Texas CTE

Livestock Production

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Introduction LP.B

1 **Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.** LP.B.

2 **The Agriculture, Food, and Natural Resources Career Cluster focuses on the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.** LP.B.2

3 **In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.** LP.B.3

4 **Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.** LP.B.4

5 **Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.** LP.B.5

Knowledge and skills LP.C

1 **The student demonstrates professional standards/employability skills as required by business and industry The student is expected to:** LP.C.1

- a identify career development and entrepreneurship opportunities in the field of animal systems; LP.C.1.A
- b apply competencies related to resources, information, interpersonal skills, and systems of operation in animal systems; LP.C.1.B
- c demonstrate knowledge of personal and occupational safety and health practices in the workplace; LP.C.1.C
- d identify employers' expectations, including appropriate work habits, ethical conduct, and legal responsibilities; LP.C.1.D
- e demonstrate characteristics of good citizenship such as stewardship, advocacy, and community leadership; LP.C.1.E
- f research career topics using technology such as the Internet. LP.C.1.F

2 **The student develops a supervised agriculture experience program. The student is expected to:** LP.C.2

- a plan, propose, conduct, document, and evaluate a supervised agriculture experience program as an experiential learning activity; LP.C.2.A
- b apply proper record-keeping skills as they relate to the supervised agriculture experience; LP.C.2.B
- c participate in youth leadership opportunities to create a well-rounded experience program; LP.C.2.C
- d produce and participate in a local program of activities using a strategic planning process. LP.C.2.D

3 **The student demonstrates technical skills relating to the interrelated human, scientific, and technological dimensions of animal systems. The student is expected to:** LP.C.3

- a assess the importance of the United States' impact on world commodity markets; LP.C.3.A
- b apply the principles of livestock breeding and nutrition to predict the impact of current advances in genetics; LP.C.3.B
- c examine the interrelationship of plants and animals in concepts such as forage identification, rotational grazing, and grass protein levels. LP.C.3.C

4 **The student performs technical skills related to livestock production. The student is expected to:** LP.C.4

- a gather performance data; LP.C.4.A
- b describe common veterinary procedures and skills; LP.C.4.B
- c practice proper animal restraint techniques; LP.C.4.C
- d demonstrate identification techniques; LP.C.4.D
- e demonstrate effective management strategies such as financial planning and managing governmental regulations. LP.C.4.E

5 **The student explains anatomy and physiology related to nutrition, reproduction, health, and management of livestock species. The student is expected to:** LP.C.5

- a explain the skeletal, muscular, respiratory, reproductive, and circulatory systems of animals; LP.C.5.A
- b evaluate vital signs and normal behavior. LP.C.5.B

6 **The student determines nutritional requirements of ruminant and non-ruminant animals, including poultry. The student is expected to:** LP.C.6

- a describe the digestive systems of ruminant and non-ruminant animals; LP.C.6.A
- b identify sources of nutrients and classes of feed; LP.C.6.B
- c identify vitamins, minerals, and feed additives; LP.C.6.C
- d formulate rations; LP.C.6.D
- e discuss feeding practices and feed quality issues. LP.C.6.E

7 **The student explains animal genetics and reproduction. The student is expected to:** LP.C.7

- a describe the reproductive systems of various livestock; LP.C.7.A
- b explain the use of genetics in animal agriculture such as Expected Progeny Differences (EPDs), phenotype, and genotype; LP.C.7.B
- c identify systems of animal breeding; LP.C.7.C
- d research current and emerging technologies in animal reproduction such as cloning, embryo transfer, in vitro fertilization, and artificial insemination; LP.C.7.D
- e design and conduct experiments to support known principles of genetics. LP.C.7.E

8 **The student identifies animal pests and diseases. The student is expected to:** LP.C.8

- a identify and describe the role of bacteria, fungi, viruses, genetics, and nutrition in disease; LP.C.8.A
- b identify methods of disease control, treatment, and prevention; LP.C.8.B
- c classify internal and external parasites, including treatment and prevention. LP.C.8.C

9 **The student knows the factors impacting commodity prices and costs. The student is expected to:** LP.C.9

- a evaluate the relationship between livestock commodity markets; LP.C.9.A
- b formulate rations based on least-cost factors. LP.C.9.B

10 **The student plans for dynamic changes in business operation. The student is expected to:** LP.C.10

- a design, conduct, and complete research to identify and solve livestock management problems; LP.C.10.A
- b use charts, tables, or graphs to prepare written summaries of data such as nutrition, digestion, and reproduction data obtained in a laboratory activity and an individual scientific research project. LP.C.10.B