

SAY PROJECT AFNR SAFETY RELATED CAREER CLUSTER CONTENT STANDARDS, INDICATORS & MEASUREMENTS

The following chart identifies the AFNR Career Cluster Content Standards related to agricultural safety and health. Print this document for easy reference when completing your curriculum submission. The Common Career Technical Core Standards are shaded in dark green, Indicators are medium green, and Measurement examples in light green. For a detailed look at the complete National AFNR Career Cluster Content Standards, click on this link: http://www.ffa.org/SiteCollectionDocuments/council_afnr_career_cluster_content_standards.pdf.

| CS-LIFEKNOWLEDGE |
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| CS.03. Examine and summarize the importance of health, safety and environmental management systems in AFNR workplaces. |
| CS.03.01 Identify and explain the implications of required regulations to maintain and improve safety, health and environmental management plans. |
| 1.a: Research and explain the implications of regulatory, safety and health standards on AFNR systems. |
| 2.a: Summarize the importance of safety, health and environmental management in the workplace. |
| 1.b: Execute health, safety and environmental procedures to comply with regulatory and safety standards. |
| 2.b: Analyze existing required regulations within an AFNR workplace. |
| 1.c: Evaluate how AFNR organizations/businesses promote improved health, safety and environmental management and determine steps to maintain compliance with regulatory and safety standards in AFNR situations. |
| 2.c: Construct and implement methods to evaluate compliance with required safety, health and environmental management regulations. |
| CS.03.02 Develop and implement a plan to maintain and improve health, safety and environmental compliance and performance. |
| 1.a: Research and identify components required in health and safety performance plans. |
| 1.b: Analyze the effectiveness of health and safety performance plans of an AFNR workplace. |
| 1.c: Create and implement a plan to improve safety, health and environmental management regulations in an AFNR workplace. |
| CS.03.03 Apply health and safety practices to AFNR workplaces. |
| 1.a: Research and summarize the purposes and objectives of health and safety policies and procedures relevant to AFNR careers. |
| 2.a: Identify emergency response procedures for health and safety issues at AFNR workplaces. |
| 3.a: Examine and categorize examples of how to avoid health or safety risks in AFNR workplaces. |
| 4.a: Examine and categorize the risk level of contamination or injury as associated with AFNR tasks in the workplace. |
| 1.b: Analyze and evaluate the impact of current health and safety practices of AFNR workplaces. |
| 2.b: Assess various emergency response plan requirements for an AFNR workplace and/or facility. |
| 3.b: Assess and apply first aid knowledge and procedures relevant to AFNR workplaces. |
| 4.b: Assess the safety priorities and select appropriate responses for different levels of contamination or injury at an AFNR workplace. |
| 1.c: Create and implement a health and safety policy plan for AFNR workplaces. |
| 2.c: Create and implement a plan to communicate appropriate responses for health and safety situations within an AFNR workplace. |
| 3.c: Conduct a survey and evaluate results of AFNR workplaces to identify structure of health and safety practices and number of employees certified in first aid training. |
| 4.c: Create a plan to mitigate the level of contamination or injury identified as a risk in the workplace. |

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| CS.03.04 Use appropriate protective equipment and demonstrate safe and proper use of AFNR tools and equipment. |
| 1.a: Identify and differentiate the appropriate protective equipment for the safe use and operation of specific tools and equipment (e.g. PPE, etc.) |
| 2.a: Identify standard tools, equipment and safety procedures related to AFNR tasks. |
| 3.a: Read and interpret operating instructions related to operation, storage and maintenance of tools and equipment related AFNR tasks. |
| 1.b: Analyze and demonstrate adherence to protective equipment requirements when using various AFNR tools and equipment. |
| 2.b: Complete the set up and adjustment for tools and equipment related to AFNR tasks. |
| 3.b: Assess and demonstrate appropriate operation, storage and maintenance techniques for AFNR tools and equipment. |
| 1.c: Design and implement plans to ensure the use of appropriate protective equipment when using various AFNR tools and equipment. |
| 2.c: Evaluate and select appropriate tools and equipment to complete AFNR tasks. |
| 3.c: Devise and implement operation, storage and maintenance plans or schedules for AFNR tools and equipment. |

ANIMAL SYSTEMS

AS.02 Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.

AS.02.01 Demonstrate management techniques that ensure animal welfare.

