# Jefferson City Public Schools–High School Curriculum

## SUBJECT:  Grade 10-12

### COURSE:  Advanced Animal Science

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Assessment/Evaluation</th>
<th>Instructional Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(A) Selection</strong>&lt;br&gt;Identify careers related to the animal agriculture industry&lt;br&gt;• Use correct terminology for each species&lt;br&gt;&lt;br&gt;Performance: 2.1&lt;br&gt;Knowledge: (CA) 4&lt;br&gt;CACLE: LS.2.A&lt;br&gt;NETS: 1b&lt;br&gt;DOK: 1</td>
<td>• Career poster – assessed using a teacher created scoring guide&lt;br&gt;• Teacher created matching quiz of animal terminology</td>
<td>• The teacher will do an overview PowerPoint lecture on the animal agriculture industry and its sectors&lt;br&gt;• Students will:&lt;br&gt;• utilize the Internet to create a poster about an animal agriculture related career and present it to the class&lt;br&gt;• conduct research to apply correct terminology for livestock species</td>
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<p>| (B) Issues in Animal Agriculture&lt;br&gt;• Identify current and future issues relating to animal agriculture&lt;br&gt;&lt;br&gt;Performance: 2.1&lt;br&gt;Knowledge: (CA) 4&lt;br&gt;CACLE: LS.2.A&lt;br&gt;NETS: 4b&lt;br&gt;DOK: 3,4 | • Students will do research on an assigned Hot Topic related to animal agriculture and present it to the rest of the class – assessed using a teacher created scoring guide&lt;br&gt;• Written evaluation based on Hot Topics and agriculture literacy projects that were created by the teacher | • The teacher will do an overview PowerPoint lecture on current issues related to animals&lt;br&gt;• Students will create an animal related activity for children, teaching an aspect of animal agriculture literacy |</p>
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<thead>
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<th>Instructional Activities</th>
</tr>
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<tbody>
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<td><strong>Nutrition</strong>&lt;br&gt;• Identify the importance of nutrition to agriculture&lt;br&gt;• Describe energy’s role in nutrition&lt;br&gt;• Describe protein’s role in nutrition&lt;br&gt;• Describe mineral’s role in nutrition&lt;br&gt;• Describe vitamin’s role of water in nutrition&lt;br&gt;• Describe the role of water in nutrition&lt;br&gt;• Describe environmental effects on nutrition&lt;br&gt;<strong>Performance:</strong> 1.2&lt;br&gt;<strong>Knowledge:</strong> (CA) 6&lt;br&gt;<strong>SCCLE:</strong> SC3.2.D (Biology I)&lt;br&gt;<strong>NETS:</strong> 1b&lt;br&gt;<strong>DOK:</strong> 2</td>
<td>• Teacher created quizzes will be used with notes&lt;br&gt;• Posters – assessed using teacher created scoring guides</td>
<td>• The teacher will do an overview PowerPoint lecture on animal nutrition and feed stuffs&lt;br&gt;• Students will conduct research to identify diet and nutrition requirements of a selected animal, compiling the information on a poster for comparison with other animals</td>
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**Nutrition**<br>• Compare and contrast the digestive systems of livestock<br>**Performance:** 1.10<br>**Knowledge:** (SC) 3<br>**SCCLE:** SC3.2.D (Biology I)<br>**NETS:** 1a<br>**DOK:** 2 | Teacher created written evaluation | • The teacher will do an overview PowerPoint lecture on the different digestive systems of animals<br>• Students will complete a digestive system puzzle (teacher created) labeling each part and function |

