

Equine Science (IMRA26)

Subject: Career Development and Career and Technical Education

Grade: 10

Expectations: 36

Breakouts: 130

(a) Introduction.

- (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.
- (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.
- (3) In Equine Science, students acquire knowledge and skills related to the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to equine systems, 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.
- (4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
- (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.

(b) Knowledge and Skills Statements

- (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - (A) identify career development, education, and entrepreneurship opportunities in the field of equine science;
 - (i) identify career development opportunities in the field of equine science
 - (ii) identify education opportunities in the field of equine science
 - (iii) identify entrepreneurship opportunities in the field of equine science
 - (B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills used in equine science;
 - (i) identify interpersonal skills used in equine science
 - (ii) identify problem-solving skills used in equine science
 - (iii) identify critical-thinking skills used in equine science
 - (iv) demonstrate interpersonal skills used in equine science
 - (v) demonstrate problem-solving skills used in equine science
 - (vi) demonstrate critical-thinking skills used in equine science

- (C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;
 - (i) describe appropriate personal safety practices for the workplace
 - (ii) describe appropriate occupational safety practices for the workplace
 - (iii) describe appropriate personal health practices for the workplace
 - (iv) describe appropriate occupational health practices for the workplace
 - (v) demonstrate appropriate personal safety practices for the workplace
 - (vi) demonstrate appropriate occupational safety practices for the workplace
 - (vii) demonstrate appropriate personal health practices for the workplace
 - (viii) demonstrate appropriate occupational health practices for the workplace
- (D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;
 - (i) identify employers' legal responsibilities
 - (ii) identify employers' expectations, including appropriate work habits
 - (iii) identify employers' expectations, including ethical conduct
- (E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and
 - (i) describe characteristics of good citizenship in the agricultural workplace, including promoting stewardship
 - (ii) describe characteristics of good citizenship in the agricultural workplace, including community leadership
 - (iii) describe characteristics of good citizenship in the agricultural workplace, including civic engagement
 - (iv) describe characteristics of good citizenship in the agricultural workplace, including agricultural awareness
 - (v) describe characteristics of good citizenship in the agricultural workplace, including agricultural literacy
 - (vi) demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship
 - (vii) demonstrate characteristics of good citizenship in the agricultural workplace, including community leadership
 - (viii) demonstrate characteristics of good citizenship in the agricultural workplace, including civic engagement
 - (ix) demonstrate characteristics of good citizenship in the agricultural workplace, including agricultural awareness
 - (x) demonstrate characteristics of good citizenship in the agricultural workplace, including agricultural literacy
- (F) identify training, education, and certification requirements for occupational choices.
 - (i) identify training requirements for occupational choices
 - (ii) identify education requirements for occupational choices
 - (iii) identify certification requirements for occupational choices

- (2) The student develops a supervised agricultural experience program. The student is expected to:
- (A) plan, propose, conduct, document, and evaluate a supervised agricultural experience program as an experiential learning activity; and
 - (i) plan a supervised agricultural experience program as an experiential learning activity
 - (ii) propose a supervised agricultural experience program as an experiential learning activity
 - (iii) conduct a supervised agricultural experience program as an experiential learning activity
 - (iv) document a supervised agricultural experience program as an experiential learning activity
 - (v) evaluate a supervised agricultural experience program as an experiential learning activity
 - (B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.
 - (i) use appropriate record-keeping skills as they relate to the supervised agricultural experience program
- (3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:
- (A) participate in youth agricultural leadership opportunities;
 - (i) participate in youth agricultural leadership opportunities [in an agricultural youth organization]
 - (B) review and participate in a local program of activities; and
 - (i) review a local program of activities [in an agricultural youth organization]
 - (ii) participate in a local program of activities [in an agricultural youth organization]
 - (C) create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences.
 - (i) create or update documentation of relevant agricultural experience
- (4) The student analyzes the history, domestication, and selection of equine. The student is expected to:
- (A) research and describe the history and evolution of equine;
 - (i) research the history of equine
 - (ii) research the evolution of equine
 - (iii) describe the history of equine
 - (iv) describe the evolution of equine
 - (B) describe the impacts of equine industries such as racing, rodeos, equestrian therapy, and the global food market; and
 - (i) describe the impacts of equine industries
 - (C) evaluate and select equine breeds based on purpose and conformation.
 - (i) evaluate equine breeds based on purpose
 - (ii) evaluate equine breeds based on conformation
 - (iii) select equine breeds based on purpose

(iv) select equine breeds based on conformation

(5) The student explains the anatomy and physiology of equine. The student is expected to:

(A) explain the function of the skeletal, muscular, respiratory, reproductive, digestive, and circulatory systems of equine;

(i) explain the function of the skeletal system of equine

(ii) explain the function of the muscular system of equine

(iii) explain the function of the respiratory system of equine

(iv) explain the function of the reproductive system of equine

(v) explain the function of the digestive system of equine

(vi) explain the function of the circulatory system of equine

(B) identify and interpret ranges for healthy equine vital signs; and

(i) identify ranges for healthy equine vital signs

(ii) interpret ranges for healthy equine vital signs

(C) compare normal and abnormal behavior of equine such as emotional and physical.

