

**Course/Class Title**  
**Agriscience**

**Course/Class Description:**

This course will focus on the Microsoft Office programs, including but not limited to Word, Excel, Access, PowerPoint, and Publisher. Students will learn to use and apply the software applications to personal, educational, and business situations. Students will also learn how to use the Windows operating system in this class, along with the history and making of the computer and the internet.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	Benchmark 2.1 Define the major components of the plant industry. Benchmark 2.2 Identify, label and define the function of the external components of plants. Define major components of range science in Nebraska	Research plant use in Nebraska and the United States. Identify various forbs, shrubs, and grasses of Nebraska and area. Onsite identification of plants and range sites	Tests, quizzes, daily homework	Nebraska Range Judging Handbook. Various handouts, worksheets, onsite identification.	MA .12.3.2 b (2) SC12.3.1.c (2) SC12.3.1 (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (1)
Sep.	Benchmark 1.1 Outline the development of the animal industry and the resulting products, services and careers Benchmark 1.4 Evaluate animals for desirable breeding and market characteristics.	Identify basic external parts of production animals	Tests, quizzes, daily homework, FFA contests	Nebraska Range Judging Handbook. Various handouts, worksheets, onsite identification. Judging Livestock Handbook. Various handouts, judging.com website for practice, onsite practice	SC12.3.1.a (1) LA12.1.5.a (2) LA12.1.5.b (2) LA12.1.5.e (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (2)
Oct.	Students will gain a general understanding of FFA	Objective 1: Students will collaboratively create an FFA History timeline and	Tests, quizzes, daily	FFA Student Handbook, National FFA – Online Learning Video's, Robert's Rules of	AE 12.7.4; AE 12.4.3

	<p>History, opportunities, and procedures, as well as a general knowledge about Agricultural Education through various structured activities, such as Creed Speaking, Public Speaking, and Parliamentary Law/procedure</p>	<p>teach the information to their fellow classmates.</p> <p>Objective 2: Students will complete a scavenger hunt about FFA facts and role-play the 10 essentials of a successful chapter.</p> <p>Objective 3: Students will create radio advertisements about opportunities in FFA and identify some opportunities they may be interested in.</p>	<p>homework, FFA contests</p>	<p>Order.</p>	
Nov.	<p>Students will gain a general understanding of FFA History, opportunities, and procedures, as well as a general knowledge about Agricultural Education through various structured activities, such as Creed Speaking, Public Speaking, and Parliamentary Law/procedure</p>	<p>Identify major components of Parliamentary procedure: Motions, Rules, Laws, By-laws. Be able to demonstrate all motions, obeying all rules from Robert's Rules of Order.</p>	<p>Tests, quizzes, daily homework</p>	<p>FFA Student Handbook, National FFA – Online Learning Video's, Robert's Rules of Order.</p>	<p>LA12.1.5.a (2) LA12.1.5.b (2) LA12.1.5.e (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (2)</p>
Dec.	<p>Students will gain a general understanding of FFA History, opportunities, and procedures, as well as a general knowledge about Agricultural Education through various structured activities, such as Creed Speaking, Public Speaking, and Parliamentary Law/procedure</p>	<p>Identify major components of Parliamentary procedure: Motions, Rules, Laws, By-laws. Be able to demonstrate all motions, obeying all rules from Robert's Rules of Order</p>	<p>Tests, quizzes, daily homework. FFA contests</p>	<p>FFA Student Handbook, National FFA – Online Learning Video's, Robert's Rules of Order.</p>	<p>LA12.1.5.a (2) LA12.1.5.b (2) LA12.1.5.e (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (2)</p>
Jan.	<p>Benchmark 4.1 Define major components in the</p>	<p>Define agribusiness terminology.</p>	<p>Tests, quizzes, daily</p>	<p>Agriscience Fundamentals and Applications 2<sup>nd</sup> Addition – Text and Lab workbook.</p>	<p>SC12.3.2c (2) SC12.3.2.d (2)</p>

