

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

A. SCIENCE CONNECTIONS	Agricultural Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
A.12.1 Apply the underlying themes of science to develop defensible visions of the future	B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.3 Explain the impact of climate change on existing agricultural systems E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment	<ol style="list-style-type: none"> <li><b>1 Identify the major areas of biotechnology in animal science.</b></li> <li><b>2 Explain various molecular biotechnology methods.</b></li> <li><b>3 Discuss applications of molecular biotechnology.</b></li> <li><b>4 Identify the major areas of biotechnology in animal science.</b></li> <li><b>5 Discuss applications of organismic biotechnology.</b></li> <li><b>6 Briefly describe biotechnology and its use throughout history.</b></li> <li><b>7 Describe the capabilities of biotechnology today.</b></li> <li><b>8 Distinguish between the two main areas of biotechnology.</b></li> </ol>
A.12.2 Show how conflicting assumptions about science themes lead to different opinions and decisions about evolution, health, population, longevity, education, and use of resources, and show how these opinions and decisions have diverse effects on an individual, a community, and a country, both now and in the future	D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries D.12.4 Explore traditional and nontraditional food, fiber, and ornamental horticultural jobs/careers and identify the necessary skills, aptitudes, and abilities E.12.2 Analyze benefits, costs, and consequences of land use E.12.3 Explain the impact of climate change on existing agricultural systems E.12.6 Analyze benefits, costs, and consequences of	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<p>A.12.3 Give examples that show how partial systems, models, and explanations are used to give quick and reasonable solutions that are accurate enough for basic needs</p>	<p style="text-align: center;">processing food and fiber on the environment</p> <p>A.12.2 Understand the variety, complexity, and size of the agricultural industry in the world          B.12.1 Apply knowledge of technology to identify and solve problems          D.12.1 Describe the global utilization of Wisconsin’s food, fiber, and ornamental plant products</p>	<p><b>1 Explain how the science of agriculture helped develop civilization.          2 Identify and define the various areas of science and agriscience.          3 Discuss advancements made through agriscience.</b></p>
<p>A.12.4 Construct arguments that show how conflicting models and explanations of events can start with similar evidence</p>	<p>E.12.3 Explain the impact of climate change on existing agricultural systems          E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber          E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	<p><b>1 Explain how the science of agriculture helped develop civilization.          2 Identify and define the various areas of science and agriscience.          3 Discuss advancements made through agriscience.          Lesson:</b></p>
<p>A.12.5 Show how the ideas and themes of science can be used to make real-life decisions about careers, work places, life-styles, and use of resources</p>	<p>B.12.5 Explore various career opportunities in the food, fiber, and natural resources industries using available forms of technology          D.12.4 Explore traditional and nontraditional food, fiber, and ornamental horticultural jobs/careers and identify the necessary skills, aptitudes, and abilities          F.12.4 Research a career in agricultural business marketing and management</p>	<p><b>1 Define food science.          2 Describe why food science is important and how it improves quality of life.          3 Describe how the study of food science makes people better consumers.          4 Describe food preservation and its benefits.          5 Describe the methods of heating used in food preservation.          6 Explain how heating levels used in</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<b>food preservation destroy microorganisms. 7 Describe the use of refrigeration and freezing in food preservation. 8 Explain other methods of food preservation.</b>
A.12.6 Identify and replace inaccurate personal models and explanations of science-related phenomena using evidence learned or discovered	D.12.5 Describe how biotechnology can enhance food and fiber production E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment	
A.12.7 Re-examine the evidence and reasoning that led to conclusions drawn from investigations, using the science themes	E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity	<b>1 Understand the importance of the scientific method. 2 Explain the steps in conducting research in agriculture. 3 Explain the importance of controlled research.</b>
<b>B. NATURE OF SCIENCE</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
B.12.1 Show how cultures and individuals have contributed to the development of major ideas in the earth and space, life and environmental, and physical sciences	C.12.1 Demonstrate a working knowledge of leadership and leadership styles D.12.1 Describe the global utilization of Wisconsin’s food, fiber, and ornamental plant products D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries D.12.5 Describe how biotechnology can enhance food and fiber production E.12.4 Analyze practices used by farmers to reduce	<b>1 Explain the latest applications of biotechnology in plant, animal, and food science research. 2 Describe the basic processes of genetic engineering. 3 Explain the basic steps of</b>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	<p>erosion and runoff to maintain soil fertility and productivity</p>	<p><b>recombinant DNA technology.</b>  <b>4 Define and describe DNA fingerprinting</b>  <b>5 Explain the steps in basic plant tissue culture.</b>  <b>6 Define food science.</b>  <b>7 Describe why food science is important and how it improves quality of life.</b>  <b>8 Describe how the study of food science makes people better consumers.</b>  <b>9 Describe food preservation and its benefits.</b>  <b>10 Describe the methods of heating used in food preservation.</b>  <b>11 Explain how heating levels used in food preservation destroy microorganisms.</b>  <b>12 Describe the use of refrigeration and freezing in food preservation.</b>  <b>13 Explain other methods of food preservation.</b>  <b>14 Explain how the science of agriculture helped develop civilization.</b>  <b>15 Identify and define the various areas of science and agriscience.</b></p>
--	---	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>16 Discuss advancements made through agriscience.</b></p> <p><b>17 Explain the steps in conducting research in agriculture.</b></p> <p><b>18 Discuss the general safety precautions that should be followed in conducting agricultural research.</b></p> <p><b>19 Identify the major parts of a research report.</b></p> <p><b>20 Explain the general guidelines for preparing a research report.</b></p> <p><b>21 Explain how to properly include tables and figures in a research report.</b></p> <p><b>22 Briefly describe biotechnology and its use throughout history.</b></p> <p><b>23 Describe the capabilities of biotechnology today.</b></p> <p><b>24 Distinguish between the two main areas of biotechnology.</b></p> <p><b>25 Identify and explain terms associated with genetics.</b></p> <p><b>26 Identify the components of DNA and describe its structure.</b></p> <p><b>27 Explain how DNA is replicated when cells divide.</b></p>
--	--	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<p>B.12.2 Identify the cultural conditions that are usually present during great periods of discovery, scientific development, and invention</p>	<p>D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries          D.12.5 Describe how biotechnology can enhance food and fiber production</p>	<p><b>1 Explain the latest applications of biotechnology in plant, animal, and food science research.</b>  <b>2 Describe the basic processes of genetic engineering.</b>  <b>3 Explain the basic steps of recombinant DNA technology.</b>  <b>4 Define and describe DNA fingerprinting</b>  <b>5 Explain the steps in basic plant tissue culture.</b>  <b>6 Briefly describe biotechnology and its use throughout history.</b>  <b>7 Describe the capabilities of biotechnology today.</b>  <b>8 Distinguish between the two main areas of biotechnology.</b>  <b>9 Identify and explain terms associated with genetics.</b>  <b>10 Identify the components of DNA and describe its structure.</b>  <b>11 Explain how DNA is replicated when cells divide.</b></p>
<p>B.12.3 Relate the major themes of science to human progress in understanding science and the world</p>	<p>D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources          E.12.5 Analyze the impact and use of chemicals in the</p>	<p><b>1 Explain the latest applications of biotechnology in plant, animal, and food</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	production and processing of food and fiber	<p><b>science research.</b></p> <p><b>2 Describe the basic processes of genetic engineering.</b></p> <p><b>3 Explain the basic steps of recombinant DNA technology.</b></p> <p><b>4 Define and describe DNA fingerprinting</b></p> <p><b>5 Explain the steps in basic plant tissue culture.</b></p> <p><b>6 Define food science.</b></p> <p><b>7 Describe why food science is important and how it improves quality of life.</b></p> <p><b>8 Describe how the study of food science makes people better consumers.</b></p> <p><b>9 Describe food preservation and its benefits.</b></p> <p><b>10 Describe the methods of heating used in food preservation.</b></p> <p><b>11 Explain how heating levels used in food preservation destroy microorganisms.</b></p> <p><b>12 Describe the use of refrigeration and freezing in food preservation.</b></p> <p><b>13 Explain other methods of food preservation.</b></p>
--	---	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>14 Briefly describe biotechnology and its use throughout history.</b>  <b>15 Describe the capabilities of biotechnology today.</b>  <b>16 Distinguish between the two main areas of biotechnology.</b>  <b>17 Identify and explain terms associated with genetics.</b>  <b>18 Identify the components of DNA and describe its structure.</b>  <b>19 Explain how DNA is replicated when cells divide.</b></p>
<p>B.12.4 Show how basic research and applied research contribute to new discoveries, inventions, and applications</p>	<p>B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology          D.12.5 Describe how biotechnology can enhance food and fiber production          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact          E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber</p>	<p><b>1 Explain the latest applications of biotechnology in plant, animal, and food science research.</b>  <b>2 Describe the basic processes of genetic engineering.</b>  <b>3 Explain the basic steps of recombinant DNA technology.</b>  <b>4 Define and describe DNA fingerprinting</b>  <b>5 Explain the steps in basic plant tissue culture.</b>  <b>6 Define food science.</b>  <b>7 Describe why food science is important and how it improves quality</b></p>

