

COLLEGE OF AGRICULTURE AND LIFE SCIENCES
DEPARTMENT OF ANIMAL SCIENCE

A. COURSE INFORMATION AND PREREQUISITES

Title and Number:	ANSC 218 – Introduction to Dairy Science
Term:	Summer I, 201X
Meeting Times and Locations:	
Mode of Instruction:	Lecture; Traditional, Face-to-Face
Credit Hour:	3 hr. (3-0)
Prerequisites:	ANSC 111, 113

B. COURSE DESCRIPTION

Introductory course in Dairy Science to provide students broad overview of dairy production principles and practices. All major disciplines (dairy herd evaluations, dairy nutrition, basics of reproduction and reproductive programs, genetics and sire selection, mastitis and milk quality, milking machine management and animal welfare) are discussed

C. COURSE PURPOSE

- Learn methodology to evaluate milk production and reproductive
- Gain knowledge of factors that impact animal's nutrient requirements and feed intake to maximize milk production
- Gain understanding of genetics and the application of new technologies to accelerate genetic progress
- Develop awareness of reproductive function and reproductive program to enhance reproductive efficiency
- Gain awareness of agents that impact milk quality and programs that could be initiated to reduce their impact on product yield
- Learn milking facility function
- Gain an understanding of milk synthesis and the impact mastitis has on decreasing milk production and appropriate procedures to negate that impact.

D. CONCEPTS TO KNOW BEFORE TAKING THE COURSE

- Principles of Animal Science

E. INSTRUCTOR INFORMATION

Instructor: Dr. Mike Tomaszewski
Office Phone Number: (979)845-5709
E-mail Address: m-tomaszewski@tamu.edu
Office Hours:
Office Location: Room 310 KLCT

F. STUDENT-INSTRUCTOR INTERACTION

The instructor-student interactions will take place through: 1) lecture session; 2) email inquiry and replies; and 3) appointments made through emails or phone calls.

G. TEXTBOOK

Optional: Feeding Guide (3rd Edition)

Other materials: Materials provided at no cost to students

H. PROGRAM & COURSE LEVEL OUTCOMES

Department of Animal Science Program Level Outcomes included in this course are listed below in bold, below those are their corresponding course level outcomes explored in this course. On successful completion of this course, the student will be able to:

1. Implement Animal Management Strategies: Nutrient Conversion

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

1. Implement Animal Management Strategies: Dairy breeding programs

1. b. 4 Evaluate an implemented dairy breeding program by predicting and explaining the expected improvement from genetic selection.

1. Implement Animal Management Strategies: Reproduction

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

1. Implement Animal Management Strategies: Dairy husbandry

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

1. Implement Animal Management Strategies: Dairy products/outputs

1. e. 4 Design methods/process to improve the conversion of nutrients into milk.

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

2. a. 3 Design methods/process to improve the conversion of milk into products/outputs.

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

2. b. 3 Determine how the application of production technologies affects global market dynamics.

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

2. c. 3 Examine a product/output to identify possible attributes that increase and decrease value. Predict impact of product/output attribute on attitude of associated stakeholder groups or consumers.

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

2. d. 3 Combine multiple animal management strategies to improve economic resilience.

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

3. a. 3 Construct a rationale for the application of a chosen production practice based on data, which incorporates recognition of consumers concerns.

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

3. a. 4 Articulate to consumers the role of dairy 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. 3 Connect changes in production practices to their impact on product cost and value.

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. 3 Propose strategies to mitigate product safety risks.

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. 3 Clearly articulate and comprehensively describe one side to an dairy science issue/problem to be considered critically.

4. Demonstrate Critical Thinking: Evidence

4. b. 3 Interpret and apply information from vetted professional resources to answer questions related to dairy science.

4. Demonstrate Critical Thinking: Influence of context and assumptions

4. c. 3 Identify own and others' assumptions and several relevant contexts when presenting a position.

4. Demonstrate Critical Thinking: Student's position

4. d. 3 Synthesize an imaginative specific position (perspective, thesis/hypothesis) on an dairy science related topic or issue that recognizes complexities and incorporates and values information from external perspectives as well.

