

# Animal Science

## Jefferson West Agriculture Education

Verification Signatures _____	Hours Completed _____
Student: _____	Date: _____
Instructor: _____	Date: _____

Name: \_\_\_\_\_ SSN: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Instructor: Steve Buss School Year: \_\_\_\_\_

Key to Integrated Competencies  
 (A) - Academic {AC – Communications/English, AM-Math, AS-Science}  
 (CD) – Career Development (E) – SAE-Based Learning (L) – Leadership

Circle to indicate level of competency achieved:

3 Skilled-Works Independently     
 2 Limited skill-Needs assistance     
 1 Skill undeveloped-but received instruction     
 0 No exposure

**I. The Animal Industry and Careers**

- 3 2 1 0 1. List 10 career opportunities available in the animal science industry
- 3 2 1 0 2. Explain the impact of animal production on the local economy
- 3 2 1 0 3. Identify local career opportunities in animal science
- 3 2 1 0 4. Analyze the impact of the animal industry on Kansas Agriculture

- 3 2 1 0 2. Participate in Chapter Development Activities as established by the POA (L)
- 3 2 1 0 3. Participate in Community Development Activities as established by the POA (L)
- 3 2 1 0 4. Research a 3 – 8 minute speech on an agricultural topic (E)
- 3 2 1 0 5. Write a final manuscript for a 3 – 8 minute speech over an agriculture topic using MLA style with title page and works cited (AC ,CD)
- 3 2 1 0 6. Present a memorized 3 – 8 minute agriculture speech to the class (AC, L, CD)
- 3 2 1 0 7. Participate in the Meats Evaluation, Poultry, Livestock, Dairy Cattle, and/or Horse Evaluation CDE's (E,L,CD)

- 3 2 1 0 4. Differentiate between retail cuts of beef, sheep, and swine (AS, CD)
- A. Lab Activities (E)**
- 3 2 1 0 1. Identify various wholesale cuts of beef (AS, CD)
- 3 2 1 0 2. Identify various wholesale cuts of pork (AS, CD)
- 3 2 1 0 3. Identify various wholesale cuts of lamb (AS, CD)
- 3 2 1 0 4. Identify various retail cuts of beef (AS, CD)
- 3 2 1 0 5. Identify various retail cuts of pork (AS, CD)
- 3 2 1 0 6. Identify various retail cuts of lamb (AS, CD)
- 3 2 1 0 7. Perform quality grading by USDA standards (AS, AM, CD)
- 3 2 1 0 8. Perform quality yield grading by USDA standards (AS, AM, CD)

**II. Supervised Agriculture Experience (SAE) and Record Keeping**

- 3 2 1 0 1. Identify and maintain the SAE (CD)
- 3 2 1 0 2. Construct a personal budget (AM)
- 3 2 1 0 3. Utilize the Kansas FFA SAE Record book to monitor the SAE (CD, E)
- 3 2 1 0 4. Complete a local and district proficiency award application (L, E)
- 3 2 1 0 5. Complete chapter and/or Sate FFA Degree Applications (L)
- 3 2 1 0 6. Use Quicken to track income and expense in cash, checking and savings (CD)
- 3 2 1 0 7. Track SAE skills developed, hours worked as well as FFA, School, and community activities using the Ag Ed record book (CD, E)
- 3 2 1 0 8. Set appropriate long and short term goals for the SAE program (E)
- 3 2 1 0 1. Prepare income and expenses records
- 3 2 1 0 2. Prepare monthly cash flow statements
- 3 2 1 0 3. Record personal and business inventories, assets, and liabilities

**IV. Animal Anatomy**

- 3 2 1 0 1. Identify and describe the surface anatomy of major livestock species (AS)
- 3 2 1 0 2. Differentiate between the organs of the thoracic, abdominal, and pelvic cavities (AS)
- 3 2 1 0 3. Explain the anatomical differences of various livestock (AS)

**V. Skeletal System**

- 3 2 1 0 1. Explain the processes of bone/cartilage developments (AS)
- 3 2 1 0 2. Describe skeletal maturation (AS)
- 3 2 1 0 3. Explain the use of skeletal characteristics of determining maturity/age (AS)