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>of life.</b></p> <p><b>8 Describe how the study of food science makes people better consumers.</b></p> <p><b>9 Describe food preservation and its benefits.</b></p> <p><b>10 Describe the methods of heating used in food preservation.</b></p> <p><b>11 Explain how heating levels used in food preservation destroy microorganisms.</b></p> <p><b>12 Describe the use of refrigeration and freezing in food preservation.</b></p> <p><b>13 Explain other methods of food preservation.</b></p> <p><b>14 Explain how the science of agriculture helped develop civilization.</b></p> <p><b>15 Identify and define the various areas of science and agriscience.</b></p> <p><b>16 Explain the steps in conducting research in agriculture.</b></p> <p><b>17 Discuss the general safety precautions that should be followed in conducting agricultural research.</b></p> <p><b>18 Discuss advancements made through agriscience.</b></p> <p><b>19 Identify the major parts of a research</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>report.</b></p> <p>20 <b>Explain the general guidelines for preparing a research report.</b></p> <p>21 <b>Explain how to properly include tables and figures in a research report.</b></p> <p>22 <b>Explain how the science of agriculture helped develop civilization.</b></p> <p>23 <b>Identify and define the various areas of science and agriscience.</b></p> <p>24 <b>Discuss advancements made through agriscience.</b></p> <p>25 <b>Understand the importance of the scientific method.</b></p> <p>26 <b>Explain the steps in conducting research in agriculture.</b></p> <p>27 <b>Explain the importance of controlled research.</b></p> <p>28 <b>Briefly describe biotechnology and its use throughout history.</b></p> <p>29 <b>Describe the capabilities of biotechnology today.</b></p> <p>30 <b>Distinguish between the two main areas of biotechnology.</b></p> <p>31 <b>Identify and explain terms associated with genetics.</b></p> <p>32 <b>Identify the components of DNA and describe its structure.</b></p>
--	--	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<b>33 Explain how DNA is replicated when cells divide.</b>
B.12.5 Explain how science is based on assumptions about the natural world and themes that describe the natural world	D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries E.12.3 Explain the impact of climate change on existing agricultural systems D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources	<b>1 Explain the latest applications of biotechnology in plant, animal, and food science research. 2 Describe the basic processes of genetic engineering. 3 Explain the basic steps of recombinant DNA technology. 4 Define and describe DNA fingerprinting 5 Explain the steps in basic plant tissue culture. 6 Briefly describe biotechnology and its use throughout history. 7 Describe the capabilities of biotechnology today. 8 Distinguish between the two main areas of biotechnology. 9 Identify and explain terms associated with genetics. 10 Identify the components of DNA and describe its structure. 11 Explain how DNA is replicated when cells divide.</b>
<b>C. SCIENCE INQUIRY</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

