North Dakota Agriculture Education

AGRICULTURE, FOOD, & NATURAL RESOURCES (AFNR) FOUNDATIONAL PATHWAY SKILLS

Analyze how issues, trends, technologies, and public policies impact systems in the Agriculture, Food, & Natural Resources Career Cluster.

1 **Research, examine, and discuss issues and trends that impact AFNR systems on local, state, national, and global levels.** 1.1

1 Identify issues impacting AFNR systems using historical and current data. 1.1.1

2 Summarize trends impacting AFNR systems. 1.1.2

3 Analyze AFNR issues and their impact on local, state, national, and global levels. 1.1.3

4 Predict the impact of current trends in AFNR systems on local, state, national, and global levels. 1.1.4

5 Interpret AFNR issues and their impacts to audiences with limited AFNR knowledge. 1.1.5

6 Determine the opportunities emerging trends create within the AFNR systems. 1.1.6

2 **Examine technologies and analyze their impact on AFNR systems.** 1.2

1 Research technologies used in AFNR systems. 1.2.1

2 Compare and contrast AFNR systems before and after the integration of technology. 1.2.2

3 Demonstrate appropriate use of technologies in AFNR workplace scenarios. 1.2.3

4 Analyze how technology is used in AFNR systems to maximize productivity. 1.2.4

5 Develop solutions in AFNR workplaces or scenarios using technology. 1.2.5

6 Evaluate the importance of technology use and how it impacts AFNR systems. 1.2.6

3 **Identify public policies and examine their impact on AFNR systems.** 1.3

1 Summarize public policies affecting AFNR systems. 1.3.1

2 Identify an AFNR problem that could be solved by public policy. 1.3.2

Analyze at least two public policies that impact AFNR system. 1.3.3

→ Propose a policy that will solve an AFNR problem. 1.3.4

Skip to main content

5 Defend or challenge an AFNR public policy. 1.3.5

6 Create a plan for implementing a new public policy that will positively impact AFNR systems. 1.3.6

Evaluate the nature and scope of the Agriculture, Food, & Natural Resources Career Cluster and the role of agriculture, food, and natural resources (AFNR) in society and the economy.

4 Research and use geographic and economic data to solve problems in AFNR systems. 1.4

1 Describe different types of geographic data used in AFNR systems. 1.4.1

2 Identify economic data related to AFNR systems (e.g., commodity markets, food marketing, food, and nutritional assistance programs, etc.). 1.4.2

3 Interpret AFNR related geographic data using a variety of systems and technologies (e.g., GIS, GPS, etc.). 1.4.3

4 Evaluate a set of economic data and explain how it impacts an AFNR system. 1.4.4

5 Defend the use of a set of geographical data used to solve a problem within AFNR systems. 1.4.5

6 Create a strategy to solve a problem in an AFNR system using a set of economic data. 1.4.6

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5 Examine the impact of AFNR on the local, state, national, and global society and economy. 1.5

1 Identify the components within AFNR systems (e.g., Animal Systems: health, nutrition, genetics, etc.; Natural Resources Systems: soil, water, etc.). 1.5.1

2 Describe how cultures on local, state, national, and global levels relate to AFNR systems. 1.5.2

3 List the economic elements of the agricultural economy (e.g., environmental, crops, livestock, etc.). 1.5.3

4 Examine the impact AFNR systems have on local, state, national, and global society and economy. 1.5.4

5 Assess how people on local, state, national, and global levels interact with AFNR systems on a daily, monthly, or yearly basis. 1.5.5

6 Assess the economic impact of an AFNR system on a local, state, national, and global level. 1.5.6

7 Develop a strategy for explaining the breadth of AFNR systems to audiences with limited AFNR knowledge. 1.5.7

8 Evaluate how cultural traditions, customs or policies have resulted from practices with AFNR systems. 1.5.8

9 Evaluate how positive or negative changes in the local, state, national or global economy impacts AFNR systems. 1.5.9

Examine and summarize the he environmental

6 Identify and explain the implications of required regulations to maintain and mprove safety, health, and environmental management systems. 1.6

Skip to main content

management systems in AFNR workplaces.

