



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

ABS - Agribusiness Systems (ABS)

- | | |
|-----------|--|
| ABS.01.01 | Apply principles of capitalism in the business environment. |
| ABS.01.02 | Apply principles of entrepreneurship in businesses. |
| ABS.02.01 | Compose and analyze a business plan for an enterprise. |
| ABS.02.02 | Read, interpret, evaluate and write a mission statement to guide business goals, objectives and resource allocation. |
| ABS.02.03 | Apply appropriate management skills to organize a business. |
| ABS.02.04 | Recruit, train and retain appropriate and productive human resources for businesses. |
| ABS.03.01 | Prepare and maintain all files needed to accomplish effective record keeping. |
| ABS.03.02 | Implement appropriate inventory management practices. |
| ABS.04.01 | Use accounting fundamentals to accomplish dependable bookkeeping and fiscal management. |
| ABS.05.01 | Maintain and interpret financial information (income statements, balance sheets, inventory, purchase orders, accounts receivable and cash-flow analyses) for businesses. |
| ABS.06.01 | Conduct appropriate market and marketing research. |
| ABS.06.02 | Develop a marketing plan. |
| ABS.06.03 | Develop strategies for marketing plan implementation. |
| ABS.06.04 | Develop specific tactics to market AFNR products and services. |
| ABS.06.05 | Merchandise products and services to achieve specific marketing goals. |
| ABS.07.01 | Prepare a step-by-step production plan that identifies needed resources. |
| ABS.07.02 | Develop a production and operational plan. |
| ABS.07.03 | Utilize appropriate techniques to determine the most likely strengths, weaknesses and inconsistencies in a business plan and relate these to risk management strategies. |
| ABS.07.04 | Manage risk and uncertainty. |



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

AS - Animal Systems (AS)

AS.01.01	Evaluate the development and implications of animal origin, domestication and distribution.
AS.02.01	Classify animals according to hierarchical taxonomy and agricultural use.
AS.02.02	Apply principles of comparative anatomy and physiology to uses within various animal systems.
AS.02.03	Select animals for specific purposes and maximum performance based on anatomy and physiology.
AS.03.01	Prescribe and implement a prevention and treatment program for animal diseases, parasites and other disorders.
AS.03.02	Provide for the biosecurity of agricultural animals and production facilities.
AS.04.01	Formulate feed rations to provide for the nutritional needs of animals.
AS.04.02	Prescribe and administer animal feed additives and growth promotants in animal production.
AS.05.01	Evaluate the male and female reproductive systems in selecting animals.
AS.05.02	Evaluate animals for breeding readiness and soundness.
AS.05.03	Apply scientific principles in the selection and breeding of animals.
AS.06.01	Demonstrate safe animal handling and management techniques.
AS.06.02	Implement procedures to ensure that animal products are safe.
AS.07.01	Design animal housing, equipment and handling facilities for the major systems of animal production.
AS.07.02	Comply with government regulations and safety standards for facilities used in animal production.
AS.08.01	Reduce the effects of animal production on the environment.
AS.08.02	Evaluate the effects of environmental conditions on animals.

BS - Biotechnology Systems (BS)

BS.01.01	Distinguish major innovators, historical developments and potential applications of biotechnology in agriculture.
BS.01.02	Determine regulatory issues and identify agencies associated with biotechnology.
BS.01.03	Analyze the ethical, legal, social and cultural issues relating to biotechnology.
BS.02.01	Maintain and interpret biotechnology laboratory records.
BS.02.02	Operate biotechnology laboratory equipment according to standard procedures.
BS.02.03	Demonstrate proper laboratory procedures using biological materials.
BS.02.04	Safely manage biological materials, chemicals and wastes used in the laboratory.
BS.02.05	Perform microbiology, molecular biology, enzymology and immunology procedures.
BS.03.01	Evaluate the application of genetic engineering to improve products of AFNR systems.
BS.03.02	Perform biotechnology processes used in AFNR systems.
BS.03.03	Use biotechnology to monitor and evaluate procedures performed in AFNR systems.



