

ESI National AFNR Common Career Technical Core Standards Alignment

	Unit 1 – Issue Analysis	Unit 2 – Biodiversity	Unit 3 – Energy, Technology and Society	Unit 4 – Feeding the World	Unit 5 – Pollution	Unit 6 – ESI Research
Career Ready Practices Content Standards						
1. Act as a responsible and contributing citizen and employee.			X			
2. Apply appropriate academic and technical skills.	X	X	X	X	X	X
3. Attend to personal health and financial well-being.						
4. Communicate clearly, effectively and with reason.	X	X	X	X	X	X
5. Consider the environmental, social and economic impacts of decisions.	X	X	X	X	X	X
6. Demonstrate creativity and innovation.	X	X			X	X
7. Employ valid and reliable research strategies.	X	X	X	X	X	X
8. Utilize critical thinking to make sense of problems and persevere in solving them.	X	X	X	X	X	X
9. Model integrity, ethical leadership and effective management.	X					
10. Plan education and career path aligned to personal goals.						
11. Use technology to enhance productivity.		X	X		X	
12. Work productively in teams while using cultural/global competence.	X		X		X	X
Agriculture, Food, and Natural Resources Career Cluster						
1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.	X	X	X	X	X	X
2. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role agriculture, food and natural resources (AFNR) play in society and the economy.	X					
3. Examine and summarize importance of health, safety, and environmental management systems in AFNR organizations.						

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4. Demonstrate stewardship of natural resources in AFNR activities.	X	X	X	X	X	
5. Describe career opportunities and means to achieve those opportunities in each of the AFNR career pathways.						
6. Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources.		X			X	
Biotechnology Systems Career Pathway Content Standards						
BS.01: Assess factors that have influenced the evolution of biotechnology in agriculture (e.g., historical events, societal trends, ethical and legal implications, etc.).				X		
BS.02: Demonstrate proficiency by safely applying appropriate laboratory skills to complete tasks in a biotechnology research and development environment (e.g., standard operating procedures, record keeping, aseptic technique, equipment maintenance, etc.).						
BS.03: Demonstrate the application of biotechnology to solve problems in AFNR systems (e.g., bioengineering, food processing, waste management, horticulture, forestry, livestock, crops, etc.).			X			
Environmental Service Systems Content Standards						
1. Use analytical procedures and instruments to manage environmental service systems.		X	X		X	X
2. Evaluate the impact of public policies and regulations on environmental service facility operations.					X	
3. Develop proposed solutions to environmental issues, problems, and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry, and ecology.	X				X	
Natural Resource Systems Content Standards						
1. Plan and conduct natural resource management activities that apply logical, reasoned, and scientifically based solutions to natural resource issues and goals.		X			X	X
2. Plan and Analyze interrelationships between natural resources and humans needed to manage natural resource systems.	X	X	X		X	X
3. Develop plans to ensure sustainable production and processing of natural resources.		X		X		
4. Demonstrate responsible control and management procedures and techniques to protect or maintain natural resources.		X				

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Plant Systems Career Pathway Content Standards						
1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors.						
2. Apply principles of classification, plant anatomy, and plant physiology to plant production and management.						
3. Propagate, culture, and harvest plants and plant products based on current industry standards.				X		
4. Apply principles of design in plant systems to enhance an environment (e.g. floral, forest landscape, and farm).						
Power, Structural, and Technical Pathway Content Standards						
1. Apply physical science principles and engineering applications related to mechanical equipment, structures, and biological systems to solve problems and improve performance in AFNR power, structural, and technical systems.			X			
2. Operate and maintain mechanical equipment related to AFNR power, structural, and technical systems.						
3. Service and repair mechanical equipment and power systems used in AFNR power, structural and technical systems.						
4. Plan, build and maintain AFNR structures.						
5. Use control, monitoring, geospatial and other technologies in AFNR power, structural and technical systems.		X				