

**ANEQ300A Livestock Handling**  
**Spring 2018 Course Syllabus**

**Professor:** Dr. Temple Grandin, Professor of Animal Science

**Class Dates:** March 20, 2018- May 1, 2018

**Class Meeting Time:** Tuesdays from 1:00 p.m. – 2:55 p.m.

**Class Location:** Gifford 332

**Office Hours:** Call for an appointment, ***DO NOT e-mail Dr. Grandin***

**Objectives, Grading, Homework Assignments, & Participation**

The primary objective of this course is to teach the behavioral principles of handling livestock, design of facilities for handling livestock, and teach students to find scientific journal articles about animal behavior and summarizing findings. Methods to reduce stress on animals, humane slaughter, and animal welfare issues will also be covered.

**Grading**

Grades will be based upon three homework assignments, participation (attendance and activities), mid-term quiz, and an essay-type final given on the last day of class. The three homework assignments and the final will each be worth 25% of your grade.

|                              |               |
|------------------------------|---------------|
| Drawings                     | 50 pt         |
| Internet Research Project    | 25 pt         |
| Exams (Midterm and Final)    | 35 pt         |
| Participation and Attendance | 35 pt         |
| <b>Total</b>                 | <b>145 pt</b> |

|   |                |
|---|----------------|
| A | 90.0 – 100.0   |
| B | 89.9 – 80.0    |
| C | 79.9 – 70.0    |
| D | 69.9 – 60.0    |
| I | 59.9 and below |

**Textbook**

The textbook for the class is Humane Livestock Handling. It can be purchased at the CSU bookstore or from [www.amazon.com](http://www.amazon.com)

The old textbook Beef Cattle Behavior and Handling Facilities Design can also be used.

**Homework Assignment Number 1 - Drawing (due May 1, 2018)**

Design a handling system for a large meat packing plant. Layouts that would work well if actually built will receive an A. For the assignment you will need a compass to draw circles and an engineering scale ruler with English measurements. For the assignment you will be provided a layout from an existing plant that you will need to work around.

Additional details will be provided in lab and on Canvas. Drawings turned in by April 10, 2018, will have the opportunity to be re-done prior to the final deadline on May 1, 2018.

**Homework Assignment Number 2 - Drawing (due May 1, 2018)**

Design a ranch or feedlot cattle handling system, following specific details provided on Canvas regarding this assignment. Students that have their own farms may design something for their own ranch or horse facility, provided it is also drawn to scale. Drawings turned in by April 10, 2018 will have the opportunity to be re-done prior to

the final deadline on May 1, 2018.

### **Homework Assignment Number 3 – Internet Research Project (proposal due April 10<sup>th</sup>, paper due May 1, 2018)**

Researching with the (6) databases found on the syllabus, write a 300-word synopsis on a specific approved scientific topic of your choosing. An internet project proposal **MUST** be submitted to Canvas to verify your topic is narrow enough for database researching (Project Proposal Assignment due April 10<sup>th</sup> - worth 3 points). Find (2) scientific journal articles from Pubmed, Science Direct, Google Scholar, and Web of Science for a total of (8) journal articles and (2) different books from both Amazon and Google Books for a total of (4) books. **Print out the abstracts and book covers and highlight/clearly identify which source each printout comes from. Do not screen shot the sources and copy/paste into Word.** Points will be deducted if this step is not completed. Include a cover page with your topic title and all (12) total printouts that support your 300-word synopsis with citations. **For your 300 word synopsis, you must cite and reference the information you use to answer your research question.** This includes making a Works Cited page!

### **Attendance & Participation**

Attendance will be taken every class by way of a “think pair share” activity. Each quiz is worth 5 points and will review material from lecture. Scoring is participation based.

### **Exams and Last Day of Class**

#### **Midterm Quiz (due April 13<sup>th</sup> at midnight)**

The midterm quiz will be given on Canvas. It will open at 12:00 AM on April 10<sup>th</sup> and close at 11:59 PM on April 13<sup>th</sup>. It will be two questions, worth a total of 10 points, and you will have 30 minutes to complete it. **This is an individual activity but you may use your notes.** It is meant to give you an idea of the final exam questions, so if you have a problem please schedule a meeting with either Dr. Grandin or the TAs.