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

CS - LifeKnowledge® and Cluster Skills

CS.01.01	Action: Exhibit the skills and competencies needed to achieve a desired result.
CS.01.02	Relationships: Build a constituency through listening, coaching, understanding and appreciating others.
CS.01.03	Vision: Establish a clear image of what the future should look like.
CS.01.04	Character: Conduct professional and personal activities based on virtues.
CS.01.05	Awareness: Desire purposeful understanding related to professional and personal activities.
CS.01.06	Continuous Improvement: Pursue learning and growth opportunities related to professional and personal aspirations.
CS.02.01	Physical Growth: Address personal health by understanding, respecting and managing your body's needs.
CS.02.02	Social Growth: Interact with others in a manner that respects the differences of a diverse and changing society.
CS.02.03	Professional Growth: Develop awareness and apply skills necessary for achieving career success.
CS.02.04	Mental Growth: Demonstrate the effective application of reasoning, thinking, and coping skills.
CS.02.05	Emotional Growth: Demonstrate healthy responses to one's feelings.
CS.02.06	Spiritual Growth: Reflect inner strength to allow one to define personal beliefs, values, principles and sense of balance.
CS.03.01	Communication: Demonstrate oral, written and verbal skills.
CS.03.02	Decision Making - Analyze situations and execute an appropriate course of action.
CS.03.03	Flexibility - Adaptability: Describe traits that enable one to be capable and willing to accept change.
CS.04.01	Examine performance and goals to appreciate organizations and industries within AFNR.
CS.05.01	Manage organizational structures and processes to better serve customers.
CS.05.02	Examine the components of the AFNR systems and address their maintenance requirements.
CS.05.03	Research geographical data related to AFNR systems.
CS.06.01	Observe required regulations to maintain-improve safety, health and environmental management systems.
CS.06.02	Develop a plan to maintain and improve health, safety and environmental compliance and performance.
CS.06.03	Provide health, safety, and environmental operating guidelines.
CS.06.04	Examine health risks associated with a particular skill to better develop personnel safety guidelines.
CS.07.01	Apply safety-health practices to AFNR worksites.
CS.07.02	Demonstrate recognized first aid knowledge and procedures to show how they are used by AFNR industries.
CS.07.03	Follow appropriate procedures in case of an emergency.
CS.07.04	Assess workplace safety.
CS.08.01	Evaluate and select the appropriate tool to perform a given task.
CS.08.02	Use appropriate protective equipment and handle AFNR tools and equipment to demonstrate safe and proper use of the tools and equipment.
CS.08.03	Maintain tools for efficient use.
CS.09.01	Apply economic principles to AFNR systems (e.g., supply, demand and profit).



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

CS.09.02	Apply skills with computer software to accomplish a variety of business activities.
CS.09.03	Use technology to demonstrate the ability to network and interface with technology.
CS.10.01	Examine new technologies to project their impact in the global market of AFNR.
CS.10.02	Relate technology advancements to the need for Continuing Education-Career Development.
CS.11.01	Recognize the questions and theory needed to guide scientific investigations.
CS.11.02	Design and conduct a scientific investigation.

ESS - Environmental Service Systems (ESS)

ESS.01.01	Analyze and interpret samples.
ESS.02.01	Interpret laws affecting environmental service systems.
ESS.03.01	Apply meteorology principles to environmental service systems.
ESS.03.02	Apply soil science principles to environmental service systems.
ESS.03.03	Apply hydrology principles to environmental service systems.
ESS.03.04	Apply best management techniques associated with the properties, classifications and functions of wetlands.
ESS.03.05	Apply chemistry principles to environmental service systems.
ESS.03.06	Apply microbiology principles to environmental service systems.
ESS.04.01	Use pollution control measures to maintain a safe facility environment.
ESS.04.02	Manage safe disposal of all categories of solid waste.
ESS.04.03	Apply the principles of public drinking water treatment operations to ensure safe water at a facility.
ESS.04.04	Apply principles of wastewater treatment to manage wastewater disposal in keeping with rules and regulations.
ESS.04.05	Manage hazardous materials to assure a safe facility and to comply with applicable regulations.
ESS.05.01	Compare and contrast the impact of conventional and alternative energy sources on the environment.
ESS.06.01	Use technological and mathematical tools to map land, facilities and infrastructure.
ESS.06.02	Maintain tools, equipment and machinery in safe working order for tasks in environmental service systems.