Performance Standards	Performance Standards	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
C.12.1 When studying science content, ask questions suggested by current social issues, scientific literature, and observations of phenomena; build hypotheses that might answer some of these questions; design possible investigations; and describe results that might emerge from such investigations	B.12.1 Apply knowledge of technology to identify and solve problems C.12.2 Practice skills relating to communication, problem-solving, and decision-making through individual, group, and team processes	<b>1 Explain how the science of agriculture helped develop civilization.</b> <b>2 Identify and define the various areas of science and agriscience.</b> <b>3 Discuss advancements made through agriscience.</b> <b>4 Understand the importance of the scientific method.</b> <b>5 Explain the steps in conducting research in agriculture.</b> <b>6 Explain the importance of controlled research.</b>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<p>C.12.2 Identify issues from an area of science study, write questions that could be investigated, review previous research on these questions, and design and conduct responsible and safe investigations to help answer the questions</p>	<p>B.12.1 Apply knowledge of technology to identify and solve problems          C.12.2 Practice skills relating to communication, problem-solving, and decision-making through individual, group, and team processes          D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources          E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity          E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber          E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	<ol style="list-style-type: none"> <li>1 Explain the metric system.</li> <li>2 Explain how temperature is measured.</li> <li>3 Explain how linear distance is measured.</li> <li>4 Explain how area is measured.</li> <li>5 Explain how volume is measured.</li> <li>6 Explain how weight is measured.</li> <li>7 Explain how the science of agriculture helped develop civilization.</li> <li>8 Identify and define the various areas of science and agriscience.</li> <li>9 Discuss advancements made through agriscience.</li> <li>10 Understand the importance of the scientific method.</li> <li>11 Explain the steps in conducting research in agriculture.</li> <li>12 Explain the importance of controlled research.</li> <li>13 Explain the meaning of safety.</li> <li>14 List hazards found in ag and science laboratories.</li> <li>15 Identify and properly use personal protection equipment (PPE).</li> <li>16 Describe safety practices with machinery and tools.</li> <li>17 Describe safety in science and ag</li> </ol>
---	---	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
Wisconsin’s Model Academic Standards for Agricultural Education  
BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>laboratories.</b>  <b>18 Explain the importance of tools and equipment in the science and ag labs.</b>  <b>19 Identify common science lab equipment.</b>  <b>20 Identify how to properly use a microscope.</b>  <b>21 Describe important activities in maintaining science lab equipment.</b></p>
<p>C.12.3 Evaluate the data collected during an investigation, critique the data-collection procedures and results, and suggest ways to make any needed improvements</p>	<p>B.12.1 Apply knowledge of technology to identify and solve problems  B.12.3 Use technology to acquire, organize, and communicate information by entering, modifying, retrieving, and storing data  C.12.2 Practice skills relating to communication, problem-solving, and decision-making</p>	<p><b>1 Explain how the science of agriculture helped develop civilization.</b>  <b>2 Identify and define the various areas of science and agriscience.</b>  <b>3 Discuss advancements made through agriscience.</b>  <b>4 Understand the importance of the scientific method.</b>  <b>5 Explain the steps in conducting research in agriculture.</b>  <b>6 Explain the importance of controlled research.</b></p>
<p>C.12.4 During investigations, choose the best data-collection procedures and materials, use them competently, and calculate the degree of precision of the resulting data</p>	<p>B.12.1 Apply knowledge of technology to identify and solve problems  B.12.3 Use technology to acquire, organize, and communicate information by entering, modifying, retrieving, and storing data  C.12.2 Practice skills relating to communication, problem-</p>	<p><b>1 Explain the metric system.</b>  <b>2 Explain how temperature is measured.</b>  <b>3 Explain how linear distance is measured.</b>  <b>4 Explain how area is measured.</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	<p>solving, and decision-making</p>	<p><b>5 Explain how volume is measured.</b>  <b>6 Explain how weight is measured.</b>  <b>7 Explain how the science of agriculture helped develop civilization.</b>  <b>8 Identify and define the various areas of science and agriscience.</b>  <b>9 Discuss advancements made through agriscience.</b>  <b>10 Understand the importance of the scientific method.</b>  <b>11 Explain the steps in conducting research in agriculture.</b>  <b>12 Explain the importance of controlled research.</b>  <b>13 Explain the importance of tools and equipment in the ag and science labs</b>  <b>14 Identify common science lab equipment.</b>  <b>15 Identify how to properly use a microscope.</b>  <b>16 Describe important activities in maintaining science lab equipment.</b></p>
<p>C.12.5 Use the explanations and models found in earth and space, life and environmental, and physical sciences to develop likely explanations for the results of their investigations</p>	<p>B.12.2 Select and communicate information in an appropriate format; e.g., oral, written, graphic, pictorial, multimedia          C.12.2 Practice skills relating to communication, problem-solving, and decision-making</p>	<p><b>1 Explain how the science of agriculture helped develop civilization.</b>  <b>2 Identify and define the various areas of science and agriscience.</b>  <b>3 Discuss advancements made through</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
Wisconsin’s Model Academic Standards for Agricultural Education  
BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<b>agriscience.</b> <b>4 Understand the importance of the scientific method.</b> <b>5 Explain the steps in conducting research in agriculture.</b> <b>6 Explain the importance of controlled research.</b>
C.12.6 Present the results of investigations to groups concerned with the issues, explaining the meaning and implications of the results, and answering questions in terms the audience can understand	B.12.2 Select and communicate information in an appropriate format; e.g., oral, written, graphic, pictorial, multimedia B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology C.12.2 Practice skills relating to communication, problem-solving, and decision-making	<b>1 Identify the major parts of a research report.</b> <b>2 Explain the general guidelines for preparing a research report.</b> <b>3 Explain how to properly include tables and figures in a research report</b>
C.12.7 Evaluate articles and reports in the popular press, in scientific journals, on television, and on the Internet, using criteria related to accuracy, degree of error, sampling, treatment of data, and other standards of experimental design	B.12.1 Apply knowledge of technology to identify and solve problems B.12.2 Select and communicate information in an appropriate format; e.g., oral, written, graphic, pictorial, multimedia C.12.2 Practice skills relating to communication, problem-solving, and decision-making	<b>1 Identify the major parts of a research report.</b> <b>2 Explain the general guidelines for preparing a research report.</b> <b>3 Explain how to properly include tables and figures in a research report</b>
<b>D. PHYSICAL SCIENCE</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
<b>Structures of Atoms and Matter</b>		
D.12.1 Describe atomic structure and the properties of atoms, molecules, and matter during physical and chemical interactions	D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	<p>within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources</p> <p>E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity</p> <p>E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber</p> <p>E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	
D.12.2 Explain the forces that hold the atom together and illustrate how nuclear interactions change the atom	No significant match found	
D.12.3 Explain exchanges of energy in chemical interactions and exchange of mass and energy in atomic/nuclear reactions	<p>E.12.3 Explain the impact of climate change on existing agricultural systems</p> <p>E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber</p> <p>E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	
<b>Chemical Reactions</b>		
D.12.4 Explain how substances, both simple and complex, interact with one another to produce new substances	<p>D.12.5 Describe how biotechnology can enhance food and fiber production</p> <p>D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources</p> <p>E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber</p> <p>E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	
D.12.5 Identify patterns in chemical and physical properties and use them to predict likely chemical and physical changes and interactions	<p>D.12.5 Describe how biotechnology can enhance food and fiber production</p> <p>D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources</p> <p>E.12.5 Analyze the impact and use of chemicals in the</p>	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
Wisconsin’s Model Academic Standards for Agricultural Education  
BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	production and processing of food and fiber	
D.12.6 Through investigations, identify the types of chemical interactions, including endothermic, exothermic, oxidation, photosynthesis, and acid/base reactions	D.12.5 Describe how biotechnology can enhance food and fiber production E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment	
<b>Motions and Forces</b>		
D.12.7 Qualitatively and quantitatively analyze changes in the motion of objects and the forces that act on them and represent analytical data both algebraically and graphically	No significant match found	
D.12.8 Understand the forces of gravitation, the electromagnetic force, and the intermolecular force, and explain their impact on the universal system	No significant match found	
D.12.9 Describe models of light, heat, and sound and through investigations describe similarities and differences in the way these energy forms behave	D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment	
<b>Conservation of Energy and the Increase in Disorder</b>		
D.12.10 Using the science themes, illustrate the law of conservation of energy during chemical and nuclear reactions	No significant match found	
<b>Interactions of Matter and Energy</b>		
D.12.11 Using the science themes, explain common occurrences in the physical world	D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
Wisconsin’s Model Academic Standards for Agricultural Education  
BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	<p>cycles throughout the world D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.3 Explain the impact of climate change on existing agricultural systems E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	
D.12.12 Using the science themes and knowledge of chemical, physical, atomic and nuclear interactions, explain changes in materials, living things, the earth's features, and stars	<p>D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.3 Explain the impact of climate change on existing agricultural systems E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber</p>	
<b>E. EARTH AND SPACE SCIENCE</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will::</i>	
<b>Energy in the Earth System</b>		
E.12.1 Using the science themes, distinguish between internal energies (decay of radioactive isotopes, gravity) and external energies (sun) in the earth's systems and show how these sources of energy have an impact on those systems	<p>D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world. E 12.3 Explain the impact of climate change on existing agricultural systems</p>	
<b>Geochemical Cycles</b>		