	<p>agribusiness industry Benchmark 4.2 Maintain production and agribusiness records Benchmark 5.1 Define biotechnology and explore the historical impact it has had on agriculture. Benchmark 5.2 Investigate current and future application of biotechnology in agriculture.</p>	<p>Identify careers and skills associated with the agribusiness industry. Review the history and predict the future of the agribusiness industry. Develop a record keeping strategy. Describe the importance of an inventory and balance sheet in the record keeping process. Develop a resume and cover letter.</p>	<p>homework</p>		
Feb.	<p>Benchmark 3.1 Identify the physical qualities of the soil that determine use for environmental service system. Benchmark 3.2 Describe biotic and abiotic factors in various habitats. Benchmark 3.3 Describe the importance of water conservation</p>	<p>Identify types of habitats. Identify the components of a habitat Draw the water cycle. Identify methods of conserving water. List potential pollutants of water. Discuss the effects of historical legislation on water conservation</p>	<p>Tests, quizzes, daily homework, FFA contests</p>	<p>Agriscience Fundamentals and Applications 2<sup>nd</sup> Addition – Text and Lab workbook.</p>	<p>MA .12.3.2 b (2) SC12.3.1.c (2) SC12.3.1 (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (1) SC12.3.2c (2) SC12.3.2.d (2)  LA12.1.5.a (2) LA12.1.5.b (2) LA12.1.5.e (2)</p>
Mar.	<p>Benchmark 2.1 Define the major components of the plant industry. Benchmark 2.4 Differentiate between asexual and sexual propagation techniques. Benchmark 2.5 Conduct tests associated with seed germination</p>	<p>Dissect a plant part. Describe common characteristics for different plant classifications Compare and Contrast the chemical equations for photosynthesis, respiration, and transpiration. Describe conditions that affect photosynthesis, respiration, and</p>	<p>Tests, quizzes, daily homework</p>	<p>Agriscience Fundamentals and Applications 2<sup>nd</sup> Addition – Text and Lab workbook.</p>	<p>MA .12.3.2 b (2) SC12.3.1.c (2) SC12.3.1 (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (1) SC12.3.2c (2) SC12.3.2.d (2)</p>

		<p>transpiration. Dissect and label parts of a seed. Describe function of seed parts</p> <p>Describe advantages and disadvantages of asexual and sexual propagation techniques.</p> <p>Research best methods of propagation for specific plants</p>			
Apr.	<p>Benchmark 1.2 Explain methods of determining animal health and disorders. Benchmark 1.3 Explain the importance of a balanced ration for animals. Benchmark 1.5 Define the major components of the small animal industry.</p>	<p>Demonstrate animal health procedures.</p> <p>Describe symptoms of common animal diseases</p> <p>Classify feedstuffs into the classes of nutrients.</p> <p>Identify proper nutrition for different stages of animal life.</p> <p>Compare nutrient requirements across species. Outline important events in the small animal industry.</p> <p>Explore skills, education requirements, income, and advantages and disadvantages of career in the animals industry.</p> <p>Research classification of small animals.</p>	<p>Tests, quizzes, daily homework, FFA contests</p>	<p>Agriscience Fundamentals and Applications 2<sup>nd</sup> Addition – Text and Lab workbook.</p>	<p>SC12.3.2c (2) SC12.3.2.d (2) LA12.1.6.d (2) LA12.1.6.e (2) LA12.4.1.a (1)</p>

May	<p>Benchmark 6.1 Identify safe laboratory practices and procedures</p> <p>Benchmark 6.2 Select and operate proper tools and equipment related to agricultural processes.</p> <p>Benchmark 6.3 Develop a plan for an agricultural project</p>	<p>Complete a safety test with 100 percent accuracy.</p> <p>Demonstrate proper set-up and clean-up procedures. Identify proper tools and use for the process.</p> <p>Observe and demonstrate proper use of tools and equipment.</p> <p>Measure various materials.</p>	<p>Tests, quizzes, daily homework</p>	<p>Agriscience Fundamentals and Applications</p> <p>2<sup>nd</sup> Addition – Text and Lab workbook.</p>	<p>LA12.1.5.a (2)</p> <p>LA12.1.5.b (2)</p> <p>LA12.1.5.e (2)</p> <p>LA12.1.6.d (2)</p> <p>MA .12.2.5 b (2)</p> <p>MA .12.1.3 a (2)</p> <p>LA12.1.6.d (2)</p> <p>LA12.3.1.a (2)</p> <p>LA12.3.1.b (2)</p>

