

# Animal Science

## Holton Agriculture Education Department

Verification Signatures \_\_\_\_\_

Hours Completed \_\_\_\_\_

Student: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ SSN: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Instructor: Jason M. Larison School Year: \_\_\_\_\_

Key to Integrated Competencies

(A) - Academic {AC – Communications/English, AM-Math, AS-Science}  
(CD) – Career Development (E) – Experience-Based (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 Career Development Events (E, L)

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

### 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)
- 3 2 1 0 4. Complete a local and district proficiency award application (L)
- 3 2 1 0 5. Complete chapter and/or State 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)
- 3 2 1 0 8. Set appropriate long and short term goals for the SAE program.

### 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)

### 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)

### 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)

### VIII. 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)
- 3 2 1 0 6. Describe the complications during parturition (AS)

### A. Lab Activities (E)

- 3 2 1 0 1. Prepare income and expense records
- 3 2 1 0 2. Prepare monthly cash flow statements
- 3 2 1 0 3. Record personal and business inventories, assets, and liabilities

### 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)

### 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 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)		
3 2 1 0 1.	<b>A. Lab Activities (E)</b> Outline the development of the fetus through the states of pregnancy (AS, AC)	3 2 1 0 3.	Differentiate between the external egg grades (AS)
		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)
			<b>A. Lab Activities (E)</b>
		3 2 1 0 1.	Identify and explain the internal components of the egg (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)
			<b>XII. Animal Nutrition</b>
		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)
			<b>A. Lab Activities (E)</b>
		3 2 1 0 1.	Formulate and balance livestock rations (AM)
		3 2 1 0 2.	Measure growth changes in animals (AS, AM)
			<b>XIII. Mathematics Career Development Skills (CD)</b>
		3 2 1 0 1.	Estimate, apply, and solve problems involving fractions, decimals, and percentages (AM)
			<b>XIV. Communications Career Development Skills (CD)</b>
		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)
			<b>XV. Other Career Development Skills (CD)</b>
		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
		3 2 1 0 3.	Utilize time management to reduce conflicts
		3 2 1 0 4.	Apply rules including punctuality, attendance, and work ethic
			<b>XVI. Computer Literacy (CD)</b>
		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)
			<b>XVII. Livestock Evaluation</b>
		3 2 1 0 1.	Identify 10 beef cattle breeds
		3 2 1 0 3.	List the characteristics used in beef cattle evaluation (AS)
		3 2 1 0 4.	Identify 5 swine breeds
		3 2 1 0 5.	List the characteristics used in swine evaluation (AS)
		3 2 1 0 6.	Identify 5 sheep breeds
		3 2 1 0 7.	List the characteristics used in sheep evaluation (AS)
		3 2 1 0 8.	List the characteristics used in poultry evaluation (AS)
		3 2 1 0 9.	Identify 5 dairy cattle breeds
		3 2 1 0 10.	List the characteristics used in dairy cattle evaluation (AS)
		3 2 1 0 11.	Identify 5 horse breeds
		3 2 1 0 12.	List the characteristics used in horse evaluation (AS)
			<b>A. Lab Activities (E)</b>
		3 2 1 0 1.	Demonstrate beef cattle evaluation techniques (AS)
		3 2 1 0 2.	Demonstrate swine evaluation techniques (AS)
		3 2 1 0 3.	Demonstrate sheep evaluation techniques (AS)
		3 2 1 0 4.	Demonstrate dairy cattle evaluation techniques (AS)
		3 2 1 0 5.	Demonstrate the techniques used in poultry evaluation (AS)
		3 2 1 0 6.	Demonstrate the techniques used in horse evaluation (AS)
			<b>IX. Animal Products</b>
		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)