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

E.12.2 Analyze the geochemical and physical cycles of the earth and use them to describe movements of matter	D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world E 12.3 Explain the impact of climate change on existing agricultural systems	
<b>The Origin and Evolution of the Earth System</b>		
E.12.3: Using the science themes, describe theories of the origins and evolution of the universe and solar system, including the earth system as a part of the solar system, and relate these theories and their implications to geologic time on earth	E.12.2 Analyze benefits, costs, and consequences of land use E.12.3 Explain the impact of climate change on existing agricultural systems. E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity	
E.12.4 Analyze the benefits, costs, and limitations of past, present, and projected use of resources and technology and explain the consequences to the environment	B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.5 Describe how biotechnology can enhance food and fiber production. D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources. E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact. E.12.2 Analyze benefits, costs, and consequences of land use E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment.	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<b>The Origin and Evolution of the Universe</b>		
E.12.5 Using the science themes, understand that the origin of the universe is not completely understood, but that there are current ideas in science that attempt to explain its origin	No significant match	
<b>F. LIFE AND ENVIRONMENTAL SCIENCE</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
<b>The Cell</b>		
F.12.1 Evaluate the normal structures and the general and special functions of cells in single-celled and multiple-celled organisms	B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.5 Describe how biotechnology can enhance food and fiber production. D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources. E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact.	<b>1 Describe the cell’s role as the structural unit.</b> <b>2 Identify the various components of animal and plant cells and explain their functions.</b> <b>3 Define mitosis and discuss its importance.</b> <b>4 Explain each step of mitosis.</b> <b>5 Define meiosis and explain its importance.</b> <b>6 Explain each step of meiosis</b> <b>7 Discuss the importance of improved organisms to agriculture.</b> <b>8 Identify methods used in agriscience to improve organisms.</b> <b>9 Identify breeding systems used in animal science</b>
F.12.2 Understand how cells differentiate and how cells are regulated	D.12.5 Describe how biotechnology can enhance food and fiber production. E.12.1 Understand the application of agricultural	<b>1 Describe the cell’s role as the structural unit.</b> <b>2 Identify the various components of</b>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	<p>technologies that can sustain production while reducing environmental impact</p>	<p><b>animal and plant cells and explain their functions.</b>  <b>3 Define mitosis and discuss its importance.</b>  <b>4 Explain each step of mitosis.</b>  <b>5 Define meiosis and explain its importance.</b>  <b>6 Explain each step of meiosis</b>  <b>7 Discuss the importance of improved organisms to agriculture.</b>  <b>8 Identify methods used in agriscience to improve organisms.</b>  <b>9 Identify breeding systems used in animal science</b></p>
<p><b>The Molecular Basis of Heredity</b></p>		
<p>F.12.3 Explain current scientific ideas and information about the molecular and genetic basis of heredity</p>	<p>D.12.5 Describe how biotechnology can enhance food and fiber production          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources.          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact</p>	<p><b>1 Describe the cell’s role as the structural unit.</b>  <b>2 Identify the various components of animal and plant cells and explain their functions.</b>  <b>3 Define mitosis and discuss its importance.</b>  <b>4 Explain each step of mitosis.</b>  <b>5 Define meiosis and explain its importance.</b>  <b>6 Explain each step of meiosis</b>  <b>7 Discuss the importance of improved</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>organisms to agriculture.</b>  <b>8 Identify methods used in agriscience to improve organisms.</b>  <b>9 Identify breeding systems used in animal science</b></p>
<p>F.12.4 State the relationships between functions of the cell and functions of the organism as related to genetics and heredity</p>	<p>D.12.5 Describe how biotechnology can enhance food and fiber production.          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources.          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact</p>	<p><b>1 Describe the cell’s role as the structural unit.</b>  <b>2 Identify the various components of animal and plant cells and explain their functions.</b>  <b>3 Define mitosis and discuss its importance.</b>  <b>4 Explain each step of mitosis.</b>  <b>5 Define meiosis and explain its importance.</b>  <b>6 Explain each step of meiosis</b>  <b>7 Discuss the importance of improved organisms to agriculture.</b>  <b>8 Identify methods used in agriscience to improve organisms.</b>  <b>9 Identify breeding systems used in animal science</b>  <b>10 Explain the meaning of an organism and list its characteristics.</b>  <b>11 Define plant and animal.</b>  <b>12 Name and describe the life processes of living organisms.</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>13 List the similarities of plants and animals.</b>  <b>14 List and explain differences in the life processes of plants and animals.</b>  <b>15 Define life span and relate it to living condition.</b>  <b>16 List and explain the stages of life.</b>  <b>17 Classify things based on living condition.</b></p>
<p><b>Biological Evolution</b></p>		
<p>F.12.5 Understand the theory of evolution, natural selection, and biological classification</p>	<p>D.12.5 Describe how biotechnology can enhance food and fiber production.          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources.</p>	<p><b>1 Explain the meaning of an organism and list its characteristics.</b>  <b>2 Define plant and animal.</b>  <b>3 Name and describe the life processes of living organisms.</b>  <b>4 List the similarities of plants and animals.</b>  <b>5 List and explain differences in the life processes of plants and animals.</b>  <b>6 Identify and describe the male reproductive organs in mammals.</b>  <b>7 Identify and describe the female reproductive organs in mammals.</b>  <b>8 Identify and describe the male and female reproductive organs in poultry.</b>  <b>9 Explain the basics of animal reproduction.</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>10 Describe the phases of the estrous cycle.</b>  <b>11 Explain the phases of reproductive development in the life of an animal.</b>  <b>12 List and explain common breeding systems used in livestock production.</b></p>
<p>F.12.6 Using concepts of evolution and heredity, account for changes in species and the diversity of species, including the influence of these changes on science, e.g., breeding of plants or animals</p>	<p>D.12.5 Describe how biotechnology can enhance food and fiber production          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact</p>	<p><b>1 Define life span and relate it to living condition.</b>  <b>2 List and explain the stages of life.</b>  <b>3 Classify things based on living condition.</b>  <b>4 Name the parts of a beef animal.</b>  <b>5 List the common breeds of beef animals.</b>  <b>6 Explain how to select beef animals.</b>  <b>7 Identify types of beef production setups.</b>  <b>8 Describe beef marketing options.</b>  <b>9 Locate major physical characteristics of swine.</b>  <b>10 Describe common swine breeds.</b>  <b>11 Explain selection of superior animals.</b>  <b>12 Contrast various pork production systems and methods of marketing hogs.</b>  <b>13 Discuss terminology associated with</b></p>

