

Wallingford Public Schools - HIGH SCHOOL COURSE OUTLINE

Course Title: Animal Science / Equine Science 4	Course Number: 8263
Department: Agriculture Education	Grade(s): 12
Level(s): Academic	Credit(s): 2
Course Description Senior course work continues to build a foundation for students interested in animal science /equine science. Topics studied include: horse farm management, current trends in agriculture, first aid, and driving horses. Students will continue to participate in the Lyman Hall Chapter of the national organization, FFA. Students will complete the development of their portfolio and further develop skills to prepare for future careers in animal science/ equine science.	
Required Instructional Materials Sufficient Hands-on Materials	Completion/Revision Date Approved by Board of Education October 15, 2007

Mission Statement of the Curriculum Management Team

The mission of the Career and Technical Education Curriculum Management Team is to ensure that students, as a result of their experiences in K-12, will demonstrate transferable skills, knowledge, and attributes for successful life management, employment, career development, post-secondary educational opportunities, and life long learning.

Enduring Understandings for the Course

- Self-reflection of learning experiences, in and out of school, fosters the development of a life long learner. Life long learners are able to apply and refine skills as they prepare for their post-high school endeavors.
- Numerous skills are required to be a horse farm manager such as a thorough understanding of the horse as well as how to operate a business.
- Organizational skills and record keeping are required to be successful in the business world.
- The research process requires the use of a variety of resources to ensure validity.
- Organization is critical to the acquisition, application, and evaluation of information.
- Critical examination and evaluation of data is essential to making informed decisions.
- Recognizing a diversity of viewpoints benefits all.
- Writing is a tool used for thinking & learning.
- Vital signs are an indicator of an animal's medical condition and can be used to determine the need for medical attention and effectiveness of treatment(s).
- Veterinarians/animal owners make health related decisions based upon internal and external examinations.
- Animal survival depends on recognition and management of an injury or medical condition.

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| <ul style="list-style-type: none">• Knowledge of equine science principles is necessary to safely and competently handle horse. |
| <ul style="list-style-type: none">• Animal training is best completed with knowledge of known animal behaviors and intelligence, which will enable a trainer/handler to be proficient and compassionate with animals. |

<u>LEARNING STRAND</u>	
1.0 Transferable Skills	
<u>ENDURING UNDERSTANDING(S)</u> <ul style="list-style-type: none"> • Self-reflection of learning experiences, in and out of school, fosters the development of a life long learner. Life long learners are able to apply and refine skills as they prepare for their post-high school endeavors. 	<u>ESSENTIAL QUESTION(S)</u> <ul style="list-style-type: none"> • What is the importance of maintaining a portfolio? • What are the qualities of an effective oral presentation? • What safety precautions do I have to follow? • What can I do differently next time? • What does a cooperative group require to function successfully? • How can I assess the situation and implement change? • What are the characteristics of an organized person? What do I need to do to be more organized? • How can I manage informational research, organize the information, and present it professionally? • What is a leader?
<u>LEARNING OBJECTIVES</u> The students will: <ul style="list-style-type: none"> 1.1 Demonstrate public speaking skills using appropriate visuals and tailoring the presentation to specific audiences. 1.2 Communicate in writing about a topic using different formats applying relevant vocabulary, supporting evidence and clear logic. 1.3 Self-assess transferable skills and reflect on areas of strengths and improvement. 1.4 Identify and use the appropriate tools and equipment safely. 1.5 Work cooperatively with fellow peers, teachers, and employers to complete a task. 1.6 Apply problem solving skills to critically approach a situation and work through the steps to solve the problem. 1.7 Develop organizational skills that assist with data collection, data analysis and synthesis. 1.8 Apply research skills to collect information, summarize the findings and to cite the sources used. 1.9 Recognize leadership skills such as: motivating others, negotiating, 	<u>INSTRUCTIONAL SUPPORT MATERIALS</u> <ul style="list-style-type: none"> • See other learning strands for integration <u>SUGGESTED INSTRUCTIONAL STRATEGIES</u> <ul style="list-style-type: none"> • See other learning strands for integration <u>SUGGESTED ASSESSMENT METHODS</u> <ul style="list-style-type: none"> • See other learning strands for integration

