

# **Appendix J**

## **AGRICULTURE, FOOD AND NATURAL RESOURCES (AFNR) YOUTH APPRENTICESHIP**

### **REQUIRED SKILLS CURRICULUM UNITS 1-2**

## Core Abilities

Competency (Work Tasks)	Performance Standards What employer checks for while doing task. <b>Train YA Student on.</b> YA student will...	Learning Objectives What to know/learn to do this task. <b>Content Suggested</b> for Class/Reading/On-the-Job Training.
<b>1. Apply academic knowledge</b>	<ul style="list-style-type: none"> <li>• Read and comprehend work related materials</li> <li>• Apply mathematical operations involving whole numbers, fractions, decimals, percentages, formulas and methods of measurement accurately when necessary</li> <li>• Interpret charts, tables, and graphs</li> </ul>	<p>MATH</p> <ul style="list-style-type: none"> <li>• Add, subtract, multiply, and divide whole numbers, fractions, decimals and percents</li> <li>• Calculate averages, ratios, proportions, and rates</li> <li>• Convert decimals to fractions, fractions to percents and vice versa</li> <li>• Measure and accurately report measurements of time, temperature, length, width, height, width, perimeter, area, volume, and weight</li> <li>• Use appropriate formulas</li> <li>• Convert measurements correctly (e.g., English (standard) to metric)</li> <li>• Interpret meaning from data</li> </ul> <p>ENGLISH</p> <ul style="list-style-type: none"> <li>• Use standard English to compile information and prepare written reports</li> <li>• Apply English language correctly (spelling, grammar, structure)</li> <li>• Derive meaning from text through summarizing</li> <li>• Discern meaning from written word</li> <li>• Use acceptable language</li> <li>• Write legibly</li> </ul> <p>SCIENCE</p> <ul style="list-style-type: none"> <li>• Explain the key elements of the scientific process</li> <li>• Define the differences in qualitative and quantitative measurements</li> <li>• Compare and contrast subjective and objective information</li> <li>• Discriminate between fact and opinion</li> </ul>
<b>2. Apply career knowledge</b>	<ul style="list-style-type: none"> <li>• Demonstrate understanding of career development in the Agriculture, Food, and Natural Resources industry</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the process for seeking employment</li> <li>• Describe the major functions and duties of the career</li> </ul>

	<ul style="list-style-type: none"> <li>• Obtain necessary skills and knowledge to meet position requirements</li> </ul>	<p>pathways within the agriculture, food, and natural resources career cluster</p> <ul style="list-style-type: none"> <li>• Discuss educational, training, and credentialing requirements for a selected job</li> <li>• Research job requirements and characteristics of a selected job</li> <li>• Contrast "positive" and "less positive" aspects of a selected job</li> <li>• Describe opportunities for advanced training in agriculture, food, and natural resources careers</li> <li>• Describe professional organizations and publications in your career interest industry and how they can help develop leadership skills, personal growth, and career success</li> </ul>
<p><b>3. Apply Agriculture, Food &amp; Natural Resources industry knowledge</b></p>	<ul style="list-style-type: none"> <li>• Demonstrate Agriculture, Food, and Natural Resources systems understanding based on current knowledge and training</li> </ul>	<p>SYSTEMS, PRINCIPLES, CONCEPTS</p> <ul style="list-style-type: none"> <li>• Define agriculture and environment</li> <li>• Describe the various components of the agriculture and the natural resources industry</li> <li>• Explain the importance of the agriculture and natural resources industry in meeting human needs</li> <li>• Identify agricultural and natural resources products</li> <li>• Discuss the role of nutrients and nutrition in plant growth and animal production</li> <li>• Identify classes of natural resources</li> </ul> <p>HISTORY &amp; TRENDS</p> <ul style="list-style-type: none"> <li>• Report on historical evolution of agriculture and natural resource management in the US and globally</li> <li>• Identify significant issues that impact agriculture, food, and natural resources locally and globally</li> </ul> <p>ROLE &amp; IMPACT</p> <ul style="list-style-type: none"> <li>• Understand each segment's role in the food supply continuum</li> <li>• Determine the scope and the economic impact of the agriculture and natural resource industry at the local, state, national, and international levels</li> <li>• Determine the importance of the agriculture and natural resource industry to society at the local, state, national, and international levels</li> <li>• Examine economic, social and technological changes</li> </ul>

