

MISSION TRAILS REGIONAL OCCUPATIONAL PROGRAM

1. **COURSE TITLE:** Veterinary Science

2. **CBEDS TITLE:** Animal Science

3. **CBEDS NUMBER:** 4020

4. **JOB TITLES AND DOT CODE:**

Dog Groomer 418.674.010

Dog Bather 418.677-010

Veterinarian 073.101-010

Veterinary Technician 079.361-014

5. **COURSE DESCRIPTION:**

This course provides a study of common diseases of both small and large animals, the causes and means of prevention. Course work will include anatomy and physiology of domestic animals, nutrition, and parasites and diseases. Guest lectures, veterinarians, vector control officials and animal health technicians will also be provided to add knowledge of current practices that are implemented in the animal health fields. Students will gain practical experience in veterinary medicine by conducting hands-on activities with both small and large animals.

6. **HOURS:** 360

7. **PREREQUISITES:** Agricultural Science and Technology encouraged

8. **DATE WRITTEN/REVISED:** March 22, 2005

9. **COURSE OUTLINE**

Upon successful completion of this course, students will be able to demonstrate the following skills necessary for employment or further education and training:

- I. Career Preparation Standards (Note: additional hours for Career Preparation Standards are integrated into instruction in content area standards).
 - A. Understand how personal skill development--including positive attitude, honesty, self-confidence, time management, and other positive traits--affect employability.
 1. Demonstrate an understanding of classroom policies and procedures.
 2. Define business ethics and explain the importance of ethical standards in the business environment.
 3. Discuss the laws that apply to sexual harassment and discuss tactics for handling harassment situations.
 4. Discuss importance of personal skills in a business environment i.e. positive attitude, self-confidence, honesty, perseverance, self-discipline.
 5. Define personal hygiene and identify acceptable business attire for the industry.

6. Prioritize tasks and meet deadlines.
- B. Understand principles of effective interpersonal skills, conflict resolution and negotiation.
 1. Discuss and demonstrate the dynamics of conflict resolution and negotiation and their importance within the business environment.
 2. Work cooperatively, share responsibilities, accept supervision and assume leadership roles.
 3. Demonstrate cooperative working relationships and prepare etiquette across gender and cultural groups.
- C. Understand the importance of good academic skills, critical thinking and problem-solving skills in the workplace.
 1. Recognize the importance of good reading, writing, math, and keyboarding skills in the business environment and implement a plan for self-improvement as needed.
 2. Apply estimation, measurement and calculation skills to business applications, including whole number math, decimals and fractions, counting and monetary function and use of tables as appropriate to industry.
 3. Read, write and give directions.
 4. Exhibit critical and creative thinking skills and logical reasoning skills.
 5. Recognize problem situations; identify, locate and organize needed information or data; and propose, evaluate and select from alternative solutions.
- D. Understand principles of effective communication.
 1. Read and implement written instructions, technical manuals, written communication and reference books.
 2. Present a positive image through verbal and nonverbal communication through use of appropriate methods.
 3. Demonstrate proper etiquette in business communications, including an awareness of requisites for international communications (i.e. customs, time zones)
 4. Demonstrate writing/editing skills i.e. write, proofread, and edit business correspondence, use correct grammar, punctuation, capitalization, vocabulary and spelling and select appropriate forms of technology for communication.
- E. Understand occupational safety issues, including avoidance of physical hazards
 1. Discuss and implement good safety practices, including avoidance and reporting of physical hazards in the work environment, safe operation of equipment and proper handling of hazardous material.
 2. Apply sound ergonomic principles in organizing one's workspace.
- F. Understand career paths and strategies for obtaining employment
 1. Explore career opportunities and projected trends, investigate required education, training and experience, and develop an individual education plan.
 2. Identify steps for setting goals and writing personal goals and objectives.
 3. Examine aptitudes related to career options; relate personal characteristics and interests to educational and occupational opportunities.
 4. Develop job acquisition documents, including job application, resume, appropriate cover and follow-up correspondence and portfolio.
 5. Identify and demonstrate effective interviewing techniques.
- G. Understand and adapt to changing technology.
 1. Identify and demonstrate use of computer hardware and peripherals.
 2. Identify and explain use of computer software.