2.a: Research and summarize the challenges involved in working with animals and resources available to overcome them (e.g., tools, technology, equipment, facilities, animal behavior signals, etc.)

2.b: Analyze and document animal welfare procedures used to ensure safety and maintain low stress when moving and restraining animals.

2.c: Devise, implement and evaluate safety procedures and plans for working with animals by species using information based on animal behavior and responses.

ENVIRONMENTAL SERVICE SYSTEMS

ESS.01 Use analytical procedures and instruments to manage environmental service systems.

ESS.01.02 Properly utilizes scientific instruments in environmental monitoring situations (e.g., laboratory equipment, environmental monitoring instruments, etc.)

2.a: Identify basic environmental monitoring instruments and explain their uses.

2.b: Demonstrate the proper use and maintenance of environmental monitoring instruments.

2.c: Calibrate and use environmental monitoring instruments according to standard operating procedures.

ESS.05 Use tools, equipment, machinery and technology common to tasks in environmental service systems.

ESS.05.02 Perform assessments of environmental conditions using equipment, machinery and technology.

3.a: Research and summarize methods and tools used to determine air quality and determine if pollution is present (e.g., CO₂ probe, particulate matter sampler, etc.)

3.b: Assess different measurements of air quality (e.g., ozone, carbon monoxide, particulate matter, etc.) to determine their effectiveness and limitations.

3.c: Perform and evaluation of air quality to determine and assess its impact of human and ecological populations.

| PLANT SYSTEMS |
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| PS.03 Propagate, culture and harvest plants and plant products based on current industry standards. |
| PS.03.03 Develop and implement a plan for integrated pest management for plant production. |
| 1.a: Identify and categorize plant pests, diseases and disorders. |
| 2.a: Diagram the life cycle of major plant pests and diseases. |
| 3.a: Identify and summarize pest control strategies associated with integrated pest management and the importance of determining economic threshold. |
| 4.a: Distinguish between risks and benefits associated with the materials and methods used in plant pest management. |
| 1.b: Identify and analyze major local weeds, insect pests and infectious and noninfectious plant diseases. |
| 2.b: Predict pest and disease problems based on environmental conditions and life cycles. |
| 3.b: Demonstrate pesticide formulations including organic and synthetic active ingredients and selection of pesticide to control specific pests. |
| 4.b: Examine and apply procedures for the safe handling, use and storage of pesticide including personal protective equipment and reentry interval. |
| 1.c: Devise solutions for plant pests, diseases and disorders. |
| 2.c: Design and implement a crop scouting program. |
| 3.c: Employ pest management strategies to manage pest populations, assess the effectiveness of the plan and adjust the plan as needed. |
| 4.c: Evaluate environmental and consumer concerns regarding pest management strategies. |
| PS.03.05 Harvest, handle and store crops according to current industry standards. |
| 1.a: Identify and summarize harvesting methods and equipment. |
| 3.a: Research and summarize how safety is ensured at each stage of the following processes: harvesting, processing and storing. |
| 1.b: Assess the stage of growth to determine crop maturity or marketability and demonstrate proper harvesting techniques. |
| 3.b: Research and analyze practices used to maintain a safe product through harvest, processing, storage and shipment. |
| 4.b: Analyze the proper conditions required to maintain the quality of plants and plant products held in storage and during shipping. |
| 1.c: Analyze the processes used by mechanical harvesting equipment. |
| 4.c: Monitor and evaluate environmental conditions in storage facilities for plants and plant products. |

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| POWER, STRUCTURAL AND TECHNICAL SYSTEMS |
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| PST.02 Operate and maintain AFNR mechanical equipment and power systems. |
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| PST.02.02 Operate machinery and equipment while observing all safety precautions in AFNR settings. |
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| 1.a: Research and summarize the use of equipment, machinery and power units for AFNR power, structural and technical systems. |
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| 1.c: Perform pre-operations inspections, start-up & shut-down procedures on equipment, machinery and power units as specified in owner's manuals. |
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| 2.a: Examine and identify safety hazards associated with equipment, machinery and power units used in AFNR power, structural and technical systems (e.g., caution, warning, danger, etc.). |
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| 2.b: Apply safety principles and applicable regulations to operate equipment, machinery and power units used in AFNR power, structural and technical systems. |
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| 2.c: Adjust equipment, machinery and power units for safe and efficient operation in AFNR power, structural and technical systems. |
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