching Assistant:	XXX
E-mail Address:	XXX
Office Location & hours:	XXX

F. STUDENT-INSTRUCTOR INTERACTION

Instructor-student interactions will take place through: 1) lecture session; 2) email inquiry and replies; 3) appointments made through emails or phone calls; 4) laboratory meeting times; and 5) online training modules.

G. TEXTBOOK

Required: None

H. PROGRAM & COURSE LEVEL OUTCOMES

Learning Outcomes common to all components of the project: Students must select at least one of the following learning outcomes to emphasis in developing their project:

1. Implement Animal Management Strategies: Nutrient Conversion

1. a. 4 Analyze technologies designed to improve livestock performance. Appraise the impacts on nutrient requirements/utilization.

1. Implement Animal Management Strategies: Animal breeding programs

1. b. 4 Evaluate an implemented animal breeding program by predicting and explaining the expected improvement in system efficiency.

1. Implement Animal Management Strategies: Reproduction

1. c. 4 Generate a reproductive management plan that utilizes appropriate technologies to achieve livestock production system goals.

1. Implement Animal Management Strategies: Animal husbandry

1. d. 4 Critique existing animal management strategies in livestock production systems to make recommendations to improve animal health, well-being, performance and efficiency.

1. Implement Animal Management Strategies: Animal products/outputs

1. e. 4 Design methods/process to improve the conversion of livestock into products/outputs.

Note: Students will need to effectively demonstrate their selected outcome(s) in each of the project components produced in the course. Specific capstone sections may focus on one of the learning outcomes listed above; however, integrating more than one of the above learning outcomes into your work is strongly encouraged but not required.

Please watch learning modules 1 & 2 for more information on meeting this component of the course.

Translational and Technical Paper Learning Outcomes:

4. Demonstrate Critical Thinking: Evidence

4. b. 4 Prepare a comprehensive analysis or synthesis utilizing information taken from credible and thoroughly questioned source(s).

4. Demonstrate Critical Thinking: Student's position

4. d. 4 Create a comprehensive specific position on an animal science related topic or issue, which includes summary and evaluation of predicted objections, related assumptions and potential implications of the position.

5. Communicate Effectively Across Multiple Mediums: Written communication skills

5. b. 4 Create and disseminate an animal science related central message that is compelling (precisely stated, relevant and strongly supported).

5. Communicate Effectively Across Multiple Mediums: Graphic communication skills

5. c. 4 Create visual representations of information that appropriately and effectively articulate the central message, ultimately enhancing the information's meaning for a given audience.

8. Prepare to Engage in Lifelong Learning: Intellectual curiosity

8. a. 4 Explore new concepts and seek external resources. Evaluate materials and formulate a course of action.

10: Integrated Learning: Connection to experience

10. a. 4 Synthesize connections among experiences outside of the formal classroom (including life experiences and academic experiences such as internships and travel abroad) to deepen understanding of animal science and to broaden own points of view.

10: Integrated Learning: Connection to discipline

10. b. 4 Synthesize disciplinary concepts by combining examples, facts, or theories from more than one academic perspective.

10: Integrated Learning: Transfer knowledge

10. c. 4 Adapt and apply skills, abilities, theories, or methodologies gained in one situation to new situations to solve problems or explore issues in original ways.

10: Integrated Learning: Reflection and self-assessment

10. d. 4 Set future learning goals and devise a plan to reach them, taking into account one's own strengths, challenges and past experiences.

Attributes of a Technical & Translational Paper

The intended audience for the technical portion is an animal scientist, and this portion should include relevant statistical information (when appropriate) and rely on assumed presumption of greater technical knowledge of the reader. The technical portion must be a minimum of 2 pages. It must include at least one graphic. Graphics and literature cited are not included in page count.

The translational portion of the project is for use by a layperson for direct application and with appropriate context. For example, a producer could read your translational portion and, after doing so, must be able to understand and act upon the information. The translational portion will be a minimum of 2 pages and a maximum of 5 pages in length. It must include at least one graphic. Graphics and literature cited are not included in page count.

Please watch learning modules 3 through 5 for more information on meeting this component of the course.

Financial Summary Learning Outcomes:

2. Utilize Animal Production Systems to Sustain Economic Resources: Assessment of business models

2. a. 4 Recommend strategies to improve the probability of profitability for a specific livestock production system.

2. Utilize Animal Production Systems to Sustain Economic Resources: Global integration

2. b. 4 Explain the impacts of cultural dynamics on the economic value of animal products/outputs.

2. Utilize Animal Production Systems to Sustain Economic Resources: Product/output marketing

2. c. 4 Assess methods of managing risk and optimizing product/output value. Design a strategy for advocacy of a particular product/output to a diverse audience.