<p>participating in meetings, gaining confidence, and gaining self-awareness, etc.</p> <p>1.10 Apply computer-based tools such as PowerPoint, Word, Excel, and Access, to organize and present information.</p> <p>1.11 Demonstrate self expression and creativity through different projects.</p> <p>1.12 Develop a positive attitude and become an independent learner in order to prepare for the future.</p> <p>1.13 Organize and maintain a four year portfolio including a compilation of student products and reflections.</p> <p>1.14 Document SAE (Supervised Agricultural Experience) monthly. This includes recording hours, expenses, income, tasks and applied skills.</p>	
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<u>LEARNING STRAND</u>	
2.0 Horse Farm Management <ul style="list-style-type: none"> Approximately 12 weeks 	
<u>ENDURING UNDERSTANDING(S)</u> <ul style="list-style-type: none"> Numerous skills are required to be a horse farm manager such as a thorough understanding of the horse as well as how to operate a business. Organizational skills and record keeping are required to be successful in the business world. 	<u>ESSENTIAL QUESTION(S)</u> <ul style="list-style-type: none"> What are the steps/skills required to be a successful horse farm manager? Why is record keeping so important? How are different horse farms managed? What is a business plan? How mathematical, transferable and equine skills all are used to run an equine business?
<u>LEARNING OBJECTIVES</u> The students will: <ul style="list-style-type: none"> 2.1 Describe health practices that are necessary for horse industries. 2.2 Demonstrate skills necessary to manage a horse farm business. 2.3 Explain how to operate a farm. 2.4 Determine feeds and feeding schedules for a barn. 2.5 Obtain stock. 2.6 Balance a budget. 2.7 Design a farm, a barn and determine all necessary expenses. 2.8 Determine profits and losses. 2.9 Select suitable land for equine. 2.10 Determine road safety for trucking/transporting horses. 2.11 Test soil and determine qualifications as a building site. 2.12 Determine and write contracts for an equine business. 2.13 Compare and contrast different horse farms. 2.14 Create a manure disposal and fly control plan. 2.15 Purchase supplies and equipment. 2.16 Construct Excel spreadsheets and tables to keep farm records. 2.17 Determine insurance needs for a horse farm. 2.18 Develop a health program for a horse farm. 2.19 Read topographical maps and determine land elevations for use as equestrian property. 	<u>INSTRUCTIONAL SUPPORT MATERIALS</u> <ul style="list-style-type: none"> <i>Equine Science</i>, Parker, Delmar Publishers Computers equipped with Microsoft Office, Publisher, Excel and Word Internet research and equine sites Assorted equine business books Assorted equine legal books Assorted horse farm management books. Microsoft office publisher, excel, word, etc... Portfolio/notebook Assorted agricultural design and construction books Basic drafting supplies Compass Topographical maps Assorted videos on equine facilities <u>SUGGESTED INSTRUCTIONAL STRATEGIES</u> <ul style="list-style-type: none"> Create a portfolio of your “dream “ barn Visit different horse farms Schedule an interview with a horse farm manager/trainer and share with class Create a variety of advertisements using different advertising techniques Create a web page for your facility Design and landscape an equine facility using basic drafting techniques Interviews with horse farm managers Create record keeping systems for your barn Create management systems for your facility View assorted videos on equine operations Orally present and explain your equine