**Course/Class Title**  
**Plant Science**

**Course/Class Description:**

By taking courses incorporating plant science, the students will have a basic understanding of the uses of and factors needed to efficiently raise plants. The topics covered may include soils, fertilizer, plant growth and reproduction, chemical use, crop management, horticulture, and floriculture.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.			Tests, quizzes, daily homework	Nebraska Range Judging Handbook, various handouts, onsite identification	
Sep.			Tests, quizzes, daily homework, FFA contest	Nebraska Range Judging Handbook, various handouts, onsite identification	
Oct.	Benchmark 3.1 List and describe different agronomic cropping systems Benchmark 3.3 Rationalize cropping systems that will provide the best economic return in a given environment.	Write a research paper addressing a given cropping system. Diagram the differences that exist among cropping systems. Produce a web explaining the relationships among cropping system. Give presentation on where elementary on where food comes from.	Tests, quizzes, daily homework, presentations	Introduction to Plant Science-Text Book	LA.12.2.1.b LA.12.3.1.a SC.12.3.3.c
Nov.	Benchmark 4.1 Diagram a typical plant cell and identify plant cell organelles and their functions. Benchmark 4.2	Diagram root, leaf, and stem internal structure. Relate plant disease to the how it negatively affects the function of the cells.	Tests, quizzes, daily homework	Introduction to Plant Science-Text Book icev online videos and learning tutorials	SC.12.3.1.c

Dec.	<p>Apply the knowledge of cell differentiation and the functions of the major types of cells to plant systems. Benchmark 4.3 Determine where photosynthesis, respiration, translocation, and transpiration occur and how they relate to one another</p>	<p>Differentiate between cells in the cambium and cells in the meristem. Diagram the carbon, water, and oxygen cycles as they relate to plants. Explain why these processes are important to plant growth.</p>	Tests, quizzes, daily homework	Introduction to Plant Science-Text Book, icev online videos and learning tutorials	SC.12.3.2.a SC.12.3.2.d
	<p>Benchmark 5.1 Identify two methods of genetic improvement in crops. Benchmark 5.2 Outline the genetic engineering process.</p>	<p>Create a presentation on a genetic improvement in a specific crop. List characteristics that breeders selected for when plants were first domesticated.</p>			

Course/Class Title  
**Power, Structural and Technical System Foundations**

Course/Class Description:

By taking courses in various aspects of agricultural mechanics, students will learn welding skills and safety, carpentry and construction techniques and safety, electrical concepts and safety and electrical wiring, tool use and safety, and agricultural power concepts including engine operation.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	<b>Benchmark 1.1</b> Demonstrate methods to correct common design and construction hazards. <b>Benchmark 1.2</b> Identify types and sources of workplace hazards common to design and construction situations. <b>Benchmark 1.4</b> Demonstrate safe operation of tools and equipment <b>Benchmark 2.1</b> Estimate resources materials required for a specific project or problem	Demonstrate safe procedures in the shop around all equipment and tools. Operation of all tools in the shop using correct technique and safety procedures.	Follow the agricultural education program Project Scoring rubric shop procedure points	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
Sep.	<b>Benchmark 1.1</b> Demonstrate methods to correct common design and construction	Start with a plan of design and attach to rubric and design Complete a bill of sale to	Follow the agricultural education program	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a



	<p>hazards. Benchmark 2.1 Estimate resources materials required for a specific project or problem</p>	<p>be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction</p>	<p>Project Scoring rubric shop procedure points</p>		<p>MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f</p>
Oct.	<p>Benchmark 1.1 Demonstrate methods to correct common design and construction hazards. Benchmark 2.1 Estimate resources materials required for a specific project or problem</p>	<p>Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction</p>	<p>Follow the agricultural education program Project Scoring rubric shop procedure points</p>	<p>icev online videos and learning tutorials, agednet.com learning lessons with worksheets</p>	<p>LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f</p>
Nov.	<p>Benchmark 1.1 Demonstrate methods to correct common design and construction hazards. Benchmark 2.1 Estimate resources materials required for a specific project or problem</p>	<p>Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction</p>	<p>Follow the agricultural education program Project Scoring rubric shop procedure points</p>	<p>icev online videos and learning tutorials, agednet.com learning lessons with worksheets</p>	<p>LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f</p>
Dec.	<p>Benchmark 2.1 Estimate resources materials required for a specific project or problem</p>	<p>Start with a plan of design and attach to rubric and design</p>	<p>Follow the agricultural education program</p>	<p>icev online videos and learning tutorials, agednet.com learning lessons with worksheets</p>	<p>LA.12.3.2 LA.12.1.6.k LA.12.1.5.a</p>

	project or problem	Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	program Project Scoring rubric shop procedure points		MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
Jan.	Benchmark 2.1 Estimate resources materials required for a specific project or problem	Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	Follow the agricultural education program Project Scoring rubric shop procedure points	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a  MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
Feb.	Benchmark 2.1 Estimate resources materials required for a specific project or problem	Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	Follow the agricultural education program Project Scoring rubric, FFA contest shop procedure points	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
Mar.	Benchmark 2.1 Estimate resources materials	Start with a plan of design and attach to	Follow the agricultural	icev online videos and learning tutorials, agednet.com learning lessons with	MA.12.1.4.a MA.12.2.5.a