2. Utilize Animal Production Systems to Sustain Economic Resources: Application of animal management strategies

2. d. 4 Revise/modify animal management strategies to adapt to changing input and output markets.

5. Communicate Effectively Across Multiple Mediums: Written communication skills

5. b. 4 Create and disseminate an animal science related central message that is compelling (precisely stated, relevant and strongly supported).

5. Communicate Effectively Across Multiple Mediums: Graphic communication skills

5. c. 4 Create visual representations of information that appropriately and effectively articulate the central message, ultimately enhancing the information's meaning for a given audience.

5. Communicate Effectively Across Multiple Mediums: Listening skills

5. d. 4 Demonstrate comprehension of verbal communication by discussing topics with an independent, intellectual and ethical disposition so as to further or maintain disciplinary conversations.

8. Prepare to Engage in Lifelong Learning: Intellectual curiosity

8. a. 4 Explore new concepts and seek external resources. Evaluate materials and formulate a course of action.

8. Prepare to Engage in Lifelong Learning: Independence

8. b. 4 Create and employ innovative strategies to solve identified problems.

Attributes of a Financial Summary

A financial summary must discuss how your topic impacts profitability, describe how cultural differences may impact economic value, assess any economic risk associated with your project, and make recommendations on how the value of your project changes as markets evolve. It must be a minimum of 2 pages and a maximum of 5 pages in length. It must include at least one graphic. Graphics and literature are not included in page count.

Please watch learning modules 6 and 7 for more information on meeting this component of the course.

Social Responsibility Summary Learning Outcomes:

3. Evaluate Socially Responsible Techniques to Produce Animal Products: Awareness of consumer concerns

3. a. 4 Articulate to consumers the role of animal production systems in meeting human needs, while giving consideration to consumer perceptions.

3. Evaluate Socially Responsible Techniques to Produce Animal Products: Interconnectedness of production systems and product generation within current societal paradigms

3. b. 4 Evaluate production strategies and associated impact on product value. Estimate consumer response to products associated with specific production methodologies.

3. Evaluate Socially Responsible Techniques to Produce Animal Products: Product safety

3. c. 4 Compare and Contrast production practices/interventions and their effectiveness in improving product safety.

4. Demonstrate Critical Thinking: Explanation of issues

4. a. 4 Summarize all sides of an issue in animal science and compare and contrast their merits.

4. Demonstrate Critical Thinking: Influence of context and assumptions

4. c. 4 Thoroughly (systematically and methodically) analyze own and others' assumptions and carefully evaluate the relevance of contexts when presenting a position.

4. Demonstrate Critical Thinking: Conclusions and related outcomes

4. e. 4 Synthesize and critique personal conclusions including acknowledgement of limitations. Identify and value others' perspectives and associated conclusions.

5. Communicate Effectively Across Multiple Mediums: Written communication skills

5. b. 4 Create and disseminate an animal science related central message that is compelling (precisely stated, relevant and strongly supported).

5. Communicate Effectively Across Multiple Mediums: Graphic communication skills

5. c. 4 Create visual representations of information that appropriately and effectively articulate the central message, ultimately enhancing the information's meaning for a given audience.

8. Prepare to Engage in Lifelong Learning: Intellectual curiosity

8. a. 4 Explore new concepts and seek external resources. Evaluate materials and formulate a course of action.

Attributes of a Social Summary

A social summary discuss how your topic impacts or is impacted by consumer concerns, how consumer concerns will impact value, how context and assumptions shape conclusions and outcomes, and how (if appropriate) the topic affects product safety. It must be a minimum of 2 pages. It must include at least one graphic. Graphics and literature are not included in page count.

Please watch learning modules 8 and 9 for more information on meeting this component of the course.

Presentation Learning Outcomes:

2. Utilize Animal Production Systems to Sustain Economic Resources: Application of animal management strategies

2. d. 4 Revise/modify animal management strategies to adapt to changing input and output markets.

3. Evaluate Socially Responsible Techniques to Produce Animal Products: Interconnectedness of production systems and product generation within current societal paradigms

3. b. 4 Evaluate production strategies and associated impact on product value. Estimate consumer response to products associated with specific production methodologies.

4. Demonstrate Critical Thinking: Influence of context and assumptions

4. c. 4 Thoroughly (systematically and methodically) analyze own and others' assumptions and carefully evaluate the relevance of contexts when presenting a position.

5. Communicate Effectively Across Multiple Mediums: Verbal communication skills

5. a. 4 Create a central message that is compelling (precisely stated, appropriately repeated, memorable, and strongly supported). Practice verbal delivery techniques (posture, gesture, eye contact, and vocal expressiveness) that make the communication compelling, and speaker appear polished and confident.