		<p>to the agriculture and natural resource industry</p> <ul style="list-style-type: none"> <li>• Explain technological changes and their impact on agriculture and natural resource management</li> <li>• Identify and discuss use of new technologies (such as lasers and robotics) and their impact on agricultural and natural resource systems</li> <li>• Discuss the importance of new communication systems and how they impact systems</li> <li>• Discuss the role of biotechnology in the agriculture and natural resource industry</li> </ul>
<b>4. Communicate effectively</b>	<ul style="list-style-type: none"> <li>• Deliver coherent verbal messages in words that can be understood</li> <li>• Use appropriate and bias-free language</li> <li>• Use appropriate body language</li> <li>• Listen actively to others</li> <li>• Demonstrate courtesy with self-introduction</li> <li>• Respond to inquiries or statements within the scope of current responsibilities and understanding</li> <li>• Does not provide confidential information without appropriate authorization</li> <li>• Does not overreact in response to anger</li> <li>• Record information in a timely manner</li> <li>• Record written information legibly and accurately</li> <li>• Organize and compile messages, technical information, and summaries accurately</li> <li>• Use instant messaging, email, the Internet, printer, copier, scanner, and fax machine equipment appropriately as applicable</li> <li>• Is sensitive to special, multicultural, and/or multilingual needs</li> </ul>	<p>GENERAL</p> <ul style="list-style-type: none"> <li>• Compare verbal and nonverbal behaviors</li> <li>• Explain how empathy and bias can be communicated verbally and non-verbally</li> </ul> <p>LISTEN</p> <ul style="list-style-type: none"> <li>• Discuss effective and active listening skills</li> <li>• Differentiate between hearing and listening</li> </ul> <p>WRITTEN</p> <ul style="list-style-type: none"> <li>• Discern meaning from written instructions</li> <li>• Write clearly to communicate written ideas</li> <li>• Discuss common recording errors and how to avoid them</li> </ul> <p>CUSTOMER</p> <ul style="list-style-type: none"> <li>• Identify internal and external customers at your facility</li> <li>• Discuss steps to assess customer understanding</li> <li>• Describe the steps to follow when dealing with complaints</li> </ul> <p>TOOLS</p> <ul style="list-style-type: none"> <li>• Describe technology used in communicating such as, telephone, texting, instant messaging (IM), computers, fax, intercom, beepers, tube systems, etc.</li> <li>• Explain the proper use and etiquette required for these forms of communication technology</li> <li>• Review the policies and procedures for using written communication tools in your company such as IM, email, Internet, printer, copier, scanner, and/or fax</li> </ul>
<b>5. Act professionally</b>	<ul style="list-style-type: none"> <li>• Follow oral and written instructions</li> <li>• Is pleasant, courteous, and professional with</li> </ul>	<ul style="list-style-type: none"> <li>• Locate and explain written organizational policies, rules and procedures to help employees perform their</li> </ul>