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p> <b>sheep and goat production.</b>  <b>14 Describe sheep and goats as organisms and compare them externally.</b>  <b>15 Identify common breeds of sheep and goats.</b>  <b>16 Explain methods of producing sheep and goats.</b>  <b>17 List favorable and unfavorable production factors.</b>  <b>18 Identify equine terminology.</b>  <b>19 Discuss equine marketing options and economic importance.</b>  <b>20 Explain selection of superior animals.</b>  <b>21 List necessary equipment, supplies, and facilities for proper care of equine.</b>  <b>22 Describe characteristics of horse breeds.</b>  <b>23 Understand basic riding and safety concerns.</b>  <b>24 Describe poultry as organisms and identify external parts.</b>  <b>25 Identify poultry terminology.</b>  <b>26 Explain production systems and marketing of poultry.</b>  <b>27 List and describe kinds and breeds</b> </p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>of poultry.</b>  <b>28 Discuss terms used for aquaculture and fish anatomy.</b>  <b>29 Identify major species used in aquaculture.</b>  <b>30 List management and nutrient requirements of aquaculture.</b>  <b>31 Describe freshwater and saltwater aquaculture production systems.</b>  <b>32 Explain harvesting and marketing of aquaculture products.</b>  <b>33 Discuss kinds of birds and their management.</b>  <b>34 Discuss kinds of rodents and their management.</b>  <b>35 Discuss kinds of reptiles and their management.</b>  <b>36 Discuss kinds of other animals and their management</b>  <b>37 Identify and describe the male reproductive organs in mammals.</b>  <b>38 Identify and describe the female reproductive organs in mammals.</b>  <b>39 Identify and describe the male and female reproductive organs in poultry.</b>  <b>40 Explain the basics of animal reproduction.</b></p>
--	--	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p>41 Describe the phases of the estrous cycle.          42 Explain the phases of reproductive development in the life of an animal.          43 List and explain common breeding systems used in livestock production.          44 Explain the importance of understanding genetics.          45 Explain how genotype and phenotype are different.          46 Explain how to estimate the heritability of certain traits.          47 Describe sex determination, linkage, crossover, and mutation.          48 Identify propagation methods of fish          49 Describe how to care for fry          50 Identify strategies for marketing fish          51 Identify factors that affect selling fish</p>
<p><b>The Interdependence of Organisms</b></p>		
<p>F.12.7 Investigate how organisms both cooperate and compete in ecosystems</p>	<p>E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact          E.12.2 Analyze benefits, costs, and consequences of land use          E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	<p>1 Explain the meaning of an organism and list its characteristics.          2 Define plant and animal.          3 Name and describe the life processes of living organisms.          4 List the similarities of plants and animals.          5 List and explain differences in the life</p>

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
Wisconsin's Model Academic Standards for Agricultural Education  
BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<b>processes of plants and animals.</b>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<p>F.12.8 Using the science themes, infer changes in ecosystems prompted by the introduction of new species, environmental conditions, chemicals, and air, water, or earth pollution</p>	<p>D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world          D.12.5 Describe how biotechnology can enhance food and fiber production          D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources.          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact          E.12.2 Analyze benefits, costs, and consequences of land use          E.12.3 Explain the impact of climate change on existing agricultural systems          E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity          E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber          E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	<ol style="list-style-type: none"> <li><b>1 Name the parts of a beef animal.</b></li> <li><b>2 List the common breeds of beef animals.</b></li> <li><b>3 Explain how to select beef animals.</b></li> <li><b>4 Identify types of beef production setups.</b></li> <li><b>5 Describe beef marketing options.</b></li> <li><b>6 Identify major external parts of dairy cattle.</b></li> <li><b>7 Describe major internal parts of dairy cattle.</b></li> <li><b>8 Discuss selection of cattle to encourage herd improvement.</b></li> <li><b>9 Explain dairy marketing options.</b></li> <li><b>10 Explore the seven major breeds of dairy cattle used for milking.</b></li> <li><b>11 Locate major physical characteristics of swine.</b></li> <li><b>12 Describe common swine breeds.</b></li> <li><b>13 Explain selection of superior animals.</b></li> <li><b>14 Contrast various pork production systems and methods of marketing hogs.</b></li> <li><b>15 Discuss terminology associated with sheep and goat production.</b></li> <li><b>16 Describe sheep and goats as</b></li> </ol>
--	--	--

