

Discipline: Agriculture	Sub-discipline: Animal Science
General Course Title: Livestock Selection and Evaluation	Min. Units: 3 Semester
Proposed Suffix: L	
<p>Course Description: Detailed analysis of visual, analytical, and physical methods of appraising beef, sheep, swine and horses concerning functional and economic value; written and oral summaries of evaluation; specific reference made to performance data and factors determining carcass value. Laboratory required.</p>	
Required Prerequisites or Co-Requisites ¹	
Advisories/Recommended Preparation ²	
<p>Course Objectives: <i>At the conclusion of this course, the student should be able to:</i></p> <ul style="list-style-type: none"> • Identify common breeds of livestock. • Discuss the process of meat animal growth, development and finishing. • Demonstrate how to combine "eyeball" or subjective evaluation with objective methods of evaluation (production records, etc.). • Define traits needing improvement in a breeding herd. • Identify traits most economically important. • List traits that cannot be greatly altered through selective breeding. • Illustrate an animal's performance potential and select the most efficient animals for marketability. • Identify the factors that affect carcass quality and yield grades. • Describe and compare animals with proper livestock terminology in both oral and written form. • Develop and hone the power of observation and memory. • Organize classes of live animals based on economically important traits. • Identify external, anatomical features of livestock. • Identify anatomical points on the live animal analogous to the areas of the carcass. • Discuss the importance of livestock evaluation within various career opportunities. 	
<p>Course Content:</p> <ol style="list-style-type: none"> 1. Introduction to Evaluation <ol style="list-style-type: none"> a. Importance to rancher or farmer b. Importance to the feedlot operator c. Importance to the meat buyer d. Importance to 4-H leader and FFA advisor 2. Growth, Development, and Fattening of Meat Animals <ol style="list-style-type: none"> a. What is growth? b. The growth curve c. Growth and development of bone, fat and muscle d. Physiological age e. Effects of size or body type and sex on growth f. Relative lean-to-fat ratio by species and sex g. Criteria used to evaluate growth <p>Livestock Selection and Evaluation (Content Continued)</p> <ol style="list-style-type: none"> 3. Livestock Improvement through Selection 	

¹ Prerequisite or co-requisite course need to be validated at the CCC level in accordance with Title 5 regulations; co-requisites for CCCs are the linked courses that must be taken at the same time as the primary or target course.

² Advisories or recommended preparation will not require validation but are recommendations to be considered by the student prior to enrolling.

- a. Major factors affecting rate of improvement
 - (1) Heritability
 - (2) Accuracy of records
 - (3) Selection of differential selection systems
 - (4) Tandem
 - (5) Independent culling
 - (6) Selection index
- 4. Supplement Aids in Livestock Evaluation
 - a. Weight
 - b. Frame size
 - c. Linear measurements
 - d. Body type score
 - e. Performance testing
 - f. Contemporary index or ratios
 - g. Backfat probe and ultrasonic instruments
- 5. Live Market Hog Evaluation
 - a. Terms
 - b. Percentage carcass muscle
 - c. Live hog grading
 - d. Pork carcass evaluation
 - e. Yield of lean cuts
- 6. Breeding Swine Evaluation
 - a. Skeletal correctness
 - b. Size and scale
 - c. Capacity
 - d. Muscle and leanness
 - e. Underlines and sex character
- 7. Live Market Cattle Evaluation
 - a. Terms
 - b. Weights and dressing percentage
 - c. Fat thickness
 - d. Ribeye area
 - e. Quality grades
 - f. Yield grades
 - g. Market classes and grades of cattle
- 8. Evaluation of Beef Cattle Performance Data
 - a. Reproductive performance
 - b. Mothering ability
 - c. Conformation score

**Livestock Selection and Evaluation
(Content Continued)**

- 9. Visual Evaluation of Breeding Beef Cattle
 - a. Structural correctness
 - b. Sex and breed character

- c. Size and scale
 - d. Muscle
 - e. Capacity and condition
10. Live Market Lamb Evaluation
- a. Terms
 - b. Weights and dressing percentage
 - c. Fat thickness
 - d. Quality grades
 - e. Yield grades
 - f. Market classes and grades
 - g. Determination of maturity and classes
11. Evaluation of Sheep Performance Data
- a. Ewe and lamb index
 - b. Growth rate
 - c. Wool production
12. Visual Evaluation Breeding Sheep
- a. Skeletal correctness
 - b. Frame
 - c. Capacity
 - d. Body composition
 - e. Head, neck and shoulders
 - f. Breed character and fleece
13. Horse Evaluation
- a. General considerations
 - b. Way of going
 - c. Quarter-horse type
14. Selection of Feeder Livestock
- a. Feeder pig selection
 - (1) Grade
 - (2) Health
 - (3) Structural soundness and ideal type
 - b. Feeder cattle selection
 - (1) Age and weight groups
 - (2) Grades
 - (3) Frame size
 - (4) Body condition
 - c. Feeder lamb selection
 - (1) Grades
 - (2) Body types and weights
15. Scoring System for Keep-Cull Classes

Laboratory Activities: Individual Laboratory Activities are designed to support course objectives.

Methods of Evaluation: Lecture Comprehensive Quizzes and Exams Written Critical Thinking Scenarios Problem Analysis and Solution Research and Term Papers	Methods of Evaluation: Laboratory Laboratory Skill Validation by Observation Laboratory Reports Laboratory Research Projects and Reports Laboratory Skill Practicum Exams
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Typical Textbooks, Manuals, or Other Support Materials

Live Animal Carcass Evaluation and Selection Manual. 4th ed.
Boggs & Merkel, Kendall/Hunt Publishing Company.
ISBN 0-8403-7609-X.

Statewide Articulation: CPSLO-DSCI 241, CSUF-A SCI 81, UCD-ANS 21/22, other universities as lower division elective

FDRG Lead Signature:

Date:

Mark E. Bender, PhD CSU Stanislaus

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Internal Tracking Number