	required for a specific project or problem	rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	education program Project Scoring rubric shop procedure points	worksheets	MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
Apr.	Benchmark 1.1 Demonstrate methods to correct common design and construction hazards. Benchmark 2.1 Estimate resources materials required for a specific project or problem	Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	Follow the agricultural education program Project Scoring rubric FFA contest shop procedure points	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f
May	Benchmark 2.1 Estimate resources materials required for a specific project or problem	Start with a plan of design and attach to rubric and design Complete a bill of sale to be accurate and attach to rubric, Requisition and order materials Accurate measuring and cutting of materials. Use creative designs and construction	Follow the agricultural education program Project Scoring rubric shop procedure points	icev online videos and learning tutorials, agednet.com learning lessons with worksheets	LA.12.3.2 LA.12.1.6.k LA.12.1.5.a MA.12.1.4.a MA.12.2.5.a MA.12.2.5.b MA.12.2.5.c MA.12.2.5.d MA.12.2.5.e MA.12.2.5.f

**Course/Class Title**

**Animal biology (science) (1 semester)**

**Course/Class Description:**

By taking courses incorporating animal biology, the students will have a basic understanding of animal agriculture. The topics covered may include the physiology, nutrition, selection, breeding and reproduction, and management of the common animals used in agriculture. Small or companion animals may also be covered.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.					
Sep.					
Oct.					
Nov.					
Dec.					
Jan.	Benchmark 1. The student will explain the history and development of the bovine in the U.S. Benchmark 1.2 The Student will identify major beef consumption in the world and U.S and identify major importers and exporters of meat.	Student reports, power points, current even articles, compare/contrast reports & graphs. Group discussion, timelines	Test, quizzes, daily homework	Northeast CC – Text: Cow Calf Production/Management: Student's get copies of the chapters covered. Beef State video. Livestock Production Text Book. Drover's magazine, various articles. Research papers, current event reports.	LA.12.3.2 LA.12.1.6.k SC.12.3.2.d
Feb.	Benchmark 2.1 The student will identify anatomical components of the male and female reproductive systems of animals. Benchmark 2.2 The student will identify the endocrine system and explain functions as affected by	Student reports, power points, current even articles, compare/contrast reports & graphs. Group discussion, Participation in FFA CDE Create a reproduction calendar and plan for a specific breeding scenario. Visit a	Tests, quizzes, daily homework, FFA contest	Northeast CC – Text: Cow Calf Production/Management: Student's get copies of the chapters covered. Beef State video. Livestock Production Text Book. Drover's magazine, various articles. Research papers, current event reports.	LA.12.1.5.a LA.12.2.1.b LA.12.3.1.a

	endocrine components.	facility to observe the various reproductive management practices.	Tests, quizzes, daily homework, FFA contest		
Mar.	Benchmark 2.3 The student will explain the biology of estrous synchronization, superovulation, embryo flushing, embryo transfer, and other reproductive management practices. Benchmark 2.4 The student will explain the biology of reproductive management in various species. Benchmark 2.5 The student will explain the biology of gestation in various species.	Student reports, power points, current even articles, compare/contrast reports & graphs. Group discussion, labs	Tests, quizzes, daily homework, FFA contest	Northeast CC – Text: Cow Calf Production/Management: Student's get copies of the chapters covered. Beef State video. Livestock Production Text Book. Drovers's magazine, various articles. Research papers, current event reports.	LA.12.2.1.b LA.12.3.1.a SC.12.1.2.b SC.12.1.1.g
Apr.	Benchmark 3.1 Compare and contrast the digestive systems of various species. Benchmark 3.2 Estimate the nutritional requirements for different animal life processes (e.g. maintenance and homeostasis, growth, reproduction, lactation). Benchmark 4.1 Recognize and determine the living and non-living factors affecting of the animals susceptibility to disease.	Student reports, power points, current even articles, compare/contrast reports & graphs. Group discussion, Participation in FFA CDE, labs,	Tests, quizzes, daily homework, FFA contest	Northeast CC – Text: Cow Calf Production/Management: Student's get copies of the chapters covered. Beef State video. Livestock Production Text Book. Drovers's magazine, various articles. Research papers, current event reports.	SC.12.1.1.g
May	Benchmark 5.1 Describe the growth of specific cells relative to maturity of the animal Benchmark 5.2 Explain the impact of growth implants, supplements, and growth enhancers affect cell biology	Student reports, power points, current even articles, compare/contrast reports & graphs. Group discussion, group final project, feed store tour	Tests, quizzes, daily homework,	Northeast CC – Text: Cow Calf Production/Management: Student's get copies of the chapters covered. Beef State video. Livestock Production Text Book. Drovers's magazine, various articles. Research papers, current event reports.	LA.12.2.1.b LA.12.3.1.a SC.12.3.1.c