<p>2.20 Calculate a profit and loss statement.</p> <p>2.21 Compose a business plan.</p>	<p>facility</p> <ul style="list-style-type: none"> • Determine potential income and expenses for the first year of operation <p><u>SUGGESTED ASSESSMENT METHODS</u></p> <ul style="list-style-type: none"> • Equine facility plans (blueprints) • Equine facility portfolio • Equine portfolio oral presentation • Various writing assignments • Various charts, records and components from the equine farm portfolio • Profit sheet • Business plan • Photographs of farm visits and facilities with write-ups • Portfolio items may include: <ul style="list-style-type: none"> ○ Skill sheet ○ Work sample picture and caption
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<u>LEARNING STRAND</u>	
<p>3.0 Current Trends in Agriculture</p> <ul style="list-style-type: none"> Approximately 4 weeks 	
<p><u>ENDURING UNDERSTANDING(S)</u></p> <ul style="list-style-type: none"> The research process requires the use of a variety of resources to ensure validity. Organization is critical to the acquisition, application, and evaluation of information. Critical examination and evaluation of data is essential to making informed decisions. Recognizing a diversity of viewpoints benefits all. Writing is a tool used for thinking & learning. 	<p><u>ESSENTIAL QUESTION(S)</u></p> <ul style="list-style-type: none"> Why do I research? What is the best way to persuade an audience? What are the benefits of using multiple media to locate information? How do I know my information is reliable (accurate, unbiased, current, and appropriate)? How does organizing the results of my research help me to use it? How does the consideration of different viewpoints influence how I think & act? What am I trying to achieve through my writing? Presentation? What are the qualities of an effective oral presentation? How can a visual enhance an oral presentation?
<p><u>LEARNING OBJECTIVES</u> – The students will:</p> <p>3.1 Develop a central research position related to a current trend in agriculture.</p> <p>3.2 Generate questions related to the topic.</p> <p>3.3 Locate & retrieve information that is stored in print (books, magazines, etc.) as well as in digital forms (Internet, databases, videos, etc.) to support the position presented as well as the opposing view.</p> <p>3.4 Evaluate validity of sources to authenticate research.</p> <p>3.5 Organize ideas and information logically and effectively using note cards and outlining.</p> <p>3.6 Use the writing process to compose a research position paper that is focused, organized, elaborated, supported and edited for standard English conventions.</p> <p>3.7 Revise written pieces to demonstrate improvement.</p> <p>3.8 Use MLA citation for textual support.</p> <p>3.9 Persuade audience during an oral presentation with accompanying visuals.</p>	<p><u>INSTRUCTIONAL SUPPORT MATERIALS</u></p> <ul style="list-style-type: none"> Access to print and non-print sources Assorted trade magazines and journals Presentation materials <p><u>SUGGESTED INSTRUCTIONAL STRATEGIES</u></p> <ul style="list-style-type: none"> Collaborate with library media specialists to help assist with research Create a PowerPoint presentation or design a tri-fold board as a visual aid for the oral presentation Create an informational hand-out to “call to action” information for the audience After student presentations, students select one topic to write “a letter to the editor” by agreeing or disagreeing with the position presented Model and assist students through the research process Model appropriate Internet searching techniques Peer review and feedback Provide due dates of individual parts (note

	<p>cards, outline, rough draft, etc.) of research project</p> <ul style="list-style-type: none">• Conferencing with teacher <p><u>SUGGESTED ASSESSMENT METHODS</u></p> <ul style="list-style-type: none">• Rubrics for presentation, paper, and visual• Checklist for research process• Self and peer assessments• Portfolio products may include:<ul style="list-style-type: none">• Skill sheet• Persuasive research paper and outline• Photo of visual and student• Informational “call to action” hand-out• Writing sample “letter to the editor”
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LEARNING STRAND

4.0 First Aid

- Approximately 6 weeks

ENDURING UNDERSTANDING(S)

- Vital signs are an indicator of an animal's medical condition and can be used to determine the need for medical attention and effectiveness of treatment(s).
- Veterinarians/animal owners make health related decisions based upon internal and external examinations.
- Animal survival depends on recognition and management of an injury or medical condition.

ESSENTIAL QUESTION(S)

- How are equine vitals used to diagnose?
- How does one determine if a horse is healthy?
- How does one determine if a horse has a critical illness/injury?
- How does one treat a wound? Illness?
- What materials are necessary for first aid and how are they used?