**Nutrition**<br>• Formulate a ration for different classes of livestock<br>**Performance:** 1.10, 3.4<br>**Knowledge:** (MA) 9<br>**SCCLE:** SC4.1.A (Biology I)<br>**NETS:** 1b<br>**DOK:** 1,4 | • Students will identify nutritional needs and create 5 balanced rations for their selected animals – assessed using a teacher created scoring guide<br>• Teacher created written evaluation | • Teacher will do an overview PowerPoint lecture on parts of a ration and demonstrate how to create balanced rations<br>• Students will complete sample problems using the Pearson Square method to balance rations |
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<td><strong>Reproduction</strong></td>
<td>Teacher created written exam</td>
<td>Students will:</td>
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<td>- Identify the importance of reproduction in livestock production</td>
<td>Projects – assessed using teacher created scoring guides</td>
<td>- read from teacher provided text and complete worksheets</td>
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<td></td>
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<td>- identify parts and functions of the male and female reproductive systems of common livestock</td>
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<td>Performance: 2.7</td>
<td></td>
<td>- conduct research on a technological method that has changed animal reproduction and present it to the class</td>
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<td>Knowledge: (SC) 3</td>
<td></td>
<td>- conduct research and gather information on an animal of their choice</td>
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<td>SCCLE: SC3.3.A,C; SC4.1.B; SC4.3.B (Biology I)</td>
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<td>- The teacher will do an overview PowerPoint lecture on:</td>
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<tr>
<td>NETS: 1b</td>
<td></td>
<td>- the different reproductive systems of animals</td>
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<tr>
<td>DOK: 2</td>
<td></td>
<td>- hormones</td>
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<td></td>
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<td>- technology in reproduction</td>
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| Genetics | Teacher created written: | Students will read from teacher provided text and complete worksheets |
| Calculate inheritance using Punnett squares | - exam | - The teacher will: |
|  | - problems | - do an overview PowerPoint lecture on the genetics and factors that affect genetics |
|  |  | - demonstrate the use of Punnett squares and the students will complete guided practice problems |

**Performance:** 1.10, 1.2
**Knowledge:** (SC) 8
**SCCLE:** SC3.3.B-E (Biology I)
**NETS:** 1a
**DOK:** 1

[Last Revised: 12/14/10] [Board Approved: 7-14-11] [Grade 10-12 – Advanced Animal Science]
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<td><strong>Animal Health</strong>&lt;br&gt;• Describe the major external and internal parasites of livestock&lt;br&gt;Performance: 1.8&lt;br&gt;Knowledge: (SC) 4&lt;br&gt;SCCLE: SC4.1.D (Biology I)&lt;br&gt;NETS: 2b&lt;br&gt;DOK: 2&lt;br&gt;<strong>Performance: 2.1&lt;br&gt;Knowledge: (CA) 3,4&lt;br&gt;SCCLE: SC4.1.D (Biology I)&lt;br&gt;NETS: 2b&lt;br&gt;DOK: 2,4</strong></td>
<td>• Teacher created written exam&lt;br&gt;• Parasite project – assessed using a teacher created scoring guide</td>
<td>• The teacher will do an overview PowerPoint lecture on the parasites and how they affect livestock&lt;br&gt;• Student will:&lt;br&gt;• select a parasite&lt;br&gt;• conduct research&lt;br&gt;• create a book on the parasite</td>
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<td><strong>Animal Health</strong>&lt;br&gt;• Identify the importance of animal health in livestock&lt;br&gt;• Describe the diseases of the respiratory system affecting livestock&lt;br&gt;• Describe the diseases of the gastrointestinal tract in livestock&lt;br&gt;• Describe the diseases of the reproductive system in livestock</td>
<td>• Written exam created by the teacher over:&lt;br&gt;• lecture&lt;br&gt;• lessons&lt;br&gt;• Lessons – assessed using a teacher created scoring guide</td>
<td>• Students will:&lt;br&gt;• read from teacher provided text and complete worksheets&lt;br&gt;• select an animal disease&lt;br&gt;• conduct research&lt;br&gt;• create a lesson and handout&lt;br&gt;• teach the class about their disease&lt;br&gt;• The teacher will:&lt;br&gt;• do an overview PowerPoint lecture on the animal health&lt;br&gt;• demonstrate methods to correct problems</td>
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| **Beef Industry**  
(If Time Allows) | • Teacher created written evaluation  
• Operation – assessed using a teacher created scoring guide | • The teacher will do an overview PowerPoint lecture on the beef industry  
• Students will:  
  • complete the matching game of bovine body parts  
  • design their own ideal beef cattle operation on a given budget |
| **Enterprises**  
• Select a beef enterprise based on available resources | | |
| **Animal Health**  
• Identify common problems associated with beef and dairy herd health | | |
| **Facilities and Equipment**  
• Identify facility needs for beef cattle | | |
| **Animal Feeding** | | |
| Performance: 1.2, 1.10  
Knowledge: (SC) 3  
SCCLE: SC3.1.A (Biology I)  
NETS: 2a,b  
DOK: 1,4 | | |