**VI. Muscular Systems**

- 3 2 1 0 1. Describe the three muscle types (AS)
- 3 2 1 0 2. Describe the function of each of the muscle types (AS)
- 3 2 1 0 3. Identify the primal cuts of beef, swine, and sheep (AS, CD)

**VI. Digestive System**

- 3 2 1 0 1. Differentiate between the organs of the ruminant and non-ruminant animals (AS)
- 3 2 1 0 2. Describe the processes of digestion in ruminants and monogastrics (AS)
- 3 2 1 0 3. List the function of the digestive organs (AS)
- 3 2 1 0 4. Explain the processes of absorption (AS)
- 3 2 1 0 5. Define metabolism (AS)

**VII. Reproductive System**

- 3 2 1 0 1. Identify the anatomy of the male and female reproductive systems (AS)
- 3 2 1 0 2. Describe the function of the male and female anatomy (AS)
- 3 2 1 0 3. Outline the development of the fetus through the states of pregnancy (AS,AC)
- 3 2 1 0 4. List the methods of estrus synchronization (AS)
- 3 2 1 0 5. Describe methods used in pregnancy diagnosis (AS)

**III. The National FFA Organization and Leadership**

- 3 2 1 0 1. Participate in Student Development Activities as established by the POA (L)

- 3 2 1 0 6. Describe the methods of parturition detection
- 3 2 1 0 7. Explain how cycling time can be used to increase production (AS)
- 3 2 1 0 8. Explain artificial insemination on cattle, hogs, and sheep (AS)

**A. Lab Activities (E)**

- 3 2 1 0 1. Outline the development of the fetus through the states of pregnancy (AS, AC)
- 3 2 1 0 2. Identify parts of reproductive tract (AS)
- 3 2 1 0 3. Describe functions of identified parts of reproductive tract (AC)

**VIII. Livestock Evaluation**

- 3 2 1 0 4. Identify 10 beef cattle breeds
- 3 2 1 0 5. List the characteristics used in beef cattle evaluation (AS)
- 3 2 1 0 6. Identify 5 swine breeds
- 3 2 1 0 7. List the characteristics used in swine evaluation (AS)
- 3 2 1 0 8. Identify 5 sheep breeds
- 3 2 1 0 9. List the characteristics used in sheep evaluation (AS)
- 3 2 1 0 10. List the characteristics used in poultry evaluation (AS)
- 3 2 1 0 11. Identify 5 dairy cattle breeds
- 3 2 1 0 12. List the characteristics used in dairy cattle evaluation (AS)
- 3 2 1 0 13. Identify 5 horse breeds
- 3 2 1 0 14. List the characteristics used in horse evaluation (AS)

**A. Lab Activities**

- 3 2 1 0 1. Demonstrate beef cattle evaluation techniques (AS, CD)
- 3 2 1 0 2. Demonstrate swine evaluation techniques (AS, CD)
- 3 2 1 0 3. Demonstrate sheep evaluation techniques (AS, CD)
- 3 2 1 0 4. Demonstrate dairy cattle evaluation techniques (AS, CD)
- 3 2 1 0 5. Demonstrate the techniques used in poultry evaluation (AS, CD)
- 3 2 1 0 6. Demonstrate the techniques used in horse evaluation (AS, CD)

**IX. Animal Products**

- 3 2 1 0 1. Describe humane commercial animal slaughter and processing (AS)
- 3 2 1 0 2. Explain safe handling of meat and poultry (AS)

- 3 2 1 0 3. Distinguish the uses of 10 animal by-products (AS)
- 3 2 1 0 4. Outline the impact of animal products on the human diet (AS, AC)
- 3 2 1 0 5. Identify livestock inspection procedures (AS)
- 3 2 1 0 6. List the food products associated with each species (AS)

**X. Egg Production**

- 3 2 1 0 1. Describe the physiology of egg production and layering (AS)
- 3 2 1 0 2. Differentiate between the internal egg grades (AS, CD)
- 3 2 1 0 3. Differentiate between the external egg grades (AS, CD)