1. Identify implications of regulatory, safety, and health standards on AFNR systems (e.g., SDS, bio-terrorism, etc.) 1.6.1
2. Summarize the importance of safety, health, and environmental management in the workplace. 1.6.2
3. Explain a health, safety, and environmental procedures to comply with regulatory and safety standards. 1.6.3
4. Analyze existing required regulations within an AFNR workplace. 1.6.4
5. Evaluate how AFNR organizations and businesses promote improved health, safety, and environmental management. 1.6.5
6. Develop methods to evaluate compliance with required safety, health, and environmental management regulations. 1.6.6

7. **Develop and implement a plan to maintain and improve health, safety, and environmental compliance and performance.** 1.7
   1. Identify components required in health and safety performance plans. 1.7.1
   2. Identify examples of environmental compliance plans from AFNR workplace. 1.7.2
   3. Analyze the effectiveness of health and safety performance plans of an AFNR workplace. 1.7.3
   4. Prepare plans to improve environmental compliance and performance within an AFNR system. 1.7.4
   5. Create and implement a plan to improve safety, health, and environmental management regulations in an AFNR workplace. 1.7.5
   6. Develop a strategy to educate employees on environmental compliance and performance in an AFNR workplace. 1.7.6

8. **Apply health and safety practices to AFNR workplaces.** 1.8
   1. Identify emergency response procedures for health and safety issues at AFNR workplaces. 1.8.1
   2. Identify examples of how to avoid health or safety risks in AFNR workplaces. 1.8.2
   3. Describe the risk level of contamination or injury as associated with AFNR tasks in the workplace. 1.8.3
   4. Assess various emergency response plan requirements for an AFNR workplaces and/or facility. 1.8.4
   5. Discuss first aid knowledge and procedures relevant to AFNR workplaces. 1.8.5
   6. Select appropriate responses for different levels of contamination or injury at an AFNR workplace. 1.8.6
   7. Create a plan to communicate appropriate responses for health and safety situations within an AFNR workplace. 1.8.7
   8. Evaluate AFNR workplaces to identify structure of health and safety practices and number of employees certified in first aid training. 1.8.8

Skip to main content

9 Create a plan to mitigate the level of contamination or injury identified as a risk in the workplace. 1.8.9

9 Use appropriate protective equipment and demonstrate safe and proper use of AFNR tools and equipment. 1.9

1 Identify and differentiate the appropriate protective equipment for the safe use and operation of specific tools and equipment (e.g. PPE, etc.). 1.9.1

2 Identify standard tools, equipment, and safety procedures related to AFNR tasks. 1.9.2

3 Outline operating instructions related to operation, storage, and maintenance of tools and equipment related AFNR tasks. 1.9.3

4 Demonstrate adherence to protective equipment requirements when using various AFNR tools and equipment. 1.9.4

5 Demonstrate the set up and adjustment for tools and equipment related to AFNR tasks. 1.9.5

6 Demonstrate appropriate operation, storage, and maintenance techniques for AFNR tools and equipment. 1.9.6

7 Design plans to ensure the use of appropriate protective equipment when using various AFNR tools and equipment. 1.9.7

8 Choose appropriate tools and equipment to complete AFNR tasks. 1.9.8

9 Design operation, storage, and maintenance plans or schedules for AFNR tools and equipment. 1.9.9

Demonstrate stewardship of natural resources in AFNR activities.

10 Identify and implement practices to steward natural resources in different AFNR systems. 1.10

1 Illustrate stewardship of natural resources. 1.10.1

2 Explain how sustainability relates to AFNR activities. 1.10.2

3 Analyze practices to steward natural resources in AFNR systems (e.g., wildlife and land conservation, soil and water practices, ecosystem management, etc.). 1.10.3

4 Categorize sustainability practices that can be applied in AFNR systems (e.g., energy efficiency, recycle/reuse/repurpose, green resources, etc.). 1.10.4

5 Create strategies for stewarding natural resources at home and within community. 1.10.5

6 Recommend sustainability policies and plans for potential improvements for AFNR businesses or organizations. 1.10.6

11 Assess and explain the natural resource related trends, technologies, and policies that impact AFNR systems. 1.11

1 Discuss historical and current natural resources trends and technologies. 1.11.1

2 Identify current local, state, and federal policies impacting AFNR systems. 1.11.2

Skip to main content

3 Dissect natural resources trends and technologies impacting AFNR systems (e.g., climate change, green technologies, water resources, etc.). 1.11.3

4 Compare natural resources policies impacting current AFNR systems (e.g., for water resources, land use, air quality, etc.). 1.11.4

5 Predict emerging natural resource trends and technologies within AFNR systems. 1.11.5

6 Propose strategies for implementing a new natural resources policy to positively impact AFNR systems. 1.11.6

Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources career pathways.

