**Animal Health**

Subject Code: 010915

Course & Unit Descriptions

**Course Description:**

Students will examine causes, symptoms, and treatment of common diseases with emphasis on developing preventative health management plans. Topics will include the study of pathogens, and classifying types of diseases and disorders. Students will perform animal health assessments and compare to standard characteristics. Throughout the course, students will utilize principles of technology to manage information systems, and research issues affecting the industry.

**Unit: Assessing the Standards of Animal Health**

Learners will engage in the practices of assessing and animals overall health and body condition. Students will learn what the standards of health for various species are. They will look at body temperature, structure, respiratory rate and various bodily functions.

Outcome 2.1

Nutrition: Analyze, formulate, prepare and administer a ration for a population of specific animal species based on the economics, nutrition and availability of feed and evaluate the feed's effects on animals.

Competency:

2.1.2. Determine the role of nutrients and the nutritional requirements of different animal life processes and species.

2.1.4. Identify and address major nutrient deficiency and toxicity symptoms.

Outcome 2.2

Body Systems: Describe the interrelationships of animal body systems with growth, development, health, maintenance, reproduction and economic production.

Competency:

2.2.14. Describe the immune system and the lymphatic system’s role in immunity.

Outcome 2.4

Recognizing Diseases and Disorders: Evaluate animal conditions for species-specific diseases and disorders to assess an animal’s health and welfare.

Competency:

2.4.2. Examine an animal to evaluate its general condition.

2.4.3. Investigate and appraise signs of pain, distress, allergic reactions and lameness.

2.4.4. Assess genetic abnormalities in the skeleton, body form and body functions and identify the symptoms associated.

2.4.14. Identify and recognize normal and abnormal dental structures and conditions.

Outcome 2.5

Animal Health: Implement preventive measures, treatment and maintenance options for species-specific diseases and disorders to improve an animal’s health and welfare.

Competency:

2.5.1. Obtain and interpret an animal's vitals.

2.5.2. Apply concepts of body condition scoring to assess an animal's general health and nutrition status.

2.5.3. Recognize the preventative measures or treatments needed to maintain animal health.

2.5.4. Apply basic principles of first-aid.

Outcome 2.7

Animal Behavior: Apply management practices to assure quality animal care, considering species-specific behaviors, human safety, social influences, public perception and regulations associated with animal welfare.

Competency:

2.7.1. Understand social influences, public perception and regulations that are associated with animal welfare.

2.7.2. Describe the adaptations and special senses (e.g., sight, hearing, smell, touch) of animals and how they contribute to animal behavior.

2.7.3. Identify and describe the innate behavioral patterns of animals.

2.7.4. Identify social relationships involved in behavioral adjustment and adaptation (e.g., animal-to-animal and human-to-animal interaction).

2.7.5. Interpret an animal’s intent based on its vocalization, body posture and chemical means of communication.

2.7.6. Recognize behavior abnormalities and employ corrective action.

2.7.7. Handle, restrain and move animals, while ensuring the safety of the animals and their handlers.

**Unit: Infectious Diseases**

In this unit, students will learn characteristics, symptoms and effects of common infectiousdisease and disorders of selected species of animals.

Outcome 2.4

Recognizing Diseases and Disorders: Evaluate animal conditions for species-specific diseases and disorders to assess an animal’s health and welfare.

Competency:

2.4.1. Identify general infectious and noninfectious causes of diseases and disorders.

2.4.9. Implement disease prevention methods and procedures.

2.4.13. Determine types of immunity and immune responses and simulate the administration of species-specific immunizations to maintain overall health.

**Unit: Noninfectious Diseases**

In this unit, students will learn characteristics, symptoms and effects of common noninfectiousdisease and disorders of selected species of animals.

Outcome 2.4

Recognizing Diseases and Disorders: Evaluate animal conditions for species-specific diseases and disorders to assess an animal’s health and welfare.

Competency:

2.4.1. Identify general infectious and noninfectious causes of diseases and disorders.

2.4.9. Implement disease prevention methods and procedures.

2.4.13. Determine types of immunity and immune responses and simulate the administration of species-specific immunizations to maintain overall health.

**Unit: Zoonotic Diseases**

In this unit, students will learn characteristics, symptoms and effects of common zoonoticdisease and disorders of selected species of animals. They will also investigate the effects on human populations.