(i) compare normal and abnormal behavior of equine

(6) The student determines the nutritional requirements of equine. The student is expected to:

(A) compare the equine digestive system to the digestive systems of other species;

(i) compare the equine digestive system to the digestive systems of other species

(B) identify and describe sources of nutrients and classes of feed for equine;

(i) identify sources of nutrients for equine

(ii) identify classes of feed for equine

(iii) describe sources of nutrients for equine

(iv) describe classes of feed for equine

(C) identify and research vitamins, minerals, and feed additives for equine;

(i) identify vitamins for equine

(ii) identify minerals for equine

(iii) identify feed additives for equine

(iv) research vitamins for equine

(v) research minerals for equine

(vi) research feed additives for equine

(D) formulate feed rations based on the nutritional requirements of equine; and

(i) formulate feed rations based on the nutritional requirements of equine

(E) identify and discuss equine feeding practices, grazing practices, and feed quality issues.

- (i) identify equine feeding practices
- (ii) identify equine grazing practices
- (iii) identify equine feed quality issues
- (iv) discuss equine feeding practices
- (v) discuss equine grazing practices
- (vi) discuss equine feed quality issues

(7) The student understands how equine are affected by diseases and pests. The student is expected to:

(A) identify and describe how bacteria, fungi, viruses, genetics, and nutrition affect equine health;

- (i) identify how bacteria affect equine health
- (ii) identify how fungi affect equine health
- (iii) identify how viruses affect equine health
- (iv) identify how genetics affect equine health
- (v) identify how nutrition affect[s] equine health
- (vi) describe how bacteria affect equine health
- (vii) describe how fungi affect equine health
- (viii) describe how viruses affect equine health
- (ix) describe how genetics affect equine health
- (x) describe how nutrition affect[s] equine health

(B) identify signs, symptoms, and prevention of equine diseases;

- (i) identify signs of equine diseases
- (ii) identify symptoms of equine diseases
- (iii) identify prevention of equine diseases

(C) identify parasites of equine and explain the signs, symptoms, treatment, and prevention of equine parasites; and

- (i) identify parasites of equine
- (ii) explain the signs of equine parasites
- (iii) explain the symptoms of equine parasites
- (iv) explain the treatment of equine parasites
- (v) explain the prevention of equine parasites

(D) discuss methods of administering equine medications and calculating dosage.

- (i) discuss methods of administering equine medications
- (ii) discuss methods of calculating dosage [of equine medications]

- (8) The student analyzes the management of equine. The student is expected to:
- (A) identify tools and equipment for grooming, riding, and training equine and select the appropriate tools or equipment for such tasks and purposes;
 - (i) identify tools for grooming equine
 - (ii) identify tools for riding equine
 - (iii) identify tools for training equine
 - (iv) identify equipment for grooming equine
 - (v) identify equipment for riding equine
 - (vi) identify equipment for training equine
 - (vii) select the appropriate tools or equipment for [grooming equine]
 - (viii) select the appropriate tools or equipment for [riding equine]
 - (ix) select the appropriate tools or equipment for [training equine]
 - (B) identify tools and equipment for safe handling and restraining of equine and select the appropriate tools or equipment for such tasks and purposes;
 - (i) identify tools for safe handling of equine
 - (ii) identify tools for restraining of equine
 - (iii) identify equipment for safe handling of equine
 - (iv) identify equipment for restraining of equine
 - (v) select the appropriate tools or equipment for [safe handling of equine]
 - (vi) select the appropriate tools or equipment for [safe restraining of equine]
 - (C) identify types and essential features of equine facilities such as housing, performance, veterinary, and reproduction facilities;
 - (i) identify types of equine facilities
 - (ii) identify essential features of equine facilities
 - (D) explain the procedures for breeding equine and caring for foals in accordance with industry standards;
 - (i) explain the procedures for breeding equine in accordance with industry standards
 - (ii) explain the procedures for caring for foals in accordance with industry standards
 - (E) explain and demonstrate methods of identifying ownership of equine, including branding and tattooing;
 - (i) explain methods of identifying ownership of equine, including branding
 - (ii) explain methods of identifying ownership of equine, including tattooing
 - (iii) demonstrate methods of identifying ownership of equine, including branding
 - (iv) demonstrate methods of identifying ownership of equine, including tattooing

- (F) discuss effective equine management strategies such as financial planning, complying with governmental regulations, and interpreting performance data; and
 - (i) discuss effective equine management strategies
 - (G) explain methods of maintaining equine health and soundness such as hoof care and dental health.
 - (i) explain methods of maintaining equine health
 - (ii) explain methods of maintaining equine soundness
- (9) The student discusses issues affecting the equine industry. The student is expected to:
- (A) describe biotechnology issues related to the equine industry;
 - (i) describe biotechnology issues related to the equine industry
 - (B) research and explain animal welfare policy pertaining to equine industries such as racing, rodeos, equestrian therapy, the global food market, and pharmaceutical research; and
 - (i) research animal welfare policy pertaining to equine industries
 - (ii) explain animal welfare policy pertaining to equine industries
 - (C) research and explain governmental regulations, environmental regulations, or current events that affect the equine industry.
 - (i) research governmental regulations, environmental regulations, or current events that affect the equine industry
 - (ii) explain governmental regulations, environmental regulations, or current events that affect the equine industry