LEARNING OBJECTIVES The students will:

- 4.1 Locate and evaluate equine vital signs in relationship to their normal ranges.
- 4.2 Assemble the components and describe the function of items in a first aid kit.
- 4.3 Distinguish sign of good health and poor health and explain possible causes.
- 4.4 Differentiate between non-critical and critical injuries and illnesses.
- 4.5 Practice the basic care and procedures for a horse during a time of illness and or injury.
- 4.6 Identify and treat different types of wounds.
- 4.7 Identify and prepare injection sites.
- 4.8 Select the appropriate type and apply the bandage appropriately for different wounds.
- 4.9 Prepare and maintain health records.
- 4.10 Explain treatment for eight common toxicities.

INSTRUCTIONAL SUPPORT MATERIALS

- Stethoscope, thermometers and a variety of equine medical supplies
- Equine first aide kit
- Vetwrap/elastic wrap and other equine wraps/supports
- Poultice, wood, equine booties, duct tape, saran wrap, bags, oranges, 10cc syringes and needles
- Rubbing alcohol, cotton balls/gauze, wrap/bandages
- Equine first aide books
- Equus magazine
- Various equine first aide videos/dvds

SUGGESTED INSTRUCTIONAL STRATEGIES

- Practice the vital signs on a live horse(resting and after exercise)
- Visit a tack store and prepare a spread sheet which includes expenses of a first aide kit.
- Listen to equine gut sounds
- Model and practice:
 - Prepare and inject an orange with saline/water
 - Poultice a hoof/leg
 - Wrap a wound
 - Prepare a support wrap
 - Prepare a leg splint
 - Worm a horse
 - Medicate a horse
- Prepare health records

- Prepare a collection of equine toxicities
- Prepare and implement a mini lesson plan explaining an injury or illness and how to treat it.

SUGGESTED ASSESSMENT METHODS

- Student demonstrations of skills
- Health records
- Tests and quizzes
- Portfolio products may include:
 - Work sample picture and caption
 - Writing assignment - Student created lesson and lesson plan explaining an injury or illness and treatment
 - Skill sheet

<u>LEARNING STRAND</u>	
5.0 Driving Horses <ul style="list-style-type: none"> • Approximately 3 weeks 	
<u>ENDURING UNDERSTANDING(S)</u> <ul style="list-style-type: none"> • Knowledge of equine science principles is necessary to safely and competently handle horse. • Animal training is best completed with knowledge of known animal behaviors and intelligence, which will enable a trainer/handler to be proficient and compassionate with animals. 	<u>ESSENTIAL QUESTION(S)</u> <ul style="list-style-type: none"> • How does one train a horse to drive? • How is different equipment used to train horses to drive?
<u>LEARNING OBJECTIVES</u> The students will: <ul style="list-style-type: none"> 5.1 Explain the function and correct use of different parts of a harness. 5.2 Explain the function and correct use of different bits other training devices. 5.3 Identify various driving styles. 5.4 Compare and contrast various driving vehicles. 5.5 Demonstrate appropriate technique: <ul style="list-style-type: none"> • Long line • Harness and un-harness a single horse. • Drive a horse through an obstacle course 5.6 Describe and demonstrate how to train a driving horse. 5.7 Explore career opportunities in the field. 	<u>INSTRUCTIONAL SUPPORT MATERIALS</u> <ul style="list-style-type: none"> • Driving horses, driving harness, 2 wheel vehicle, long reins, lunge lines, pvc pipe, cones, driving videos, driving whip • Various books and videos on driving horses. <u>SUGGESTED INSTRUCTIONAL STRATEGIES</u> <ul style="list-style-type: none"> • Model and practice how to: <ul style="list-style-type: none"> ○ Lunge a horse ○ Drive a horse ○ Harness and un harness a horse ○ Long rein a horse ○ Train a horse to drive • View and critique videos on equine driving and training • Train a horse to drive • Peer critique • Field trip to a horse farm <u>SUGGESTED ASSESSMENT METHODS</u> <ul style="list-style-type: none"> • Student demonstrations of un-harnessing, driving, lunging, long reining, etc... • Project on teaching a horse to drive/driving styles • Portfolio products may include: <ul style="list-style-type: none"> ○ Work sample picture and caption ○ Writing assignment – how to train a driving horse ○ Skill sheet