**Course/Class Title**  
**Metals Fabrication**

**Course/Class Description:**

This is a beginning level course that introduces the student to basic knowledge and skills that are foundational to metals fabrication. Safety, measuring, planning and production processes will be covered.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	<p>Benchmark 1.1. Understand the main hazards that are possible in the shop setting</p> <p>Benchmark 1.2. Observe proper dress and use of personal protective equipment. Benchmark 1.4. The student will demonstrate proper machine and tool safety and operation.</p>	<p>Identify the types of risks of injury/illness in the lab. Identify and describe how common hazards in the lab. Interpret safety signs and symbols. Identify methods of disposing of hazardous materials. Demonstrate principals of safe physical movement to avoid slips, trips, and spills. Learn the correct way to lift and move materials. Proper handling of cylinders in a welding shop. Make sure work area is clean and free of obstructions. Identify procedures necessary for maintaining a safe work area. Follow good housekeeping procedures.</p>	Homework, quizzes, tests	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations icev online videos and learning tutorials	LA.12.3.2 LA.12.1.6.k

Sep.	Benchmark 3.3 The students will be able to identify and understand materials used in the manufacturing process. Benchmark 4.1. The student will demonstrate how materials can be processed using tools and machines. Demonstrate welding with the following processes: Arc: bead, lapweld, t-weld	Identify and explain the selection of materials. Identify and explain the composition and classification of materials. Identify and explain the physical characteristics and mechanical properties of materials. Identify and explain forms and shapes of structural materials.	Homework, quizzes, tests	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations icev online videos and learning tutorials	LA.12.1.5.a SC.12.1.3.b LA.12.3.2 LA.12.1.6.k MA .12.1.4 a
Oct.	Demonstrate welding with the following processes: Arc: bead, lapweld, t-weld, lap	Arc welding	Complete weld with 90% or higher, shop safety & maintenance procedures	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations	MA .12.1.4 a
Nov.	Demonstrate welding with the following processes: Arc: bead, lapweld, t-weld, lap weld	Arc welding	Complete weld with 90% or higher, shop safety & maintenance procedures	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations	MA .12.1.4 a
Dec.	Demonstrate welding with the following processes: Arc: bead, lapweld, t-weld, lap, butt	Arc welding	Complete weld with 90% or higher, shop safety & maintenance procedures	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations	MA .12.1.4 a
Jan.	Benchmark 4.3. The student will properly finish a selected project	Arc welding, measuring, cutting	Complete project, shop safety &	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations	LA.12.1.5.a SC.12.1.3.b

Feb.	Benchmark 4.3. The student will properly finish a selected project. Demonstrate welding with the following processes: O-A,	Arc welding, measuring, cutting. O/A set up and tear down. Student demonstrations. FFA contests	Complete project, shop safety & maintenance procedures, FFA contests	Welding Principals and Practices, 6 <sup>th</sup> Edition, welding safety videos, teacher demonstrations, student demonstrations	LA.12.1.5.a SC.12.1.3.b
Mar.	Benchmark 4.3. The student will properly finish a selected project	Arc, MIG, or O/A welding, measuring, cutting. Student demonstrations. FFA contests	Complete project, shop safety & maintenance procedures	Welding Principals and Practices, 6 <sup>th</sup> Edition,	MA . 12.1.4 a
Apr.	Benchmark 4.3. The student will properly finish a selected project	Arc, MIG, or O/A welding, measuring, cutting. Student demonstrations.	Complete project, shop safety & maintenance procedures, FFA Contests	Welding Principals and Practices, 6 <sup>th</sup> Edition,	MA . 12.1.4 a
May	Benchmark 4.3. The student will properly finish a selected project	Arc, MIG, or O/A welding, measuring, cutting. Student demonstrations.	Complete project, shop safety & maintenance procedures	Welding Principals and Practices, 6 <sup>th</sup> Edition,	MA . 12.1.4 a



### Floriculture (2013-2014)

**Course/Class Description:**

This course will provide students with the necessary background to become employed or continue education in the floral industry. In addition, this class will help students develop skills in the design and construction of floral arrangements, along with providing background knowledge of the industry.