| **Dairy Industry**  
(If Time Allows) | • Teacher created written evaluation  
• Operation - assessed using a teacher created scoring guide | • The teacher will do an overview PowerPoint lecture on the dairy industry  
• Students will:  
  • complete the research on dairy products and their uses  
  • evaluate dairy cattle  
  • select animals for their heard using linear evaluation  
  • design their own ideal dairy cattle operation on a given budget |
| **Enterprises**  
• Select a dairy enterprise based on available resources | | |
| **Animal Health**  
• Identify common problems associated with beef and dairy herd health | | |
| **Facilities and Equipment**  
• Identify facility needs for dairy cattle | | |
| **Animal Feeding** | | |
| Performance: 1.2, 1.10  
Knowledge: (SC) 3  
SCCLE: SC3.1.A (Biology I)  
NETS: 2a,b  
DOK: 1,4 | | |
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| **Swine Industry**  
(If Time Allows) |  |  |
| **Enterprises**  
• Select a swine operation based on available resources | • Teacher created written evaluation  
• Operation - assessed using a teacher created scoring guide | • The teacher will do an overview PowerPoint lecture on the swine industry  
• Students will:  
  • complete the matching game of swine body parts  
  • design their own ideal swine operation on a given budget |
| **Animal Health**  
• Identify common problems associated with swine herd health |  |  |
| **Facilities and Equipment**  
• Identify facility needs for swine |  |  |
| **Animal Feeding**  
Performance: 1.2, 1.10  
Knowledge: (SC) 3  
SCCLE: SC3.1.A (Biology I)  
NETS: 2a,b  
DOK: 1,4 |  |  |
| **Poultry Industry**  
(If Time Allows) |  |  |
| **Enterprises**  
• Select a poultry enterprise based on available resources | • Teacher created written evaluation  
• Operation - assessed using a teacher created scoring guide | • The teacher will do an overview PowerPoint lecture on the poultry industry  
• Students will:  
  • complete the matching game of chicken body parts  
  • dissect an egg and learn each part and its function  
  • design their own ideal poultry operation on a given budget |
| **Animal Health**  
• Identify common problems associated with poultry flock health |  |  |
| **Facilities and Equipment**  
• Identify facility needs for poultry |  |  |
| **Animal Feeding**  
Performance: 1.2, 1.10  
Knowledge: (SC) 3  
SCCLE: SC3.1.A (Biology I)  
NETS: 2a,b  
DOK: 1,4 |  |  |
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| **Sheep Industry**  
(If Time Allows) | | **The teacher will do an overview**  
**PowerPoint lecture on the sheep**  
**industry**  
**Students will:**  
• complete the matching game of  
**sheep body parts**  
• design their own ideal sheep  
**operation on a given budget** |
| **Enterprises**  
• Select a sheep enterprise based on available resources | **Teacher created written evaluation**  
**Operation - assessed using a teacher created scoring guide** | |
| **Animal Health**  
• Identify problems associated with sheep flock health | | |
| **Facilities and Equipment**  
• Identify facility needs for sheep | | |
| **Animal Feeding**  
Performance: 1.2, 1.10  
Knowledge: (SC) 3  
SCCLE: SC3.1.A (Biology I)  
NETS: 2a,b  
DOK: 1,4 | | |