	<ul style="list-style-type: none"> <li>coworkers and internal and external</li> <li>• customers</li> <li>• Appearance and dress are appropriate according to the requirements of the employer</li> <li>• Takes personal responsibility for attendance</li> <li>• Is punctual</li> <li>• Begin work promptly</li> <li>• Organize and prioritize tasks efficiently</li> <li>• Exhibit positive attitude and commitment to task at hand</li> <li>• Complete assigned tasks accurately and in a timely manner</li> <li>• Take responsibility for actions and decisions</li> <li>• Recognize lack of knowledge and seek help from information sources</li> <li>• Evaluate work goals periodically with worksite professional</li> <li>• Accept constructive criticism and applies suggestions</li> <li>• Communicate safety, training, and job-specific needs</li> <li>• Adhere to safety rules and regulations</li> </ul>	<p>jobs</p> <ul style="list-style-type: none"> <li>• Locate and explain your company's employee manual for policies on Appearance, Breaks, Time Off, Cell Phone Use, Weather, Personal Issues, etc.</li> <li>• List qualities of successful Agriculture, Food, and Natural Resources employees</li> <li>• Describe how you can demonstrate enthusiasm and commitment at the worksite</li> <li>• Define initiative</li> <li>• Explain ways that you can show initiative at a worksite</li> <li>• Explain methods to evaluate work assignments and prioritize them</li> <li>• Describe how to effectively receive feedback</li> </ul>
<b>6. Demonstrate customer service skills</b>	<ul style="list-style-type: none"> <li>• Is knowledgeable about products and services</li> <li>• Address the customer, either in person, by telephone, e-mail or other means</li> <li>• Gather information about customer's needs, and customer's knowledge of products or services</li> <li>• Respond to customer's comments and questions</li> <li>• Solicit supervisor or co-worker support and advice when necessary to meet customer needs</li> <li>• Coordinate as needed with other services to expedite delivery of service or product</li> <li>• Handle complaints tactfully without insult or conflict</li> </ul>	<ul style="list-style-type: none"> <li>• Define customer service</li> <li>• Identify internal and external customers at your facility</li> <li>• Describe how customer service affects a company's "bottom line"</li> <li>• Describe standards of service</li> <li>• List strategies for maximizing customer satisfaction</li> <li>• Describe the functions of other departments or units to serve the customer</li> <li>• Describe the steps to follow when dealing with complaints</li> <li>• Identify customer service methods to use when encountering an angry customer</li> <li>• Review material pertaining to products and services produced by your department or company</li> </ul>
<b>7. Cooperate with others in a team setting</b>	<ul style="list-style-type: none"> <li>• Demonstrate respect relating to people</li> <li>• Contribute to a group with ideas, suggestions, and effort</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the functions of each department or unit within the larger organization</li> <li>• Identify roles found in teams such as leader,</li> </ul>

	<ul style="list-style-type: none"> <li>• Listen and respond appropriately to team member contributions</li> <li>• Work collaboratively with people from other backgrounds/cultures</li> <li>• Resolve differences for the benefit of the team</li> <li>• Complete their share of tasks necessary to complete a project</li> </ul>	<p>facilitator, recorder, etc.</p> <ul style="list-style-type: none"> <li>• List effective meeting management skills</li> <li>• Demonstrate techniques that show respect for others</li> <li>• Describe how to effectively give and receive feedback</li> <li>• Describe conflict resolution methods</li> <li>• Discuss ways to participate within a team setting</li> <li>• Explain how to interact appropriately with diverse ethnic, age, cultural, religious, and economic groups in different situations</li> <li>• Describe how work teams coordinate work flow and help manage resources</li> </ul>
<b>8. Think critically</b>	<ul style="list-style-type: none"> <li>• Recognize the existence of a problem</li> <li>• Apply problem-solving steps</li> <li>• Differentiate between fact and opinion</li> <li>• Consider other viewpoints and perspectives</li> <li>• Apply the principles and strategies of organized thinking</li> <li>• Evaluate information, ideas, and problems</li> <li>• Collect information through probing questions and research</li> <li>• Define the problem</li> <li>• Use techniques such as brainstorming to acquire alternative solutions</li> <li>• Demonstrate comparison skills</li> <li>• Make decisions based on analysis</li> <li>• Present ideas for critical evaluation</li> <li>• Support viewpoints with evidence</li> <li>• Respond to problems with the appropriate level of urgency</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how to break a problem down in order to brainstorm, evaluate, and analyze possible solutions</li> <li>• Discuss the difference between fact and opinion</li> <li>• Discuss data collection techniques for the problem solving process</li> <li>• Describe how to present a solution with evidence</li> <li>• Explain ways to reach a decision by consensus</li> <li>• Discuss methods to evaluate a solution that has been implemented</li> </ul>
<b>9. Exhibit regulatory &amp; ethical responsibility</b>	<ul style="list-style-type: none"> <li>• Follow all safety and worksite standards and regulations</li> <li>• Perform legally and ethically by all local, state, and national standards</li> <li>• Use instant messaging, email, the Internet, printer, copier, scanner, and fax machine equipment appropriately and correctly as applicable</li> <li>• Operate within scope of authority adhering to</li> </ul>	<p>GENERAL</p> <ul style="list-style-type: none"> <li>• Explain the role of the government in regulating and managing the agriculture and natural resources industry</li> <li>• Compare national, state and local regulators that oversee agriculture and natural resources industry</li> <li>• Compare the following Federal regulatory agencies and their laws on the agriculture and natural resource</li> </ul>