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

FPP - Food Products and Processing Systems (FPP)

FPP.01.01	Evaluate the significance and implications of changes and trends in the food products and processing industry.
FPP.01.02	Work effectively with industry organizations, groups and regulatory agencies affecting the food products and processing industry.
FPP.02.01	Manage operational procedures and create equipment and facility maintenance plans.
FPP.02.02	Implement Hazard Analysis and Critical Control Point (HACCP) procedures to establish operating parameters.
FPP.02.03	Apply safety and sanitation procedures in the handling, processing and storing of food products.
FPP.02.04	Demonstrate worker safety procedures with food product and processing equipment and facilities.
FPP.03.01	Apply principles of science to food processing to provide a safe, wholesome and nutritious food supply.
FPP.04.01	Utilize harvesting, selection and inspection techniques to obtain quality food products for processing.
FPP.04.02	Evaluate, grade and classify processed food products.
FPP.04.03	Process, preserve, package and present food and food products for sale and distribution.

NRS - Natural Resource Systems (NRS)

NRS.01.01	Apply knowledge of natural resource components to the management of natural resource systems.
NRS.01.02	Classify natural resources.
NRS.02.01	Develop a safety plan for work with natural resources.
NRS.02.02	Demonstrate cartographic skills to aid in developing, implementing and evaluating natural resource management plans.
NRS.02.03	Measure and survey natural resource status to obtain planning data.
NRS.02.04	Demonstrate natural resource enhancement techniques.
NRS.02.05	Interpret laws related to natural resource management and protection.
NRS.02.06	Apply ecological concepts and principles to natural resource systems.
NRS.03.01	Produce, harvest, process and use natural resource products.
NRS.04.01	Manage fires in natural resource systems.
NRS.04.02	Diagnose plant and wildlife diseases and follow protocol to prevent their spread.
NRS.04.03	Manage insect infestations of natural resources.
NRS.05.01	Communicate natural resource information to the public.



FFA Degree/Application Manager

SKILLS, COMPETENCIES, AND KNOWLEDGE
AFNR PERFORMANCE INDICATOR LISTING

PS - Plant Systems (PS)

PS.01.01	Classify agricultural plants according to taxonomy systems.
PS.01.02	Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.
PS.01.03	Apply knowledge of plant physiology and energy conversion to plant systems.
PS.02.01	Determine the influence of environmental factors on plant growth.
PS.02.02	Prepare growing media for use in plant systems.
PS.02.03	Develop and implement a fertilization plan for specific plants or crops.
PS.03.01	Demonstrate plant propagation techniques.
PS.03.02	Develop and implement a plant management plan for crop production.
PS.03.03	Develop and implement a plan for integrated pest management.
PS.03.04	Apply principles and practices of sustainable agriculture to plant production.
PS.03.05	Harvest, handle and store crops.
PS.04.01	Create designs using plants.

PST - Power, Structural and Technical Systems (PST)

PST.01.01	Select energy sources in power generation appropriate to the situation.
PST.01.02	Apply physical science laws and principles to identify, classify and use lubricants.
PST.01.03	Identify and use hand and power tools and equipment for service, construction and fabrication.
PST.02.01	Perform service routines to maintain power units and equipment.
PST.02.02	Operate, service and diagnose the condition of power units and equipment.
PST.03.01	Troubleshoot and repair internal combustion engines.
PST.03.02	Utilize manufacturers' guidelines to service and repair the power transmission systems of equipment.
PST.03.03	Service and repair hydraulic and pneumatic systems.
PST.03.04	Troubleshoot and service electrical systems.
PST.03.05	Service vehicle heating and air-conditioning systems.
PST.03.06	Service and repair steering, suspension, traction and vehicle performance systems.
PST.04.01	Create sketches and plans of agricultural structures.
PST.04.02	Apply structural plans, specifications and building codes.
PST.04.03	Examine structural requirements for materials and procedures and estimate construction cost.
PST.04.04	Follow architectural and mechanical plans to construct and-or repair equipment, buildings and facilities.
PST.05.01	Use instruments and meters to test and monitor electrical and electronic processes.
PST.05.02	Prepare and-or use electrical drawings to design, install and troubleshoot control systems.
PST.05.03	Use geospatial technologies in agricultural applications.