Month	NE State Standard/Benchmark	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	Benchmark 1.1 Explain the evolution of floriculture throughout history. Benchmark 1.2 Identify the three levels of the floriculture industry and how they are unique. Benchmark 2.1 Identify male and female parts of the flower and their function. Benchmark 2.2 Recognize the inflorescence types of flowers	Create a timeline for the last 200 years of floral trends. Describe how history has influenced today's floriculture. Dissect several flowers and label all parts. Identify the inflorescence types of flower based on pictures or a live specimen	Tests, quizzes, daily homework		
Sep.	Benchmark 2.3 Distinguish the roles of plant processes as they relate to cut plant materials. Benchmark 3.1 Construct a design using proper methods and tools of floral mechanics. Benchmark 3.2 Identify common wire and ribbon sizes.	Process cut materials for proper storage. Design a procedure for processing plant materials. Recognize the qualities of a good specimen. Demonstrate correct wiring and taping methods. Recite the three functions of a preservative. Size	Tests, quizzes, daily homework		

	Benchmark 3.3 Choose the proper container based on material and budget	wire and ribbon for various applications. Construct a bow using the proper size of ribbon for the application Match container types to the proper occasion and season. Explain special considerations unique to container material.			
Oct.	Benchmark 3.4 Identify the common tools used in various methods of floral arranging. Benchmark 4.1 Identify the principles of floral design Benchmark 4.2 Evaluate an arrangement based on design principles.	Construct a poster of common tools used in the floral industry. Demonstrate correct and safe use of floral tools. Relate the importance of floral design principles: color, design, line, texture, balance, etc. Explain how visual satisfaction is important to the customer. Critique a completed design on the main qualities. Collect pictures of designs and explain their design style.	Tests, quizzes, daily homework		
Nov.	Benchmark 4.3 Establish the reasoning for the rules of floral design Benchmark 4.4 Analyze current trends that exist in the floral industry.	Judge a completed design for adherence to established rules of design. Explain how the style and size of design is related to customer cost. Recommend design changes based on popular current trends. Construct a design for a specific current occasion.	Tests, quizzes, daily homework		
Dec.	Benchmark 5.1 Identify the major plants used in today's floriculture industry by common and	Recognize by sight, the main plants used in today's industry. Construct a taxonomic chart of ten plant species.	Tests, quizzes, daily homework		

	<p>scientific names.  <b>Benchmark 5.2</b>  Categorize major plants based on their use in floriculture Benchmark 5.3 Select plants for design construction.</p>	<p>Group given plants into their use category: cut flower, cut foliage, potted foliage plant, flowering potted plants, and bedding plants.  Explain the care considerations for popular floral products by category Differentiate the uses of plants in a design: line, form, filler, foliage.  Group plants according to their environmental needs and requirements. Have a completed design critiqued by a retail florist  <b>FFA Floriculture career development event</b></p>			
Jan.					
Feb.					
Mar.					
Apr.					
May					

Course/Class Title

Metals and Fabrication (Ag Mechanics I)

Course/Class Description:

By taking courses incorporating natural resources management, the students will gain an understanding of the various natural resources that are important for man's survival. They will also gain an appreciation for the scarcity of certain resources, and what can be done to conserve/protect them.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	<b>Benchmark 1.1.</b> Understand the main hazards that are possible in the shop setting.  <b>Benchmark 1.2.</b> Observe proper dress and use of personal protective equipment.	Identify the types of risks of injury/illness in the lab. Identify and describe how common hazards in the lab.  Explain the role of government agencies in providing a safe workplace.  Identify and describe major sources of information about hazards in the workplace. (e.g., MSDS, work procedures, exposure control plans, training materials, labels, and signage.)  Interpret safety signs and symbols. Wear proper clothing for each particular content area. (e.g., Welding- long sleeves, high-buttoned collar, no baggy clothing,	Safety test passed with a 100%, worksheets, quizzes, online evaluations and games	Welding Principals and Applications, 6 <sup>th</sup> Edition – Student Text, Teacher Lab Manual, Teacher Workbook  iCevonline tutorials, agednet.com	LA.12.3.2 LA.12.1.6.k