	<p>company rules, regulations, and policies as established in employee handbook/procedures</p> <ul style="list-style-type: none"> <li>• Comply with legal requirements for documentation</li> <li>• Document work processes as required</li> <li>• Record and file appropriate documents in timely manner</li> <li>• Maintain confidentiality of company, customer, and co-worker information</li> <li>• Document reportable incidents to worksite professional immediately, if applicable</li> <li>• Receive, handle, package, and ship materials and product according to shipping laws and regulations if applicable</li> </ul>	<p>industry: U.S. Department of Agriculture (USDA), the U.S. Department of the Interior (DOI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA)</p> <ul style="list-style-type: none"> <li>• Identify the management structure and employees' roles within your organization</li> <li>• Describe common legal requirements that must be met in agriculture and natural resources facilities</li> <li>• Describe your legal responsibilities, limitations, and implications for action in your job role</li> <li>• Compare and contrast behaviors and practices that could result in liability or negligence</li> <li>• Explain legal issues faced by Agriculture, Food, and Natural Resources (AFNR) professionals</li> <li>• Summarize the rights and responsibilities of AFNR workers</li> <li>• Explain what situations are reportable in AFNR facilities</li> </ul> <p><b>ETHICAL</b></p> <ul style="list-style-type: none"> <li>• Explain the difference between an ethical practice and a legal responsibility</li> <li>• Identify possible ethical issues in agricultural and natural resources settings</li> <li>• Describe ethical work values such as confidentiality, productivity during the day, following safety standards</li> </ul> <p><b>SAFETY</b></p> <ul style="list-style-type: none"> <li>• Define legal and ethical responsibilities for safety procedures</li> <li>• Describe the certification/license requirements to operate specific equipment or perform specific functions</li> </ul> <p><b>SPECIFIC</b></p> <ul style="list-style-type: none"> <li>• Define the Hazard Analysis and Critical Control Points (HACCP) management system</li> <li>• Identify requirements of waste and material transportation</li> <li>• Describe requirements of Resource Conservation and Recovery Act (RCRA)</li> <li>• Explain requirements of Clean Water Act</li> </ul>
--	--	---

