Middle School Introduction to Ag, Food and Natural Resources

Course Description:
The introductory course for the Agriculture, Food and Natural Resources Career Cluster provides a knowledge base and technical skills in all aspects of the industry. Learners will be exposed to a broad range of agriculture, food and natural resources careers, cluster foundation knowledge and skills, introduction to leadership development, the FFA organization and career exploration. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Course Code: 011012

**Endoresements
to teach:** AFNR

Programs of Study to which this Course applies:
Agribusiness Systems
Agribusiness Systems Plus
Animal Systems
Animal Systems Plus
Environmental Systems
Environmental Systems Plus
Food Products and Processing Systems
Food Products and Processing Systems Plus
Plant Systems
Plant Systems Plus
Power, Structural and Technical Systems
Power, Structural and Technical Systems Plus
Diversified Agriculture Systems
Diversified Agriculture Systems Plus

AFNR.HS.1.1	
Apply AFNR business planning, management, and development principles.	
AFNR.HS.1.1.a	Apply and analyze different types of risk management strategies and structures in AFNR businesses.
AFNR.HS.1.1.c	Differentiate between and explain different business structures.
AFNR.HS.1.3	
Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles.	
AFNR.HS.1.3.b	Develop production plans.
AFNR.HS.1.5	
Use sales and marketing principles to accomplish AFNR business objectives.	
AFNR.HS.1.5.c	Analyze and apply sales principles and skills to accomplish AFNR business objectives.
AFNR.HS.2.1	
Analyze historic and current trends impacting the animal systems industry.	
AFNR.HS.2.1.a	Research the domestication of livestock and how the industries have changed and evolved over the years.
AFNR.HS.2.1.b	Assess and select animal production methods for use in animal systems based upon their effectiveness and impacts.
AFNR.HS.2.1.c	Analyze and apply laws and sustainable practices to animal agriculture from a global perspective.
AFNR.HS.2.6	
Classify, evaluate and select animals based on anatomical and physiological characteristics.	
AFNR.HS.2.6.a	Classify animals according to taxanomic classification systems and use.
AFNR.HS.2.6.b	Apply principles of comparative anatomy and physiology to uses within animal systems.
AFNR.HS.2.6.c	Select and train animals for specific purposes and maximize performance based on anatomy and physiology.
AFNR.HS.2.8	
Analyze environmental factors associated with animal production.	
AFNR.HS.2.8.a	Design and implement methods to reduce the effects of animal production on the environment.

AFNR.HS.2.8.b	Evaluate the effects of environmental conditions on animals and create plans to ensure favorable environments for animals.

AFNR.HS.3.1	
Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.	
AFNR.HS.3.1.c	Identify proper use of tools utilized in measuring soil health.

AFNR.HS.3.2	
Analyze the interrelationships between natural resources and humans.	
AFNR.HS.3.2.a	Summarize the impacts that modern agriculture has had on our natural resources.

AFNR.HS.3.3	
Develop plans to ensure sustainable production and processing of natural resources.	
AFNR.HS.3.3.e	Examine the major causes of water pollution.
AFNR.HS.3.3.h	Describe the soil formation process.
AFNR.HS.3.3.j	Discuss the role of food chains in maintaining balanced ecosystems.
AFNR.HS.3.3.k	Demonstrate how to determine soil types and and how it affects land use.

AFNR.HS.4.5	
Explain the scope of today's food product and food processing industry.	
AFNR.HS.4.5.a	Explore career options available in the food science and food processing industry in the US and worldwide.
AFNR.HS.4.5.b	Discuss current events in food science and the food processing industry in the US and worldwide.

AFNR.HS.5.1	
Develop and implement a crop management plan for a given prodcution goal that accounts for environmental factors.	
AFNR.HS.5.1.a	Select crops based on geography and climate.

AFNR.HS.5.2	
Utilize resources efficiently and sustainably for crop production.	
AFNR.HS.5.2.b	Differentiate between various erosion control methods.
AFNR.HS.5.2.d	Analyze soil properties and chemistry.

AFNR.HS.5.4	
Apply principles of classification, plant anatomy, and plant physiology to plant production and management.	
AFNR.HS.5.4.a	Choose plants for a specific landscape and cropping situations.
AFNR.HS.5.4.d	Explain the process and stages of germination in monocots and dicots.

AFNR.HS.6.1	
Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural and technical systems.	
AFNR.HS.6.1.a	Apply physical science principles to metal fabrication using a variety of welding and cutting processes.
AFNR.HS.6.1.b	Apply physical science and engineering principles to design, implement, and improve safe and efficient mechanical systems in AFNR situations.

AFNR.HS.6.2	
Operate and maintain AFNR mechanical equipment and power systems.	
AFNR.HS.6.2.b	Demonstrate proper safety while operating machinery and power equipment.

AFNR.HS.CR.1	
Describe career opportunities and means to achieve those opportunities in each of the AFNR career pathways.	
AFNR.HS.CR.1.a	Evaluate and implement the steps and requirements to pursue a career opportunity in an AFNR career pathway.
AFNR.HS.CR.1.b	Examine and choose career opportunities that are matched to personal life skills, talents, and career goals in an AFNR pathway of interest.

AFNR.HS.CR.2	
Demonstrate employability skills for college and career readiness.	
AFNR.HS.CR.2.a	Model personal responsibility in the workplace and community.
AFNR.HS.CR.2.b	Speak using strategies that ensure clarity, logic, purpose and professionalism in formal and informal settings.
AFNR.HS.CR.2.g	Contribute to team-oriented projects and builds consensus to accomplish results using cultural global competence in the workplace and community.

AFNR.HS.CR.4	
Identify and demonstrate workplace safety.	
AFNR.HS.CR.4.a	Identify and explain the implication of required regulations to maintain and improve safety, health and environments management systems.
AFNR.HS.CR.4.b	Apply health and safety practices to AFNR workplaces.
AFNR.HS.CR.4.c	Use appropriate protective equipment and demonstrate safe and proper use of AFNR tools and equipment.
AFNR.HS.CR.6	
Identify and demonstrate leadership skills and traits in demand of leadership roles in the agriculture industry.	
AFNR.HS.CR.6.a	Create a self introduction including the name of the student and information about his or her personal values.
AFNR.HS.CR.6.b	Craft SMART goals to achieve by the end of a specific agricultural education course.
AFNR.HS.CR.6.c	Write a career objective.
AFNR.HS.CR.6.e	Generate a personal statement explaining how he or she hopes to serve the people around them in their community and society.