Outcome 2.4

Recognizing Diseases and Disorders: Evaluate animal conditions for species-specific diseases and disorders to assess an animal’s health and welfare.

Competency:

2.4.7. Identify and describe zoonotic diseases.

2.4.8. Explain the health risk of zoonotic diseases on humans and their historical significance and future implications.

**Unit: Preventative Health**

Students will describe preventative health practices for animals such as maintain healthy living environments, proper grooming and care of animals, good feeding practices as well as safety in raising animal populations.

Outcome 2.3

Care and Management: Apply animal care and management procedures to ensure animal husbandry and welfare, including managing environmental conditions to ensure animal health and performance.

Competency:

2.3.3. Determine the biotic and abiotic factors (e.g., air, ventilation) that impact the animals’ environment.

2.3.4. Apply concepts of pest control, sanitation and disinfection procedures for the animals’ care and management.

2.3.9. Evaluate and perform animal care procedures throughout the life of the animal.

2.3.10. Monitor and evaluate the quality of an animal’s habitat and implement corrective methods as needed.

2.3.12. Groom animals through brushing and bathing.

2.3.13. Assess the nails and hooves of animals and understand the practice of trimming and treating for specific species.

2.3.14. Compare and contrast different breed standards of grooming and styling techniques for specific animal breeds and species.

Outcome 2.6

Population Management: Manage reproduction practices in animal populations across habitats to achieve the desired outcomes and specific goals.

Competency:

2.6.8. Describe ethical and responsible animal population management practices (e.g., spaying, neutering, birth control, relocation, reintroduction, hunting, containment, culling, euthanasia).

Outcome 7.7

Biosecurity: Connect the sources and causes of contamination and develop the protocols to implement bio-security procedures.

Competency:

7.7.2. Identify activities and biological agents that contribute to the risk of acquiring or preventing a specific disease.

7.7.4. Assess a facility's biosecurity, classify the level of risk and recommend improvements.

7.7.5. Implement biosecurity procedures to prevent cross-site contamination (e.g., proper use and disposal of personal protective equipment [PPE] from site to site, vehicle cleaning between farm and processing site).

7.7.6. Screen and test animals and plant products for infectious agents or contamination.

7.7.7. Select bio-containment practices (e.g., quarantine, eradicate, showering into facilities) to manage pests and diseases.

**Unit: Professional Career Opportunities**

This unit is an overview of the profession. Students will discuss laws, ethics and present job-related opportunities, duties, salaries, and professional organizations.

Outcome 1.1

Employability Skills: Develop career awareness and employability skills (e.g., face-to-face, online) needed for gaining and maintaining employment in diverse business settings.

Competency:

1.1.7. Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions.

**Unit: Animal Health Research Presentation**

Students will create a problem-based study applying scientific methodology and drawing conclusions based on observations and/or data analysis and present findings.

Outcome 1.2

Leadership and Communications: Process, maintain, evaluate and disseminate information in a business. Develop leadership and team building to promote collaboration.

Competency:

1.2.1. Extract relevant, valid information from materials and cite sources of information.

1.2.2. Deliver formal and informal presentations.

1.2.5. Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

1.2.6. Use proper grammar and expression in all aspects of communication.

1.2.7. Use problem-solving and consensus-building techniques to draw conclusions and determine next steps.

Outcome 3.8

Research and Experiments: Conduct a problem-based study, applying scientific methodology and using descriptive statistics to communicate and support predictions and conclusions.

Competency:

3.8.1. Identify research problems and structure a statistical experiment, simulation or study related to the problem.

3.8.2. Design a research plan, including the significance of the problem, purpose, variables, hypotheses, objectives, methods of study and a list of materials.

3.8.3. Distinguish between dependent, independent and control variables in an experiment.

3.8.4. Establish and implement procedures for systematic collection, organization and use of data.

3.8.5. Select and apply sampling methods that appropriately represent the population to be studied.

3.8.7. Document results of the experiment in a laboratory notebook, including a statement of purpose, experimental designs, observations, results, conclusions and next steps.

3.8.9. Describe the relationships among variables using correlations and draw conclusions.

3.8.10. Create, interpret and use tabular and graphical displays and describe the data.

3.8.11. Draw conclusions based on observations and data analyses, recognizing that experimental results must be open to the scrutiny of others.

3.8.12. Prepare and present findings using scientific reports.