5. Communicate Effectively Across Multiple Mediums: Graphic communication skills

5. c. 4 Create visual representations of information that appropriately and effectively articulate the central message, ultimately enhancing the information's meaning for a given audience.

5. Communicate Effectively Across Multiple Mediums: Listening skills

5. d. 4 Demonstrate comprehension of verbal communication by discussing topics with an independent, intellectual and ethical disposition so as to further or maintain disciplinary conversations.

8. Prepare to Engage in Lifelong Learning: Intellectual curiosity

8. a. 4 Explore new concepts and seek external resources. Evaluate materials and formulate a course of action.

8. Prepare to Engage in Lifelong Learning: Discernment and application

8. c. 4 Integrate knowledge and experiences to develop future career objectives.

10: Integrated Learning: Transfer knowledge

10. c. 4 Adapt and apply skills, abilities, theories, or methodologies gained in one situation to new situations to solve problems or explore issues in original ways.

10: Integrated Learning: Reflection and self-assessment

10. d. 4 Set future learning goals and devise a plan to reach them, taking into account one's own strengths, challenges and past experiences.

Attributes of a Presentation

A presentation will be a minimum of XX minutes long and a maximum of XX minutes. It must be a succinct account of your project and touch on the translational and technical components of your project as well as the financial and social. It must include at least one concept map (example: <http://cmap.ihmc.us/docs/theory-of-concept-maps>).

Please watch learning module 10 and 11 for more information on meeting this component of the course.

I. GRADING POLICIES

Course grades will be based on the following knowledge products:

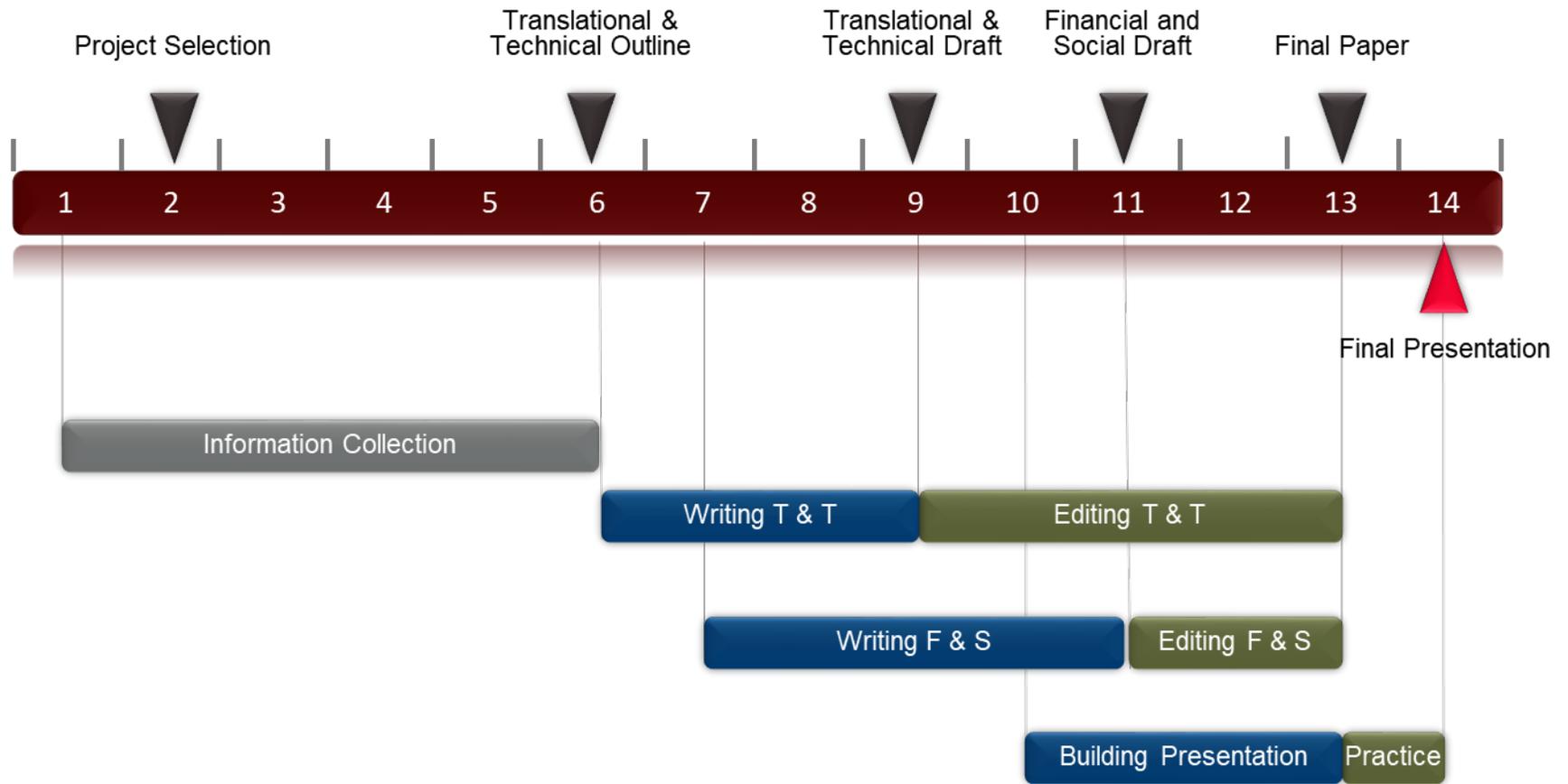
- Translational and Technical Paper
- Financial Summary
- Social Summary
- Oral Presentation