		<p>pants long enough to cover top of boots, proper foot protection, welding caps)          Inspect and use personal protective equipment (PPE).          Verify that safety and personal protective equipment is available, performs correctly, and has current certification.</p>			
<p>Sep.</p>	<p>Benchmark 1.3. Demonstrate proper handling and storing of materials. Benchmark 1.4. The student will demonstrate proper machine and tool safety and operation. (welding machines) Benchmark 3.3 The students will be able to identify and understand materials used in the manufacturing process.</p>	<p>Understand proper use of hand tools, power tools and machine equipment. Demonstrate proper orientation and operation of equipment. Demonstrate proper safety procedures with all equipment.</p>	<p>Safety test passed with a 100%, worksheets, quizzes, online evaluations and games and shop procedure points</p>	<p>Welding Principals and Applications, 6<sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook          iCevonline tutorials, agednet.com</p>	<p>LA.12.1.5.a          SC.12.1.3.b          MA .12.1.4 a</p>
<p>Oct.</p>	<p>Arc Welding Processes</p>	<p>Demonstrate how to correctly weld a bead, T-weld, lap weld, butt weld using the correct techniques and pass each with a 94% or better</p>	<p>Passing each weld with a 94% or above, agednet.com worksheets and evaluations shop procedure points</p>	<p>Welding Principals and Applications, 6<sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook</p>	<p>MA .12.1.4 a          LA.12.3.2          LA.12.1.6.k</p>
<p>Nov.</p>	<p>Arc Welding Processes</p>	<p>Demonstrate how to correctly weld a bead, T-</p>	<p>Passing each weld with a</p>	<p>Welding Principals and Applications, 6<sup>th</sup> Addition – Student Text, Teacher Lab</p>	<p>MA .12.1.4 a          LA.12.3.2</p>

		weld, lap weld, butt weld using the correct techniques and pass each with a 94% or better	94% or above, agednet.com worksheets and evaluations shop procedure points	Manual, Teacher Workbook	LA.12.1.6.k
Dec.	Arc /MIGWelding Processes	Demonstrate how to correctly weld a bead, T-weld, lap weld, butt weld using the correct techniques and pass each with a 94% or better	Passing each weld with a 94% or above, agednet.com worksheets and evaluations shop procedure points	Welding Principals and Applications, 6 <sup>th</sup> Edition – Student Text, Teacher Lab Manual, Teacher Workbook	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k
Jan.	Benchmark 2.1 The student will use common measurement systems. Benchmark 2.2 The student will understand mathematical equations and computations. Benchmark 3.1 The students will read and/or produce prints. Benchmark 3.2 The students will understand the scheduling process. Benchmark 3.4 The students will understand estimating materials and cost of materials and products.	Measure accurately. Estimate material needs. Implement geometry calculations.(e.g., area, volume, and mass) Develop sketches of a product. Develop basic, working and detail drawings. Identify line types, lettering, and symbols. Understand scale. Identify and explain lines, material fills, and sections. Identify and explain object views. Identify and explain dimensioning. Interpret elements of the different types of drawings. Develop parts list and bill of materials. Develop cost analysis.	Text book assignments, tests, quizzes agednet.com worksheets and evaluations shop procedure points	Welding Principals and Applications, 6 <sup>th</sup> Edition – Student Text, Teacher Lab Manual, Teacher Workbook iCevonline tutorials, agednet.com	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k

Feb.	Benchmark 4.3. The student will properly finish the selected product (e.g., types of finishing materials, surface preparation, and methods of application).	Identify and explain notes and bill of materials. Figure product cost. Estimate materials needed for products. Select a finishing process for a product appropriate to the job it must perform, environment in which it functions, and its aesthetic appeal.	agednet.com worksheets and evaluations completing projects follow ag ed rubric, shop procedure points	Welding Principals and Applications, 6 <sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k
Mar.	Benchmark 4.3. The student will properly finish the selected product (e.g., types of finishing materials, surface preparation, and methods of application).	Select a finishing process for a product appropriate to the job it must perform, environment in which it functions, and its aesthetic appeal.	agednet.com worksheets and evaluations completing projects follow ag ed rubric, shop procedure points	Welding Principals and Applications, 6 <sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k
Apr.	Benchmark 4.3. The student will properly finish the selected product (e.g., types of finishing materials, surface preparation, and methods of application).	Select a finishing process for a product appropriate to the job it must perform, environment in which it functions, and its aesthetic appeal.	agednet.com worksheets and evaluations completing projects follow ag ed rubric, shop procedure points	Welding Principals and Applications, 6 <sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k
May	Benchmark 4.3. The student will properly finish the selected product (e.g., types of	Select a finishing process for a product appropriate to the job it must perform, environment in which it functions, and its	agednet.com worksheets and evaluations	Welding Principals and Applications, 6 <sup>th</sup> Addition – Student Text, Teacher Lab Manual, Teacher Workbook	MA .12.1.4 a LA.12.3.2 LA.12.1.6.k

	finishing materials, surface preparation, and methods of application).	aesthetic appeal.	completing projects follow agreed rubric, shop procedure points	
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**Course/Class Title**  
**Agribusiness Management**