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>organisms and compare them externally.</b></p> <p><b>17 Identify common breeds of sheep and goats.</b></p> <p><b>18 Explain methods of producing sheep and goats.</b></p> <p><b>19 List favorable and unfavorable production factors.</b></p> <p><b>20 Identify equine terminology.</b></p> <p><b>21 Discuss equine marketing options and economic importance.</b></p> <p><b>22 Explain selection of superior animals.</b></p> <p><b>23 List necessary equipment, supplies, and facilities for proper care of equine.</b></p> <p><b>24 Describe characteristics of horse breeds.</b></p> <p><b>25 Understand basic riding and safety concerns.</b></p> <p><b>26 Describe poultry as organisms and identify external parts.</b></p> <p><b>27 Identify poultry terminology.</b></p> <p><b>28 Explain production systems and marketing of poultry.</b></p> <p><b>29 List and describe kinds and breeds of poultry.</b></p> <p><b>30 Discuss terms used for aquaculture</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>and fish anatomy.</b></p> <p><b>31 Identify major species used in aquaculture.</b></p> <p><b>32 List management and nutrient requirements of aquaculture.</b></p> <p><b>33 Describe freshwater and saltwater aquaculture production systems.</b></p> <p><b>34 Explain harvesting and marketing of aquaculture products.</b></p> <p><b>35 Discuss kinds of birds and their management.</b></p> <p><b>36 Discuss kinds of rodents and their management.</b></p> <p><b>37 Discuss kinds of reptiles and their management.</b></p> <p><b>38 Discuss kinds of other animals and their management</b></p> <p><b>39 Describe factors affecting water quality</b></p> <p><b>40 Understand water oxygenation</b></p> <p><b>41 Understand the effects of nitrogen</b></p> <p><b>42 Describe the effects of other common compounds in water</b></p> <p><b>43 Identify signs of disease in fish</b></p> <p><b>44 Describe the types of fish disease</b></p> <p><b>45 Identify methods of preventing and treating fish disease</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<b>Matter, Energy, and Organization in Living Systems</b>		
<p>F.12.9 Using the science themes, investigate energy systems (related to food chains) to show how energy is stored in food (plants and animals) and how energy is released by digestion and metabolism</p>	<p>D.12.1 Describe the global utilization of Wisconsin’s food, fiber, and ornamental plant products            E.12.3 Explain the impact of climate change on existing agricultural systems</p>	<ol style="list-style-type: none"> <li>1 <b>Explain the meaning of an organism and list its characteristics.</b></li> <li>2 <b>Define plant and animal.</b></li> <li>3 <b>Name and describe the life processes of living organisms.</b></li> <li>4 <b>List the similarities of plants and animals.</b></li> <li>5 <b>List and explain differences in the life processes of plants and animals.</b></li> <li>6 <b>Define blood and explain its major components.</b></li> <li>7 <b>Describe the role of blood in living organisms.</b></li> <li>8 <b>Explain how an organism maintains a supply of blood.</b></li> <li>9 <b>Identify the uses of blood analysis in animal production.</b></li> <li>10 <b>Define life span and relate it to living condition.</b></li> <li>11 <b>List and explain the stages of life.</b></li> <li>12 <b>Classify things based on living condition.</b></li> <li>13 <b>Name the parts of a beef animal.</b></li> <li>14 <b>List the common breeds of beef animals.</b></li> <li>15 <b>Explain how to select beef animals.</b></li> </ol>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>16 Identify types of beef production setups.</b></p> <p><b>17 Describe beef marketing options.</b></p> <p><b>18 Identify major external parts of dairy cattle.</b></p> <p><b>19 Describe major internal parts of dairy cattle.</b></p> <p><b>20 Discuss selection of cattle to encourage herd improvement.</b></p> <p><b>21 Explain dairy marketing options.</b></p> <p><b>22 Explore the seven major breeds of dairy cattle used for milking.</b></p> <p><b>23 Locate major physical characteristics of swine.</b></p> <p><b>24 Describe common swine breeds.</b></p> <p><b>25 Explain selection of superior animals.</b></p> <p><b>26 Contrast various pork production systems and methods of marketing hogs.</b></p> <p><b>27 Discuss terminology associated with sheep and goat production.</b></p> <p><b>28 Describe sheep and goats as organisms and compare them externally.</b></p> <p><b>29 Identify common breeds of sheep and goats.</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>30 Explain methods of producing sheep and goats.</b></p> <p><b>31 List favorable and unfavorable production factors.</b></p> <p><b>32 Identify equine terminology.</b></p> <p><b>33 Discuss equine marketing options and economic importance.</b></p> <p><b>34 Explain selection of superior animals.</b></p> <p><b>35 List necessary equipment, supplies, and facilities for proper care of equine.</b></p> <p><b>36 Describe characteristics of horse breeds.</b></p> <p><b>37 Understand basic riding and safety concerns.</b></p> <p><b>38 Describe poultry as organisms and identify external parts.</b></p> <p><b>39 Identify poultry terminology.</b></p> <p><b>40 Explain production systems and marketing of poultry.</b></p> <p><b>41 List and describe kinds and breeds of poultry.</b></p> <p><b>42 Discuss terms used for aquaculture and fish anatomy.</b></p> <p><b>43 Identify major species used in aquaculture.</b></p> <p><b>44 List management and nutrient</b></p>
--	--	---

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p> <b>requirements of aquaculture.</b>  <b>45 Describe freshwater and saltwater aquaculture production systems.</b>  <b>46 Explain harvesting and marketing of aquaculture products.</b>  <b>47 Discuss kinds of birds and their management.</b>  <b>48 Discuss kinds of rodents and their management.</b>  <b>49 Discuss kinds of reptiles and their management.</b>  <b>50 Discuss kinds of other animals and Explain the functions of feed.</b>  <b>51 Identify the various feed types and their characteristics.</b>  <b>52 Explain how animal feeding management</b>  <b>53 Identify the various types of digestive systems found in animals.</b>  <b>54 Describe the functions of the major parts of the digestive systems.</b>  <b>55 Identify the essential nutrients for animal production.</b>  <b>56 Discuss the importance of water as a nutrient.</b>  <b>57 Discuss the importance of carbohydrates as a nutrient.</b> </p>
--	--	--

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>58 Discuss the importance of lipids as a nutrient.</b></p> <p><b>59 Discuss the importance of protein as a nutrient.</b></p> <p><b>60 Discuss the importance of minerals as a nutrient.</b></p> <p><b>61 Discuss the importance of vitamins as a nutrient.</b></p> <p><b>62 Identify the steps in balancing a ration.</b></p> <p><b>63 Discuss the importance of feed analysis.</b></p> <p><b>64 Discuss how nutritional information is used in developing rations.</b></p> <p><b>65 Develop balanced rations using the Pearson Square method.</b></p> <p><b>66 Describe the role of proteins in fish nutrition</b></p> <p><b>67 Describe the role of fats in fish nutrition</b></p> <p><b>68 Describe the role of carbohydrates in fish nutrition</b></p> <p><b>69 Describe the role of minerals in fish nutrition</b></p> <p><b>70 Describe the role of vitamins in fish nutrition</b></p> <p><b>71 Describe the fish digestive system</b></p>
--	--	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>72 Describe common methods of feeding fish</b>  <b>73 Understand how to interpret a feed label</b></p>
<p>F.12.10 Understand the impact of energy on organisms in living systems</p>	<p>No significant match found</p>	<p><b>1 Identify the various types of digestive systems found in animals.</b>  <b>2 Describe the functions of the major parts of the digestive systems.</b>  <b>3 Identify the essential nutrients for animal production.</b>  <b>4 Discuss the importance of water as a nutrient.</b>  <b>5 Discuss the importance of carbohydrates as a nutrient.</b>  <b>6 Discuss the importance of lipids as a nutrient.</b>  <b>7 Discuss the importance of protein as a nutrient.</b>  <b>8 Discuss the importance of minerals as a nutrient.</b>  <b>9 Discuss the importance of vitamins as a nutrient.</b>  <b>10 Identify the steps in balancing a ration.</b>  <b>11 Discuss the importance of feed analysis.</b></p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>12 Discuss how nutritional information is used in developing rations.</b>  <b>13 Develop balanced rations using the Pearson Square method.</b>  <b>14 Describe the fish digestive system</b>  <b>15 Describe common methods of feeding fish</b>  <b>16 Understand how to interpret a feed label</b></p>
<p>F.12.11 Investigate how the complexity and organization of organisms accommodates the need for obtaining, transforming, transporting, releasing, and eliminating the matter and energy used to sustain an organism</p>	<p>D.12.1 Describe the global utilization of Wisconsin’s food, fiber, and ornamental plant products          D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world          D.12.5 Describe how biotechnology can enhance food and fiber production.          E.12.3 Explain the impact of climate change on existing agricultural systems</p>	<p><b>1 Explain the meaning of an organism and list its characteristics.</b>  <b>2 Define plant and animal.</b>  <b>3 Name and describe the life processes of living organisms.</b>  <b>4 List the similarities of plants and animals.</b>  <b>5 List and explain differences in the life processes of plants and animals.</b>  <b>7 Define blood and explain its major components.</b>  <b>8 Describe the role of blood in living organisms.</b>  <b>9 Explain how an organism maintains a supply of blood.</b>  <b>10 Identify the uses of blood analysis in animal production.</b></p>