		<ul style="list-style-type: none"> <li>• Explain requirements of Safe Drinking Water Act (SDWA)</li> <li>• Explain requirements of Clean Air Act</li> </ul> <b>RECORDS</b> <ul style="list-style-type: none"> <li>• Identify the main functions of documents and documentation</li> <li>• Identify the guidelines for retaining common documents</li> </ul>
<b>10. Use resources wisely</b>	<ul style="list-style-type: none"> <li>• Follow the facility pollution/waste prevention plan</li> <li>• Recycle whenever possible</li> <li>• Dispose of materials appropriately</li> <li>• Dispose of hazards legally and with regard to environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>• Identify current environmental issues affecting the Agriculture, Food, and Natural Resources industry</li> <li>• Define what is meant by making “green” choices</li> <li>• Compare renewable and nonrenewable natural resources</li> <li>• Explain the meaning of sustainable resources use</li> <li>• Identify practices that contribute to sustainability</li> <li>• Describe why wise use of resources at the worksite is important</li> <li>• Give examples of wasteful uses of resources (unnecessary waste and duplication) at the worksite</li> <li>• List materials that can be recycled</li> <li>• Describe materials that require special disposal</li> <li>• Explain purpose of pollution control systems</li> <li>• Relate power generation to energy sources</li> <li>• Compare environmental impact of energy sources (e.g., fuel cells, chemical, wind, hydro, nuclear, electric, mechanical, solar, biological)</li> </ul>
<b>11. Use basic technology</b>	<ul style="list-style-type: none"> <li>• Use communication technology (such as pagers, radios, phone, fax, email, Internet) to access and distribute data and other information within the scope of the job</li> <li>• Use email, the Internet, printer, copier, scanner, and fax machine equipment appropriately and correctly as applicable</li> <li>• Follow rules for proper computer and communication technology usage</li> <li>• Use calculating tools such as computer, calculator, and adding machine correctly</li> <li>• Enter, edit, and store data on computerized equipment according to worksite guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the parts and functions of a computer system using correct terminology including the keyboard, monitor, mouse, printer</li> <li>• Point out the storage device locations on the computer such as the Hard drive, CD-ROM drive, and Portable File Storage drive, etc</li> <li>• Show the appropriate connections and positioning of peripheral devices such as a mouse, keyboard, monitor, and printer</li> <li>• Discuss the importance of backing up computerized files</li> <li>• Compare different forms of communications technology including email, texting, word processing,</li> </ul>

	<ul style="list-style-type: none"> <li>• Verify data entry prior to data storage or equipment operation</li> </ul>	<p>spreadsheets, database, presentation software, and use of the internet to communicate, search and display information</p> <ul style="list-style-type: none"> <li>• Describe how to evaluate internet websites and information for validity and reliability</li> <li>• Explain appropriate and inappropriate uses of email and internet while at work</li> <li>• Describe how to develop effective presentations using appropriate technologies (e.g., tables, charts, and visual graphics)</li> <li>• Explain the use of writing/publishing/presentation applications</li> </ul>
--	--	---

## Safety

<b>Competency (Work Tasks)</b>	<b>Performance Standards</b> What employer checks for while doing task. <b>Train YA Student on.</b> YA student will ...	<b>Learning Objectives</b> What to know/learn to do this task. <b>Content Suggested</b> for Class/Reading/On-the-job Training.
<b>1. Follow personal safety requirements</b>	<ul style="list-style-type: none"> <li>• Participate in all required safety training</li> <li>• Follow all worksite guidelines for personal safety</li> <li>• Apply principles of proper body mechanics when necessary</li> <li>• Report any exposures, injuries, or accidents, personal or to others, immediately, if applicable</li> <li>• Locate and can find key information on Material Safety Data Sheets (MSDS)</li> <li>• Handle and dispose of any hazardous materials appropriately, if applicable</li> <li>• Operate only equipment that he/she is trained on</li> <li>• Adhere to equipment safety standards</li> <li>• Visually inspect equipment to ensure safety compliance and function before operation</li> <li>• Wear the required Personal Protective Equipment (PPE) at all times as required by the worksite for</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss the regulatory purpose and responsibility of the Occupational Safety and Health Administration (OSHA)</li> <li>• List your rights as a worker according to OSHA</li> <li>• Explain the procedure to follow in case of an exposure, injury, or accident to self or to another</li> <li>• Explain ways your company prevents accidents</li> <li>• List engineering controls that are taken to protect workers from accidents</li> <li>• Describe safe and unsafe work habits and their implications</li> <li>• List safety hazards at your facility</li> <li>• Explain potential hazards associated with blood borne pathogens</li> <li>• Explain the ergonomic impact of work techniques</li> <li>• Describe proper techniques for lifting loads</li> </ul>