**Course/Class Description:**

By taking courses incorporating agribusiness management, the students will learn basic business financial record keeping, tax management, financial planning and analysis, business structure and organization, and sales and marketing.

Month	NE State Standard/Benchmark (all standards and "sub-standards"/indicators must be accounted for) Bold all standards assessed on NeSA	Learning Activities	Evaluation Techniques	Resources (Specific textbook chapters, website, videos, activities, novels, etc.)	Ne Academic Standards (non-core areas)
Aug.	<b>Benchmark 1.1 Identify the characteristics of a business. Record Keeping</b>	List potential markets for a good and/or service. Develop a plan to "brand" a good and/or service. Analyze successive years of personal and/or business balance sheets. Document completeness of records. Utilize records to evaluate business/personal efficiency.	Tests, quizzes, daily homework	Farm and Ranch Business Management: An Introduction to Sound Management Practices. Sixth Edition. Icevonline, agednet.com, FFA Record Books	Alignment presumes that students will compare and evaluate conclusions about financial records to determine solvency, and support any inferences made with valid arguments (NE: MA.12.1.3.a, MA.12.4.2.a, MA.12.4.2.b).
Sep.	<b>Benchmark 2.1 Complete records for business and personal incomes and expenses Benchmark 2.2 Analyze solvency of personal and/or business records. Benchmark 4.1 Identify how cultural/society values impact the buying or selling of goods and/or services.</b> <b>Budget analysis</b>	<ul style="list-style-type: none"> <li>Public speaking</li> <li>Planning a budget, developing a cash flow projection,</li> </ul>	Tests, quizzes, daily homework	Farm and Ranch Business Management: An Introduction to Sound Management Practices. Sixth Edition. Icevonline, agednet.com, FFA Record Books	Alignment presumes that students will compare and evaluate conclusions about financial records to determine solvency, and support any inferences made with valid arguments (NE: MA.12.1.3.a, MA.12.4.2.a, MA.12.4.2.b).

Oct.	Benchmark 5.1 Recognize the importance of ethics and personal character in business. Benchmark 5.2 Explore the relationship between personal social skills and business outcomes. Cost and Return Analysis	<ul style="list-style-type: none"> <li>Public speaking</li> <li>Preparing a budget</li> <li>Determining the least cost ration formula</li> <li>Breakeven and risk management analysis</li> </ul>	Tests, quizzes, daily homework	Farm and Ranch Business Management: An Introduction to Sound Management Practices. Sixth Edition. Icevonline, agednet.com, FFA Record Books	Alignment presumes that students will compare and evaluate conclusions about financial records to determine solvency, and support any inferences made with valid arguments (NE: MA.12.1.3.a, MA.12.4.2.a, MA.12.4.2.b).
Nov.	Marketing and investment analysis.	<ul style="list-style-type: none"> <li>Public speaking</li> <li>Determining the concept of utility</li> <li>Understanding the consumers dollar</li> <li>Determining farm support programs</li> </ul>	Tests, quizzes, daily homework	Farm and Ranch Business Management: An Introduction to Sound Management Practices. Sixth Edition. Icevonline, agednet.com, FFA Record Books	Alignment presumes that students will compare and evaluate conclusions about financial records to determine solvency, and support any inferences made with valid arguments (NE: MA.12.1.3.a, MA.12.4.2.a, MA.12.4.2.b).
Dec.	Business organizations	<ul style="list-style-type: none"> <li>Public speaking</li> <li>Define sole proprietorship</li> <li>Summarize business organizations</li> <li>Understanding how cooperatives operate and are set up.</li> </ul>	Tests, quizzes, daily homework	Farm and Ranch Business Management: An Introduction to Sound Management Practices. Sixth Edition. Icevonline, agednet.com, FFA Record Books	Alignment presumes that students will compare and evaluate conclusions about financial records to determine solvency, and support any inferences made with valid arguments (NE: MA.12.1.3.a, MA.12.4.2.a, MA.12.4.2.b).