12 **Evaluate and implement the steps and requirements to pursue a career opportunity in each of the AFNR career pathways (e.g., goals, degrees, certifications, resumes, cover letter, portfolios, interviews, etc.).** 1.12

1 Identify steps to pursue a career in an AFNR pathway (e.g., self-assessment, set goals, etc.). 1.12.1

2 Classify the educational, training, and experiential requirements to pursue a career in an AFNR pathway (e.g., degrees, certifications, training, internships, etc.). 1.12.2

3 Describe specific tools (e.g., resumes, portfolios, cover letters, etc.) and processes (e.g., interviews, applications, etc.) needed to pursue a career in an AFNR pathway. 1.12.3

4 Design a personal plan outlining goals and steps to obtain a career in an AFNR pathway. 1.12.4

5 Analyze personal skills for attaining a career in an AFNR pathway. 1.12.5

6 Communicate personal goals, experiences, education, and skills utilizing specific tools (e.g., resumes, portfolios, cover letters, etc.) and processes (e.g., interviews, applications, etc.) for an AFNR career. 1.12.6

7 Assess personal AFNR career goal progress. 1.12.7

8 Design a personal plan for attaining the required education, training, and experiences for a career in an AFNR pathway. 1.12.8

9 Justify personal goals, experiences, education, and skills to pursue a career in an AFNR pathway. 1.12.9

13 **Examine and choose career opportunities that are matched to personal skills, talents, and career goals in an AFNR pathway of interest.** 1.13

1 Describe careers in each of the AFNR pathways. 1.13.1

2 Assess how personal skills and align them with potential career opportunities in AFNR pathways. 1.13.2

3 Evaluate the results of a personal career assessment related to potential careers in AFNR pathways. 1.13.3

An Skip to main content **Examine and explain foundational cycles and systems of AFNR.** 1.14
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the production, processing, and management of food, fiber, and fuel and the sustainable use of natural resources.

1. Explain the life cycles in AFNR (e.g., water cycle, nutrient cycle, carbon cycle, reproductive, mechanical, etc.). 1.14.1
2. Explain the interactions between various AFNR systems (e.g., sustainability, animal, plant, food, natural resource, agribusiness, power structure and technical, and biotechnology , etc.). 1.14.2
3. Analyze how life cycles affect production, processing, and management of food, feed, fiber, and fuel. 1.14.3
4. Analyze the impact of producing and processing food, feed, fiber, and fuel within AFNR systems. 1.14.4
5. Interpret the impact of life cycles within AFNR systems. 1.14.5
6. Predict how AFNR systems may change or adapt in the future of food, feed, fiber, and fuel production based on current trends and data. 1.14.6

Explore the Supervised Agricultural Experience (SAE), National FFA, and the importance of agricultural education.

15. **Recognize the value of a Supervised Agricultural Experience (SAE) as Work-Based Learning.** 1.15
    1. Define Supervised Agricultural Experience (SAE). 1.15.1
    2. Describe the lifelong learning and career skills that SAEs provide. 1.15.2
    3. List the types of foundational and immersion SAEs. 1.15.3
    4. Analyze the value of SAEs. 1.15.4
    5. Analyze the lifelong learning and career skills that are developed from SAE involvement. 1.15.5
    6. Categorize projects based on foundational or immersion types of SAEs. 1.15.6
    7. Justify the value of SAEs to students and their future. 1.15.7
    8. Evaluate the types of lifelong learning and career skills that SAEs help to develop. 1.15.8
    9. Compare the components of foundational and immersion SAEs. 1.15.9

16. **Implement the components of a Foundational SAE.** 1.16
    1. Investigate career opportunities based on individual strengths and preferences. 1.16.1
    2. Identify employability skills that are important in a chosen career field. 1.16.2
    3. Define record keeping and its relationship to personal financial literacy. 1.16.3
    4. Define workplace safety and its importance with AFNR. 1.16.4
    5. Identify issues, trends, technologies, and public policies that impact AFNR systems. 1.16.5
    6. Create a career plan of study. 1.16.6
    7. Perform an employability skills self-assessment to determine areas for growth. 1.16.7
    8. Craft a personal financial plan that supports one's financial goals. 1.16.8

Skip to main content

9 Analyze situations for workplace safety hazards. 1.16.9

10 Research and analyze how issues, trends, technologies, and public policies impact AFNR systems. 1.16.10

11 Implement and adjust a career plan of study. 1.16.11

12 Practice employability skills that are important in a chosen career field. 1.16.12

13 Apply personal financial practices that lead to financial independence. 1.16.13

14 Design a workplace safety plan for a foundational SAE. 1.16.14

15 Apply knowledge of issues, trends, technologies, and public policies that impact AFNR systems to solve a problem. 1.16.15

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17 Recognize the options within and participate in immersive supervised agricultural experiences. 1.17