#### **Last Day of Class – Final Exam (May 1, 2018) \*All Assignments Due**

Final Exam: Short answer final exam on all material presented in lecture. The purpose of the exam is to apply what you have learned. 25 points, 5 questions.

Homework Assignments: All homework assignments are due on the last day of class (drawing assignment #1, drawing assignment #2, and internet research project). Homework assignments turned in on the last day of class will not have an opportunity to be re-done.

### **Class Outline**

#### **Lecture 1 - Introduction: Livestock Behavior and Handling (March 20, 2018)**

##### **\*Bring health insurance information**

1. Effect of vision and hearing on handling and facility design

2. Shadows and other objects which cause animals to balk
3. Use of solid sides in chutes
4. Flight zone principles for moving cattle
5. Why a curved chute is more efficient
6. Species differences in behavior
7. How to use following behavior to aid handling.

## **Class 2 - Lab Visit Cattle Handling Facility at ARDEC (March 27, 2018)**

### **\*see Discussions on Canvas for carpooling and directions**

1. See an actual curved cattle handling facility
2. Compare the real facility to the basic curved layout drawing in the book (page 85)
3. For those who are new to cattle, see how a squeeze chute works
4. Demonstration of flight zones for moving cattle
5. Demonstration of how to use the scale ruler and drawing an animal handling facility

The order of the lab in the class schedule may vary.

## **Lecture 3 - Cattle Handling Facility Design (April 3, 2018)**

### **\*Internet Research Project Proposals Due**

1. Design of corrals and facilities for cow/calf operations
2. Design of processing, sorting, and shipping facilities for feedlots
3. Design of stockyards and chutes for meat packing plants
4. Loading ramp design
5. Design of drains and flooring

## **Lecture 4 - Animal Restraint (April 10, 2018)**

### **\*Drawings 1 and 2 due for corrections**

1. Advantages and disadvantages of different types of headgates
2. Squeeze chute design
3. Safety considerations
4. Dark box A.I. chute
5. ConveyORIZED restraining chutes

## **Lecture 5 – Reducing Stress During Handling (April 17, 2018)**

1. Detrimental effects of stress on animal production
2. Effect of environment and previous experience on stress levels
3. Genetic factors and stress
4. Adapting animals to handling procedures to reduce stress
5. How to reduce stress-related meat quality problems

## **Lecture 6 - Humane Slaughter (April 24, 2018)**

1. How stressful is slaughter?
2. Captive bolt stunning
3. Electric stunning
4. Determining insensibility
5. Auditing, handling and stunning

## **Lecture 7 - Carcass Damage and Animal Welfare (May 1, 2018)**

1. Losses caused by bruises and other carcass damage
2. Methods to reduce carcass damage
3. The animal welfare issue
4. Areas of animal welfare concern
5. Incidence of animal abuses

## **Drawing Review Sessions**

1. TBD
2. TBD

### **Academic Integrity**

- At a minimum, academic integrity means that no one will use another's work as his or her own. The CSU writing center defines plagiarism this way:
  - Plagiarism is the unauthorized or unacknowledged use of another person's academic or scholarly work. Done on purpose, it is cheating. Done accidentally, it is no less serious. Regardless of how it occurs, plagiarism is a theft of intellectual property and a violation of an ironclad rule demanding "credit be given where credit is due."
  - Source: (Writing Guides: Understanding Plagiarism. <http://writing.colostate.edu/guides/researchsources/understandingplagiarism/plagiarismoverview.cfm>. Accessed, January 15, 2009)
- If you plagiarize in your work you could lose credit for the plagiarized work, fail the assignment, or fail the course. Plagiarism could result in expulsion from the university. Each instance of plagiarism, classroom cheating, and other types of academic dishonesty will be addressed according to the principles published in the CSU General Catalog (see page seven, column two: <http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf>)
- Of course, academic integrity means more than just avoiding plagiarism. It also involves doing your own reading and studying. It includes regular class attendance, careful consideration of all class materials, and engagement with the class and your fellow students. Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community.
- Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, we will ask to you sign the CSU Honor Pledge as part of completing all of our major assignments.

\*Plagiarism items have been reproduced from Colorado State University;  
<http://www.ssw.chhs.colostate.edu/field/files/Field%20Manuals/Policies/CSU%20Policy%20on%20Academic%20Dishonesty.pdf>