3. Identify and use operating systems.
4. Input and retrieve information.
5. Understand the importance of lifelong learning in adapting to changing technology.

II. Veterinary Science Skills

- A. Identify the attitude and behavior of healthy animals. (20 hours)
 1. Identify posture or stance of healthy animals.
 2. Identify movement of healthy animals.
 3. Identify voice of healthy animals.
 4. Identify appetite of healthy animals.
 5. Identify sexual activity of healthy animals.
- B. Recognize the normal skin and mucus membrane color of domestic animals and relate them to specific cases. (15 hours)
- C. Monitor the temperature, pulse and respiration of animals, and compare the monitored animal to that of the normal animal. (20 hours)
 1. Interpret the effects of environmental conditions that relate to temperature, pulse, and respiration.
- D. Understand the disease concept of animal health. (25 hours)
 1. Design a housing facility for small or large animals that provides for a healthy environment.
 2. Demonstrate the need for a balanced diet in animals by balancing a ration.
 3. Distinguish between sound and unsound animal disease management techniques.
- E. Demonstrate the need for proper sanitation by taking bacterial cultures, analyzing the samples and disinfecting an animal's environment. (15 hours)
- F. Identify and analyze the specific structures found in cells of the animal body. (20 hours)
 1. Distinguish the relative functions of groups of animal cells by their structure.
- G. Recognize the characteristics of epithelium, connective and muscle tissue by microscopic observation. (15 hours)
- H. Differentiate among the functions of the digestive, circulatory, respiratory and excretory systems. (40 hours)
- I. Distinguish between the living and non-living causes of disease in animals. (25 hours)
 1. Identify the life cycles of bacteria, fungi, viruses, and protozoas.
 2. Classify the various means by which diseases are spread in an environment.
 3. Cite the way in which an animal develops resistance and immunity to pathogenic organisms.
 4. Contrast the primary and secondary defense mechanism of an animal's body.
 5. Identify, by structure, the differences among Diplococcus, Staphylococcus and Streptococcus bacterias.
 6. Explain how a change in environmental conditions might alter the growth of a bacterium.
- J. Identify by classification Proxviruses, Herpesviruses, Reoviruses and Coronavirses and determine a common disease caused by each virus. (20 hours)
 1. Outline a common method by which a livestock producer could control diseases caused by viruses.
 2. Discuss Rabies and other zoonosis.
- K. Recognize the effects that internal and external parasites play in small and large animal production. (25 hours)
 1. Identify by gross observation the physical differences among ticks, fleas, flies, lice

- and mites.
- 2. Discriminate by gross the characteristics of Nematodes, Cestodes and Tematodes.
- 3. Outline a viable program for external and internal parasite management in small or large animals.
- 4. Extrapolate upon the relationship of internal parasites and diseases.
- L. Recognize the chemical structure of fats and carbohydrates. (40 hours)
 - 1. Explain the importance of proteins, vitamins and minerals as they relate to tissue building by nutritional experimentations.
 - 2. Formulate a balanced ration that can be fed to either small or large animals.
- M. Discriminate between symptoms of a poisoned animal and that of a parasitized animal. (20 hours)
 - 1. Calculate the proper dosage of a medication to be prescribed for a large or small animal.
- N. Identify environmental, nutritional and pathogenic stressors that might lower an animal's resistance to disease. (20 hours)
 - 1. Develop a management technique for receiving young transported animals.
- O. Recognize the importance that heredity plays in congenital diseases by using mathematical equations. (40 hours)

10. ADDITIONAL RECOMMENDED/OPTIONAL ITEMS

A. ARTICULATION:

B. ACADEMIC CREDIT:

C. INSTRUCTIONAL STRATEGIES: Lecture, simulations, guest speakers, field trips, role play, demonstration, lab, applied practice.

D. INSTRUCTIONAL MATERIALS:

E. CERTIFICATES: Course completion certificate. Competencies should match major sections of the course outline.