



# SCHOOL DISTRICT OF MONROE

*Preparing for the Future, One Child at a Time*

## Veterinary Science ES

### **Course Description:**

The curriculum for this elective course is developed from [Wisconsin Standards for Agriculture, Food and Natural Resources](#). This course is designed for students who have a sincere interest in a career related to small animals. If you plan to become a veterinarian, small animal technician, animal scientist, or animal researcher, then this course is highly recommended. Each student will complete hands on veterinary skills including weighing an animal, diagnosis and administering a treatment, cleaning, clipping, grooming, and practicing mock surgery procedures. Assessments will include quizzes, exams, lab practicums, and a final project dealing with one species that ties in all units previously discussed in the semester. This course is science equivalents and count for part of the three high school units of science required for admission to UW institutions. The information in this course overview outlines what students should understand and be able to do by the end of the trimester.

### **Mastery Standards:**

Students will examine the components, historical development, global implications and future trends of the animal systems industry. (AS1)

Students will classify, evaluate, select and manage animals based on anatomical and physiological characteristics. (AS2)

Students will provide the proper health care of animals. (AS3)

Students will apply principles of animal nutrition to ensure the proper growth, development, reproduction and economic production of animals. (AS4)

Students will evaluate and select animals based on scientific principles of animal production. (AS5)

Students will prepare and implement animals handling procedures for the safety of animals, producers and consumers of animal products. (AS6)

Students will select animal facilities and equipment that provide for the safe and efficient production, housing and handling of animals. (AS7)

Unit	Description of Unit and Learning Targets
<p><b>Unit Title: 1. Safety and Sanitation</b></p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• What are an employee's rights on the job and how can students stay safe?</li> <li>• How can you stay safe while working with or as a veterinarian?</li> <li>• Does posting a safety sign protect an employer from liability? Why or why not?</li> </ul>	<p>Students will.....</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• Read an MSDS and locate important safety information</li> <li>• Determine the appropriate safety precautions for a given scenario</li> <li>• Explain what OSHA is and know its purpose</li> <li>• Describe the different methods of sanitation and know when to use them</li> <li>• Give examples of the four types of safety hazards</li> </ul>
<p><b>Unit Title: 2. Veterinary Terminology</b></p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• How can terminology play a key role in the comprehension of specific segments of the veterinary industry?</li> </ul>	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• Analyze veterinary terms to define their meanings.</li> <li>• Recognize common Greek and Latin prefixes, suffixes, and roots.</li> <li>• List abbreviations commonly used in veterinary medicine.</li> </ul>

<ul style="list-style-type: none"> <li>• How can an understanding of prefixes, suffixes and roots develop terminology that has an impact on the veterinary industry?</li> <li>• How can an understanding of abbreviations make an employee more valuable in the veterinary industry?</li> <li>• How can an understanding of Latin names, adjectives and gender terms make an employee more valuable in the veterinary industry?</li> </ul>	
<p><b>Unit Title: 3. Anatomy and Physiology</b></p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• The movie <i>Avatar</i> is all about how the environment is interconnected and how each organism depends on each other. How is the heart like this for the body? If the heart is not functioning properly, how might it impact other body systems?</li> </ul>	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• Recognize and implement common anatomical terminology.</li> <li>• Point out common intramuscular injection sites.</li> <li>• Demonstrate common sites for measuring pulses and collecting blood samples.</li> <li>• Apply terms used in describing breathing to analysis of case studies.</li> <li>• Describe the functions of the skeletal, muscular, circulatory, respiratory, and nervous systems.</li> <li>• Identify the bones of the skeleton and relate them to a live animal.</li> <li>• Identify muscles and relate them to a live animal.</li> <li>• Identify structures of the heart, as well as major veins and arteries.</li> <li>• Identify parts of the upper and lower respiratory tract.</li> <li>• Identify parts of nerve cells and the brain.</li> <li>• Describe how the body seeks to maintain a state of homeostasis.</li> </ul>
<p><b>Unit Title: 4. Clinical Exams</b></p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• What differences in signalment and history might you expect to find in examination of a pet dog in a private home versus examination of a sow in a large confinement unit?</li> <li>• Describe two reasons why logical and accurate record keeping are critical in veterinary medicine. Has technology helped or hurt our ability to establish and maintain this type of medical record?</li> <li>• An elephant has a resting heart rate of 25-35 beats per minute. A mouse has a resting heart rate of 450-750 beats per minute. Why do you think the resting heart rates of these two mammals are so different?</li> </ul>	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• List temperature, pulse, and respiration rates for feline, canine, equine, and bovine.</li> <li>• Evaluate an animal's general health by completing a physical exam on the animal.</li> <li>• Correctly operate the stethoscope, otoscope, and ophthalmoscope.</li> <li>• Communicate with others to obtain a history of an animal as part of a routine physical exam.</li> <li>• Describe the characteristics of a healthy animal and the signs and methods used to assess an unhealthy animal.</li> <li>• Provide examples of abnormalities in general animal health and relate them to the problems and illnesses they may indicate.</li> <li>• Explain why a routine should be devised for all physical exams.</li> </ul>
<p><b>Unit Title: 5. Hospital Procedures</b></p>	<p>Students will...</p>

<p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• The five senses include seeing, hearing, touching, tasting and smelling. Which ones of these five senses are involved in performing a physical examination of an animal? If and when applicable, describe an example of how each of these senses is used during the physical examination process.</li> </ul>	<p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• Fill and read a syringe.</li> <li>• Apply different types of bandages to various areas of the body.</li> <li>• Calculate medication amounts.</li> <li>• Properly label medications.</li> <li>• Discuss the arguments for and against spaying and neutering.</li> <li>• Describe the process of immunity.</li> <li>• List ways in which diseases are transmitted.</li> </ul>
<p><b>Unit Title: 6. Posology</b></p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>• How is math important to veterinary science?</li> </ul>	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> <li>• Correctly complete basic addition, subtraction, multiplication, and division problems using whole numbers, fractions, and decimals.</li> <li>• Evaluate a given word problem to identify the important information that will be used in solving the problem.</li> <li>• Correctly operate a calculator.</li> <li>• Correctly complete advanced ratios dealing with dosage, dilution, and weight conversions.</li> <li>• Correctly complete word problems dealing with percent, temperature conversion, and liquid and linear measurement.</li> <li>• Explain why solid math skills are vital to the success of any veterinary hospital.</li> </ul>