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>11 Define life span and relate it to living condition.</b></p> <p><b>12 List and explain the stages of life.</b></p> <p><b>13 Classify things based on living condition.</b></p> <p><b>14 Name the parts of a beef animal.</b></p> <p><b>15 List the common breeds of beef animals.</b></p> <p><b>16 Explain how to select beef animals.</b></p> <p><b>17 Identify types of beef production setups.</b></p> <p><b>18 Describe beef marketing options.</b></p> <p><b>19 Identify major external parts of dairy cattle.</b></p> <p><b>20 Describe major internal parts of dairy cattle.</b></p> <p><b>21 Discuss selection of cattle to encourage herd improvement.</b></p> <p><b>22 Explain dairy marketing options.</b></p> <p><b>23 Explore the seven major breeds of dairy cattle used for milking.</b></p> <p><b>24 Locate major physical characteristics of swine.</b></p> <p><b>25 Describe common swine breeds.</b></p> <p><b>26 Explain selection of superior animals.</b></p> <p><b>27 Contrast various pork production</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>systems and methods of marketing hogs.</b></p> <p><b>28 Discuss terminology associated with sheep and goat production.</b></p> <p><b>29 Describe sheep and goats as organisms and compare them externally.</b></p> <p><b>30 Identify common breeds of sheep and goats.</b></p> <p><b>31 Explain methods of producing sheep and goats.</b></p> <p><b>32 List favorable and unfavorable production factors.</b></p> <p><b>33 Identify equine terminology.</b></p> <p><b>34 Discuss equine marketing options and economic importance.</b></p> <p><b>35 Explain selection of superior animals.</b></p> <p><b>36 List necessary equipment, supplies, and facilities for proper care of equine.</b></p> <p><b>37 Describe characteristics of horse breeds.</b></p> <p><b>38 Understand basic riding and safety concerns.</b></p> <p><b>39 Describe poultry as organisms and identify external parts.</b></p> <p><b>40 Identify poultry terminology.</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>41 Explain production systems and marketing of poultry.</b></p> <p><b>42 List and describe kinds and breeds of poultry.</b></p> <p><b>43 Discuss terms used for aquaculture and fish anatomy.</b></p> <p><b>44 Discuss kinds of birds and their management.</b></p> <p><b>45 Discuss kinds of rodents and their management.</b></p> <p><b>46 Discuss kinds of reptiles and their management.</b></p> <p><b>47 Discuss kinds of other animals and their management</b></p> <p><b>48 Identify major species used in aquaculture.</b></p> <p><b>49 List management and nutrient requirements of aquaculture.</b></p> <p><b>50 Describe freshwater and saltwater aquaculture production systems.</b></p> <p><b>51 Explain harvesting and marketing of aquaculture products.</b></p> <p><b>52 Explain the functions of feed.</b></p> <p><b>53 Identify the various feed types and their characteristics.</b></p> <p><b>54 Explain how animals are fed.</b></p> <p><b>55 Identify the essential nutrients for</b></p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p><b>animal production.</b>          56 Discuss the importance of water as a nutrient.          57 Discuss the importance of carbohydrates as a nutrient.          58 Discuss the importance of lipids as a nutrient.          59 Discuss the importance of protein as a nutrient.          60 Discuss the importance of minerals as a nutrient.          61 Discuss the importance of vitamins as a nutrient.          62 Identify the steps in balancing a ration.          63 Discuss the importance of feed analysis.          64 Discuss how nutritional information is used in developing rations.          65 Develop balanced rations using the Pearson Square method.</p> <p>66 Describe the role of proteins in fish nutrition          67 Describe the role of fats in fish nutrition          68 Describe the role of carbohydrates in</p>
--	--	---

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<b>fish nutrition</b> 69 Describe the role of minerals in fish nutrition 70 Describe the role of vitamins in fish nutrition
<b>The Behavior of Organisms</b>		
F.12.12 Trace how the sensory and nervous systems of various organisms react to the internal and external environment and transmit survival or learning stimuli to cause changes in behavior or responses	D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world D.12.5 Describe how biotechnology can enhance food and fiber production E.12.3 Explain the impact of climate change on existing agricultural systems	<b>1 Name the parts of a beef animal.</b> <b>2 List the common breeds of beef animals.</b> <b>3 Explain how to select beef animals.</b> <b>4 Identify types of beef production setups.</b> <b>5 Describe beef marketing options.</b> <b>6 Identify major external parts of dairy cattle.</b> <b>7 Describe major internal parts of dairy cattle.</b> <b>8 Discuss selection of cattle to encourage herd improvement.</b> <b>9 Explain dairy marketing options.</b> <b>10 Explore the seven major breeds of dairy cattle used for milking.</b> <b>11 Locate major physical characteristics of swine.</b> <b>12 Describe common swine breeds.</b> <b>13 Explain selection of superior animals.</b>

**Crosswalk Between: Wisconsin's Model Academic Standards for Science and  
 Wisconsin's Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF 'ANIMAL SCIENCE AND AQUACULTURE' CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin's Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p> <b>14 Contrast various pork production systems and methods of marketing hogs.</b>  <b>15 Identify equine terminology.</b>  <b>16 Discuss equine marketing options and economic importance.</b>  <b>17 Explain selection of superior animals.</b>  <b>18 List necessary equipment, supplies, and facilities for proper care of equine.</b>  <b>19 Describe characteristics of horse breeds.</b>  <b>20 Understand basic riding and safety concerns.</b>  <b>21 Describe poultry as organisms and identify external parts.</b>  <b>22 Identify poultry terminology.</b>  <b>23 Explain production systems and marketing of poultry.</b>  <b>24 List and describe kinds and breeds of poultry.</b>  <b>25 Discuss terms used for aquaculture and fish anatomy.</b>  <b>26 Identify major species used in aquaculture.</b>  <b>27 List management and nutrient requirements of aquaculture.</b> </p>
--	--	--