4. Demonstrate Critical Thinking: Conclusion and related outcomes

4. e. 3 Practice incorporation of information to both assess and prioritize information to predict logical conclusions and related outcomes.

5. Communicate Effectively Across Mediums: Verbal communication skills

5. a. 3 Demonstrate the use of a variety of types of supporting materials (examples, statistics, analogies) making appropriate reference to information or analysis that supports or establishes the speaker's credibility/authority on the topic.

5. Communicate Effectively Across Mediums: Written communication skills

5. b. 3 Demonstrate skillful use of high quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.

5. Communicate Effectively Across Mediums: Graphic communication skills

5. c. 3 Evaluate effective and appropriate graphic communication skills utilized by self and others.

5. Communicate Effectively Across Mediums: Listening skills

5. d. 3 Employ active and critical listening skills appropriate to multiple physical situations specific to the animal science discipline.

6. Demonstrate Professional Conduct: Respect for people and animals

6. a. 3 Demonstrate respect via utilization of professional practices.

6. Demonstrate Professional Conduct: Conflict management

6. b. 3 Analyze components of conflict and formulate a strategy for resolution.

6. Demonstrate Professional Conduct: Work collaboratively

6. c. 3 Strategically assume/assign responsibilities among team members.

6. Demonstrate Professional Conduct: Feedback

6. d. 3 Develop a respectful approach to providing and seeking critique.

10. Integrated Learning: Connection to experience

10. a. 3 Illuminate concepts/ theories/ frameworks of animal science by selecting an effective example.

10. Integrated Learning: Connection to discipline

10. b. 3 Present examples, facts, or theories from more than one academic perspective.

10. Integrated Learning: Transfer knowledge

10. c. 3 Adapt skills, abilities, theories, or methodologies gained in one situation to new situations to understand problems or explore issues.

10. Integrated Learning: Reflection and self-assessment

10. d. 3 Evaluate changes in own learning over time and identify influencing factors.

I. GRADING POLICIES

6 Exams – 10% each

24 Daily quizzes – 1.25% each

Dairy Challenge Group Project 5%

Participation in class and attendance: 5%

Exams

- Exams will be held in the assigned classroom on Friday.
- Exams will cover the topics discussed during that week. In order to be adequately prepared for the exams, students should read the relevant assigned material, additional notes provided by the instructor or in the class, and class notes.
- Exams will typically be questions covering lecture material from class.
- Makeup exam time (**ONLY** if allowed for an excused absence, see TAMU Student rule 7, not hunting, or a wedding, or a Disney trip, or...) will be arranged with the instructor and will consist of a **comprehensive** closed-book, closed-note format.

Team Project

- *Dairy Challenge*

Conversion of numerical grade to letter grade will be made as follows:

90% and above -	A
80% to below 90% -	B
70% to below 80% -	C
60% to below 70% -	D
Below 60% -	F

J. CALENDAR OF TOPICS AND IMPORTANT DATES

Date	Topic or Experience
Week 1	Animal Welfare/Learn how to use DC305 for herd monitoring Conduct dairy well being audit. Learn DC305 skills and how to extract data from a dairy's database and then go to that dairy to actually evaluate the results
Week 2	Reproductive function and reproductive program to improve reproductive efficiency on dairy farms/ Labs include palpation, ultra sound, semen collect and evaluation, reproductive tract examination, semen catheter procedures and taking blood samples
Week 3	Genetic and sire evaluations/ Labs include how to read a sire summary, run a herd simulation, visit herds and discuss their breeding programs
Week 4	Milk Quality and Herd Health/ Labs includes test to determine milk quality, touring a cheese processing plant. Demonstrate herd health programs and how to properly administer an injection
Week 5	Dairy cattle nutrition/ Visit dairies to see how commodities are handled and collect forage samples for lab analysis. See how software for mixing rations is used to maintain commodity inventory. Run a ration formulation program. Conduct a whole farm audit. Learn how to evaluate manure screening. Learn proper silage management practices.
Week 6	Mastitis and milk machine evaluation/ Labs include udder dissection, conduct the CMT milk test, collecting milk samples and learning how to conducts antibiotic and bacterial tests, body conditions and locomotion scoring of cows.

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.