1 Describe the knowledge and skills required to be successful in a specific AFNR career field. 1.17.1

2 Connect record-keeping skills to financial literacy. 1.17.2

3 Create a personal immersion SAE plan to develop the knowledge and skills required to be successful in a specific AFNR career field. 1.17.3

4 Choose a record-keeping system to demonstrate financial literacy. 1.17.4

5 Practice the skills required to be successful in a specific AFNR career field through an immersion SAE experience. 1.17.5

6 Implement record-keeping practice for a specific immersion SAE. 1.17.6

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18 Analyze the history of the National FFA Organization and how this timeline has allowed the organization to remain relevant. 1.18

1 Identify key historical moments within FFA's history. 1.18.1

2 Analyze the impact of historical events on the National FFA Organization. 1.18.2

3 Interpret how the historical events within FFA's history have transitioned the organization to where it is today and where it may go in the future. 1.18.3

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19 Evaluate the structure and value of agricultural education. 1.19

1 Define classroom instruction, FFA, and Supervised Agricultural Experiences in the context of the three-component model of agricultural education. 1.19.1

2 Identify topics explored in an agricultural course. 1.19.2

3 Identify important facts and programs of the FFA. 1.19.3

4 Identify what is learned in an SAE. 1.19.4

5 Analyze how the components support one another in the education of students. 1.19.5

6 Explain the impact classroom instruction has on student learning. 1.19.6

Skip to main content

7 Explain the impact FFA has on student learning. 1.19.7

8 Explain the impact SAE has on student learning. 1.19.8

9 Develop a plan to teach someone else about the 3-circle Ag. Education model. 1.19.9

10 Justify the need for classroom instruction within agricultural education. 1.19.10

11 Justify the need for FFA within agricultural education. 1.19.11

12 Justify the need for SAE within agricultural education. 1.19.12

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20 Examine the key components providing directional leadership to the National FFA Organization. 1.20

1 Explain the creed and its purpose in an organization. 1.20.1

2 Define an emblem and explain its purpose in an organization. 1.20.2

3 Define a mission statement and explain its purpose in an organization. 1.20.3

4 Define a program of activities and explain its purpose in an organization. 1.20.4

5 Interpret the FFA Creed in the context of when it was written and what it looks like today. 1.20.5

6 Interpret the FFA Emblem and all of its parts in the context of when it was designed and today. 1.20.6

7 Interpret the FFA Mission statement in the context of when it was designed and what it is today. 1.20.7

8 Build an outline for the chapter Program of Activities. 1.20.8

9 Evaluate the impact of the FFA Creed on the National FFA Organization and its members. 1.20.9

10 Evaluate the impact of the FFA Emblem on the National FFA Organization and its members. 1.20.10

11 Evaluate the impact of the FFA Mission statement on the National FFA Organization and its members. 1.20.11

12 Create a chapter Program of Activities. 1.20.12

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21 Analyze the structures and procedures to effectively and professionally run and manage a meeting. 1.21

1 Define parliamentary procedure and terms used in parliamentary procedure (e.g., motion, amendment, adjourn). 1.21.1

2 Identify the purpose and components of a debate. 1.21.2

3 Identify the purpose of organization documents such as agendas, minutes, constitutions, etc. 1.21.3

4 Analyze the uses of parliamentary procedure in given meeting situations 1.21.4

5 Practice a debate on a given topic. 1.21.5

6 Select the proper document that should provide needed information in a given scenario. 1.21.6

Skip to main content

7 Demonstrate the use of parliamentary procedure in solving an organizational problem/issue. 1.21.7

8 Apply debate principles in a business meeting. 1.21.8

9 Create organizational documents for a meeting. 1.21.9

22 Evaluate opportunities to develop leadership, citizenship, and career skills. 1.22

1 Define leadership and identify leadership skills. 1.22.1

2 Define citizenship and identify citizenship skills. 1.22.2

3 Identify career skills necessary in today's workplace. 1.22.3

4 Identify opportunities available to develop leadership skills. 1.22.4

5 Compare and contrast leadership skills and styles. 1.22.5

6 Explain how citizenship activities build skills. 1.22.6

7 Demonstrate the importance of career skills in a workplace setting. 1.22.7

8 Explain how FFA offices, community service, leadership conferences, career development events, leadership development events, and other opportunities build leadership and citizenship skills. 1.22.8

9 Evaluate your personal leadership skills and areas of growth related to leadership. 1.22.9

10 Evaluate your personal citizenship and areas of growth. 1.22.10

11 Evaluate your personal career skills and areas of growth. 1.22.11

12 Design a plan to develop your personal leadership skills, including citizenship and career skills. 1.22.12