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

		<p>28 Describe freshwater and saltwater aquaculture production systems.          29 Explain harvesting and marketing of aquaculture products.          30 Discuss kinds of birds and their management.          31 Discuss kinds of rodents and their management.          32 Discuss kinds of reptiles and their management.          33 Discuss kinds of other animals and their management          34 Identify the various types of digestive systems found in animals.          35 Describe the functions of the major parts of the digestive systems.</p>
<b>G. SCIENCE APPLICATIONS</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
G.12.1 Identify personal interests in science and technology; account for implications that these interests might have for future education, and options to be considered	D.12.4 Explore traditional and nontraditional food, fiber, and ornamental horticultural jobs/careers and identify the necessary skills, aptitudes, and abilities B.12.5 Explore various career opportunities in the food, fiber, and natural resources industries using available forms of technology B.12.6 Access information identifying the postsecondary education programs, both in and outside of Wisconsin, leading to careers in the food, fiber, and natural F.12.4 Research a career in agricultural business marketing	<p>1 Discuss the degree of progress made in biotechnology research.          2 Identify issues and concerns associated with biotechnology.          3 Discuss the potential beneficial impact biotechnology has on society.          4 Define the term animal industry and explain important areas of the industry.</p>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	and management	<b>5 Describe the uses of animals. 6 Explain animal domestication. 7 List and describe important areas in animal care and production.</b>
G.12.2 Design, build, evaluate, and revise models and explanations related to the earth and space, life and environmental, and physical sciences	D.12.2 Discuss the impact that climate and water have on the food, fiber, and ornamental horticulture production cycles throughout the world E.12.3 Explain the impact of climate change on existing agricultural systems E.12.4 Analyze practices used by farmers to reduce soil erosion and runoff to maintain soil fertility and productivity	
G.12.3 Analyze the costs, benefits, or problems resulting from a scientific or technological innovation, including implications for the individual and the community	A.12.2 Understand the variety, complexity, and size of the agricultural industry in the world A.12.3 Describe how global interdependence benefits the production and distribution of food and fiber B.12.1 Apply knowledge of technology to identify and solve problems B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact E.12.2 Analyze benefits, costs, and consequences of land use E.12.4 Analyze practices used by farmers to reduce	<b>1 Discuss the degree of progress made in biotechnology research. 2 Identify issues and concerns associated with biotechnology. 3 Discuss the potential beneficial impact biotechnology has on society. 4 Explain the process of artificial insemination. 5 Discuss the advantages and disadvantages of artificial insemination. 6 Define the processes of estrous synchronization, embryo transfer, cloning and genetic engineering. 7 Identify the major areas of biotechnology in animal science. 8 Explain various molecular biotechnology methods.</b>

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	erosion and runoff to maintain soil fertility and productivity E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment	<b>9 Discuss applications of molecular biotechnology.</b> <b>10 Identify good animal health management practices.</b> <b>11 Discuss beneficial record keeping programs for dairy.</b> <b>12 Explain common maintenance needs to promote animal health.</b> <b>13 Describe identification methods for various animals.</b>
G.12.4 Show how a major scientific or technological change has had an impact on work, leisure, or the home	B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources	<b>1 Discuss the degree of progress made in biotechnology research.</b> <b>2 Identify issues and concerns associated with biotechnology.</b> <b>3 Discuss the potential beneficial impact biotechnology has on society.</b> <b>4 Identify the major areas of biotechnology in animal science.</b> <b>5 Discuss applications of organismic biotechnology.</b>
G.12.5 Choose a specific problem in our society, identify alternative scientific or technological solutions to that problem and argue its merits	B.12.1 Apply knowledge of technology to identify and solve problems	
<b>H. SCIENCE IN SOCIAL AND PERSONAL PERSPECTIVES</b>	<b>Agricultural Education Standards</b>	<b>Crosswalk of Local School Curriculum</b>
<b>Performance Standards</b>	<b>Performance Standards</b>	
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	
H.12.1 Using the science themes and knowledge of the	A.12.1 Identify how political policies and issues shape and	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

<p>earth and space, life and environmental, and physical sciences, analyze the costs, risks, benefits, and consequences of a proposal concerning resource management in the community and determine the potential impact of the proposal on life in the community and the region</p>	<p>influence food and fiber systems          A.12.3 Describe how global interdependence benefits the production and distribution of food and fiber          D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries cite examples of conflicts between environmentalists and producers of food and fiber          E.12.1 Understand the application of agricultural technologies that can sustain production while reducing environmental impact          E.12.2 Analyze benefits, costs, and consequences of land use          E.12.3 Explain the impact of climate change on existing agricultural systems          E.12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity          E.12.5 Analyze the impact and use of chemicals in the production and processing of food and fiber          E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment</p>	
<p>H.12.2 Evaluate proposed policy recommendations (local, state, and/or national) in science and technology for validity, evidence, reasoning, and implications, both short and long term</p>	<p>A.12.1 Identify how political policies and issues shape and influence food and fiber          Systems          B.12.1 Apply knowledge of technology to identify and solve problems          C.12.2 Practice skills relating to communication, problem-solving, and decision-making through individual, group, and team processes          D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries          E.12.2 Analyze benefits, costs, and consequences of land use</p>	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	F.12.1 Describe how the production, distribution, and marketing of food and fiber is part of a complex economic system	
H.12.3 Show how policy decisions in science depend on many factors, including social values, ethics, beliefs, and time-frames, and considerations of science and technology	A.12.1 Identify how political policies and issues shape and influence food and fiber systems B.12.1 Apply knowledge of technology to identify and solve problems D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries E.12.2 Analyze benefits, costs, and consequences of land use E.12.6 Analyze benefits, costs, and consequences of processing food and fiber on the environment F.12.1 Describe how the production, distribution, and marketing of food and fiber is part of a complex economic system	
H.12.4 Advocate a solution or combination of solutions to a problem in science or technology	B.12.1 Apply knowledge of technology to identify and solve problems D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries D.12.5 Describe how biotechnology can enhance food and fiber production D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources	
H.12.5 Investigate how current plans or proposals concerning resource management, scientific knowledge, or technological development will have an impact on the environment, ecology, and quality of life in a community or region	A.12.1 Identify how political policies and issues shape and influence food and fiber systems A.12.3 Describe how global interdependence benefits the production and distribution of food and fiber B.12.1 Apply knowledge of technology to identify and solve problems D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries	

**Crosswalk Between: Wisconsin’s Model Academic Standards for Science and  
 Wisconsin’s Model Academic Standards for Agricultural Education  
 BADGER HIGH SCHOOL-LAKE GENEVA WISCONSIN  
 CROSSWALK OF ‘ANIMAL SCIENCE AND AQUACULTURE’ CLASS  
 180 DAYS (1 YEAR)**

*Instructions: Please fill out the third column illustrating how the proposed agriculture class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summery of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various agriculture performance standards that have been crosswalked to the science performance standards in the first column.*

	D.12.6 Understand the impact emerging technologies within hydroponics, aquaculture, and biotechnology have on the food and fiber industries and natural resources E.12.2 Analyze benefits, costs, and consequences of land use E 12.4 Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity	
H.12.6 Evaluate data and sources of information when using scientific information to make decisions.	B.12.3 Use technology to acquire, organize, and communicate information by entering, modifying, retrieving, and storing data B.12.4 Access and use information for a class presentation about the impact of new technologies on the products manufactured and produced; e.g., biotechnology D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries	<b>1 Identify the major parts of a research report. 2 Explain the general guidelines for preparing a research report. 3 Explain how to properly include tables and figures in a research report</b>
H.12.7 When making decisions, construct a plan that includes the use of current scientific knowledge and scientific reasoning.	B.12.3 Use technology to acquire, organize, and communicate information by entering, modifying, retrieving, and storing data D.12.3 Understand how public policy affects the food, fiber, and ornamental plant industries	<b>1 Identify the major parts of a research report. 2 Explain the general guidelines for preparing a research report. 3 Explain how to properly include tables and figures in a research report</b>

j:\data\bevshell\ag science activities\agscience crosswalk.doc