**A. Lab Activities**

- 3 2 1 0 1. Identify and explain the internal components of the egg (AS)
- 3 2 1 0 2. Diagram the development of the embryo during incubation (AS)

**XI. Mammary System**

- 3 2 1 0 1. Explain the function of the mammary system (AS)
- 3 2 1 0 2. Describe the development of the mammary system (AS)
- 3 2 1 0 3. List and illustrate the components of the mammary system (AS)
- 3 2 1 0 4. Explain the process of lactation (AS)
- 3 2 1 0 5. List the components of milk (AS)
- 3 2 1 0 6. Explain the processes that determine milk composition (AS)
- 3 2 1 0 7. Determine some health problems with the mammary system (AS)
- 3 2 1 0 8. Identify the breeds of cattle used in commercial milk production (AS)

**XII. Animal Nutrition**

- 3 2 1 0 1. List and describe the essential nutrients (AS)
- 3 2 1 0 2. Explain the importance of feed additives (AS)
- 3 2 1 0 3. List three growth stimulants and describe their function (AS)
- 3 2 1 0 4. Classify feed stuffs by their nutrient composition (AS)
- 3 2 1 0 5. Explain the physiology of meat production (AS)
- 3 2 1 0 6. Explain the importance of proper nutrition (AS)
- 3 2 1 0 7. Identify key items to monitor nutritional levels (AS)

**A. Lab Activities**

- 3 2 1 0 1. Formulate and balance livestock rations (AM, E)
- 3 2 1 0 2. Measure growth changes in animals (AS, AM)

**XIII. Mathematics Career Development Skills (CD)**

- 3 2 1 0 1. Estimate, apply, and solve problems involving fractions, decimals, and percentages (AM)
- 3 2 1 0 2. Translate written and verbal statements into mathematic expressions (AM)
- 3 2 1 0 3. Convert common units of measurement within and/or across measurement systems (AM)
- 3 2 1 0 4. Apply concepts of measurement such as distance, direction, rate, and time (AM)
- 3 2 1 0 5. Construct or interpret tables, charts, maps, and/or graphs (AM)
- 3 2 1 0 6. Decide whether a problem is best solved with a computer, calculator, paper and pencil, or mental arithmetic techniques (AM)

**XIV. Communications Career Development Skills (CD)**

- 3 2 1 0 1. Follow oral instructions (AC)
- 3 2 1 0 2. Participate in group communication activities (AC)
- 3 2 1 0 3. Give oral directions (AC)
- 3 2 1 0 4. Use language and format appropriate to the subject matter, purpose, and audience (AC)

**XV. Other Career Development Skills (CD)**

- 3 2 1 0 1. Identify and explain the use of common supplies for a given occupational area.
- 3 2 1 0 2. Set priorities in which several tasks will be accomplished (E)
- 3 2 1 0 3. Utilize time management to reduce conflicts
- 3 2 1 0 4. Apply rules including punctuality, attendance, and work ethic

**XVI. Computer Literacy (CD)**

- 3 2 1 0 1. Define, understand, and use common computer technology terms (CD)
- 3 2 1 0 2. Compose, organize, and edit information using a computer (CD)
- 3 2 1 0 3. Use presentation software to design and create a presentation (CD)
- 3 2 1 0 4. Use ag related software/websites (CD)
- 3 2 1 0 5. Access, navigate, & use on-line services (CD)
- 3 2 1 0 6. Send and receive email messages with enclosures (CD)
- 3 2 1 0 7. Use Quicken to manage personal finances (CD)

- 3 2 1 0 8. Use Microsoft Office (Word, Excel, Powerpoint, and Internet Explorer) to complete projects (CD)

**XVII. SAE Learning Opportunities**

- 3 2 1 0 1. Evaluate goals of SAE Program
- 3 2 1 0 2. List steps for improving SAE
- 3 2 1 0 3. Analyze SAE records and determine profitability
- 3 2 1 0 4. Build a project for SAE
- 3 2 1 0 5. Develop a budget for the coming year for SAE
- 3 2 1 0 6. Develop a career and educational plan