	<p>specific tasks</p> <ul style="list-style-type: none"> <li>• Be alert for moving equipment, machinery, and traffic</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the Material Safety Data Sheet (MSDS) and its purpose</li> <li>• Discuss the procedures of handling and disposing of hazardous material</li> <li>• Explain facility confined space policy</li> <li>• List mechanical, chemical, electrical, compressed air, and equipment safety hazards at your facility</li> <li>• Describe your facility's chemical hygiene plan</li> <li>• Explain how Lock Out/Tag Out procedures prevent accidents</li> <li>• Define the Personal Protective Equipment (PPE) required for specific tasks in your facility</li> <li>• Explain the use of safety equipment such as eyeball washers and chemical safety showers and when you would use them</li> <li>• Describe ways to prevent burns</li> </ul>
<p><b>2. Maintain a safe work environment</b></p>	<ul style="list-style-type: none"> <li>• Comply with posted safety warnings and symbols</li> <li>• Identify unsafe conditions and/or work habits and reports them to the worksite professional immediately, if applicable</li> <li>• Help maintain a clean and safe working environment free of debris and obstacles</li> <li>• Clean, organize, put away items in the work area</li> <li>• Safely identify, handle, store, and use hazardous materials according to company procedure, if applicable</li> <li>• Report any indications of insects or pests</li> </ul>	<ul style="list-style-type: none"> <li>• List the major components of a facility safety program</li> <li>• List the different state and federal agencies that provide regulatory oversight at your facility for personal safety, environmental safety, and equipment safety</li> <li>• List accident and fire prevention techniques</li> <li>• Describe posted safety warnings and symbols and what they mean</li> <li>• Describe safe and unsafe work habits and their implications</li> <li>• Discuss the importance of keeping the work area and tools/equipment clean</li> <li>• List mechanical, electrical, and equipment safety hazards at your facility</li> <li>• Discuss how to identify and report unsafe conditions in your facility</li> <li>• Discuss safety procedures to prevent accidents</li> <li>• Describe the requirements at your facility for safety training and auditing</li> <li>• Assess need for good housekeeping practices</li> <li>• List accident and fire prevention techniques</li> <li>• List hazards that contribute to injury due to slips, trips, or falls</li> </ul>

		<ul style="list-style-type: none"> <li>• Outline compliance requirements of sanitation and health inspections</li> </ul>
<p><b>3. Demonstrate professional role to be used in an emergency</b></p>	<ul style="list-style-type: none"> <li>• Participate in emergency safety simulations and drills</li> <li>• Outline the company's policy and procedure for worksite incidents, accidents, electrical, fire, tornado, bomb threats, robbery, hostage situations, and other emergency situations</li> <li>• Identify the closest fire alarms and emergency exits in the assigned worksite area</li> <li>• Identify the fire extinguishers in the assigned worksite area</li> <li>• Identify appropriate alarms and procedures for using alarms</li> <li>• Contact emergency personnel according to company requirements in the event of an emergency</li> <li>• Report and document any emergency incidents according to company requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the procedures in your company to report an emergency</li> <li>• Review your company procedures for responding to exposures, injuries, accidents, spills, fire, tornado, bomb threat, robbery, hostage situations, etc.</li> <li>• Demonstrate how to use the fire blanket and/or fire extinguisher</li> <li>• Explain the evacuation plan for the worksite</li> <li>• Indicate the demeanor necessary during an emergency</li> <li>• Identify methods to cope with emergency situations</li> <li>• Name the resources for assistance in crimes or accidents</li> <li>• Locate and explain use of first aid emergency care kits</li> <li>• Detail steps to use in medical emergencies requiring First Aid, CPR, and/or Heimlich maneuver</li> <li>• Locate and explain use of spill kits, if applicable to worksite</li> <li>• Explain who in your facility can give first aid care in the event of an emergency</li> <li>• Explain the local protocols in place with local law enforcement</li> <li>• Explain the role of the Hazardous Materials (HAZMAT) team</li> <li>• Detail how to access help in a robbery or terrorist situation</li> <li>• Explain the use of safety equipment such as eyeball washers and chemical safety showers and when you would use them</li> </ul>