Conversion of learning outcome scores to a letter grade will be made as follows: For example, to earn an “A” students must demonstrate **exemplary** mastery of greater than 50% of the learning outcomes of this course.

	Developing	Sufficient	Proficient	Exemplary
Grade	1	2	3	4
A.	None	None		> 50%
B.	None	< 25%		
C.	None	< 75%		
D.	< 25%			
F	> 25%			

To review the requirements to achieve developing, sufficient, proficient, and exemplary please review the Department’s Learning Outcome Rubric available on the course web page. Note, the exemplary level is indicated in the syllabus.

J. CALENDAR OF TOPICS AND IMPORTANT DATES



K. SPECIAL PROVISIONS

1. Americans with Disabilities Act (ADA) Policy Statement

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 believe you have a disability requiring an accommodation, please contact the Department of Disability Services, located in the Disability Services Building at White Creek on west campus or call 979-845-1637. For more information, visit <http://disability.tamu.edu>.

2. Academic Integrity

Misconduct in research or scholarship includes fabrication, falsification, or plagiarism in proposing, performing, reviewing, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data. It is very important to read other people's work and to use their ideas in developing theses, professional papers, or otherwise completing academic requirements. This is called scholarship and is highly rewarded because it builds a cumulative body of knowledge. When other scholars share their ideas, they expect that others will give them credit when making use of their ideas. It is critically important for students to understand the rules for properly crediting other people's ideas when writing a thesis or professional paper or otherwise completing academic requirements.

If you use someone else's idea without using his or her specific words, this is called paraphrasing. When you paraphrase, you are expected to indicate the source of the idea (the author and publication date, but not a page number). This allows a reader to find the source of the ideas, verify that you have accurately represented them, and obtain additional information about those ideas if necessary. If you use someone else's exact words, this is called quoting. When you quote, you are expected to enclose the words in quotation marks, and indicate the source of the quote (the author, publication date, and page number). Plagiarism also applies to information found on the web; it is equally important to cite a web source and the rules above pertain. Consequently, if there are not quotation marks around the text and no source is cited, instructors will assume that you intend for them to conclude that any ideas, especially the specific words, that you presented in your work are your own. Thus, if the idea or the exact words are taken from another source and you do not indicate the source of the idea, you are representing another person's ideas as if they were your own. This is called **plagiarism** and is a very serious offense.

Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case. For additional information please visit: <http://aggiehonor.tamu.edu/>.

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

3. Absences

Rules concerning excused absences may be found at <http://student-rules.tamu.edu/rule07>. In particular, except for absences due to religious obligations, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. By state law, if a student misses class due to an obligation of his or her religion, the absence is excused. A list of days of religious obligation for the coming semester may be found at <http://student-rules.tamu.edu/append4>.

4. Disruptive Behavior

If a student's behavior in class is sufficiently disruptive to warrant immediate action, the instructor is entitled to remove a student on an interim basis, pending an informal hearing with the Head of the Department offering the course. This hearing must take place within three working days of the student's removal. This rule and supporting information may be found at <http://student-rules.tamu.edu/rule21>.

5. Copyright

Instructor reserves copyright to all materials used in this course. This means all materials generated for this class, which includes but is not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy any material, unless expressly granted written permission.

6. Defacement of University Property

"It is unlawful for any person to damage or deface any of the buildings, statues, monuments, trees, shrubs, grasses, or flowers on the grounds of any state institutions of higher education (Texas Education Code Section 51.204)". The words damage or deface refer specifically to any and all actions, whether direct or indirect, that either diminish the value or mar the appearance of the physical environment.