



**ND FFA Association**

**DAIRY CATTLE EVALUATION  
& MANAGEMENT**

**CDE Handbook**

## **Purpose**

The Dairy Cattle Evaluation and Management CDE helps students develop skills in dairy cattle selection and her management. Participants evaluate the cattle's physical characteristics, explain their various classes, and analyze herd records.

## **Objectives**

The Dairy Cattle Evaluation and Management CDE provides the opportunity for the participant to:

- a. Gain practical experience to help prepare for dairy cattle industry positions or in management of a modern dairy herd.
- b. Develop skills in observation, analysis, communication, and team collaboration
- c. Gain experience in the evaluation of dairy cattle type, production records and dairy herd management.

## **Rules**

- a. Each chapter may enter a team of three to five participants.
- b. Team scores will be determined by totaling the three highest individual team members' scores.
- c. Participants must meet all eligibility requirements listed in the state convention general rules.
- d. All classes will be selected from the breeds of Dairy Cattle available to the NDSU Dairy Barn.
- e. Using Universal Form C #705C-1.
- f. Participants will be permitted to view the animals from all angles but will not be permitted to handle them. The squad leader will arrange for rear view, side view, front view, and close-up inspection (optional) of all classes.

## **Awards**

- a. **Individual**
  2. Individual scores will be tabulated and broken into gold, silver, and bronze award areas.
  3. Individual ties will not be broken.

4. The high individual receives the “baby bison” trophy and a \$250 stipend from the ND FFA Foundation.

**b. Team**

1. Team scores will be tabulated by adding all three team member scores and the team activity. They will be broken into gold, silver, and bronze.
2. The high team shall be eligible to represent North Dakota in the National FFA Dairy Cattle Evaluation & Management CDE. The high team receives the traveling trophy and travel stipends from the ND FFA Foundation to participate in the National Event.
3. Team Tie Breakers:
  - i. Oral Reasons Team Score
  - ii. Placing Team Score

## **Format**

The Dairy Cattle Evaluation and Management CDE will consists of

**a. Placing classes**

1. Five or six placing classes of four animals will be placed on type. Classes may range from heifers to mature cows and will be provided by NDSU Dairy Barn.
2. Twelve (12) minutes will be allowed per class for placing. Fifteen (15) minutes will be allowed for classes that oral reasons will be presented on.
3. Classes will be worth 50 points each.

**b. Oral Reasons**

1. Two (2) sets of oral reasons will be given. The reasons classes will be designated at the beginning of the event by the co-chair advisors.
2. Participants will have 15 minutes to judge these classes, at least 12 minutes to prepare reasons, and no more than 2 minutes to give the reasons.
3. No notes will be permitted while delivering reasons.
4. Reasons will be scored based on 50 points for a perfect score.

- c. Two (2) of the following exercises--Pedigree Class, Sire Selection Exercise, Herd Record Evaluation or Written Dairy Management Exercise--will be completed on a rotational basis.

### **ROTATION OF ADDITIONAL DAIRY EXERCISES**

2025 - Sire Selection & Written Exercise

2026 - Written Exercise & Pedigree

2027 - Herd Record Evaluation & Sire Selection

2028 - Pedigree & Herd Record Evaluation

#### **1. Sire selection**

- b. Sire selection exercise will consist of selecting for the mating of a dairy cow with the more appropriate bull.
- c. Linear evaluation information on the cows and/or sire information will be provided to each participant.
- d. Four bulls will be ranked (placed) for their potential/merits as the best choice to whom the cow should be bred.
- e. Fifteen (15) minutes will be allowed for this class.
- f. This class is worth 50 points.

#### **2. Written dairy management exercise**

- a. Written Dairy Management exercise will consist of 25 multiple choice questions.
- b. Ten questions will target the use of herd summaries to make management decisions. Information necessary to answer the questions will be provided on appropriate DHIA forms. The remaining questions will be concerned with various dairy management and industry related topics.
- c. Thirty (30) minutes will be allowed to complete this section of the contest.
- d. This exam is worth 50 points.

#### **3. Pedigree Evaluation**

- a. The pedigree evaluation class (no animals present) will consist of pedigrees of four cows/bulls for evaluation and placing by the participant.
- b. Pedigrees are to be evaluated to the degree they indicate the animal's ability to transmit production type traits to its

- offspring. Completeness, accuracy, level of performance and profitability are factors to consider in evaluating pedigrees.
- c. Fifteen (15) minutes is allowed for this exercise.
- d. This class will be worth 50 points.

4. Dairy Herd Evaluation

- a. The Dairy Herd Evaluation section of this event requires analysis of individual cow production records (DHIA) of a 50 - 75 cow herd.
- b. Ten questions will be asked.
- c. Thirty (30) minutes will be allowed.
- d. This class is worth 5 points per question for a total of 50 points.

**Resources**

- a. Previous years tests found on ndffa.org
- b. National CDE tests

**Scoring**

<b>Activities</b>	<b>Individual Points</b>	<b>Team Points</b>
Placing Classes (6 @ 50/Each)	300	900
Oral Reasons (2 @ 50)	100	300
Additional 2 exercises (2 @ 50)	100	300
Maximum Points	500	1500

**Agriculture, Food and Natural Resources Content Standards**

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>ABS.01.02. Performance Indicator: Read, interpret, evaluate and write statements of purpose to guide business goals, objectives and resource allocation.</b>		
ABS.01.02.02.c. Evaluate AFNR business goals and objectives, then make revisions based on data and observations.	Team activity – content	CCSS.ELA-LITERACY.W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.W.9-10.9 CCSS.ELA-LITERACY.W.11-12.9 CCSS.ELA-LITERACY.RI.9-10.4 CCSS.ELA-LITERACY.RI.11-12.4
<b>ABS.01.03. Performance Indicator: Devise and apply management skills to organize and run an AFNR business in an efficient, legal and ethical manner.</b>		
ABS.01.03.01.c. Devise strategies to improve the operation of AFNR businesses using management skills.	Event exam Team activity – content	CCSS.ELA-LITERACY.SL.9-10.6 CCSS.ELA-LITERACY.SL.11-12.6 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
ABS.01.03.02.c. Devise management or operational strategies to address and adhere to local, state, federal, international and industry regulations.	Event exam Team activity – content	CCSS.ELA-LITERACY.SL.9-10.6 CCSS.ELA-LITERACY.SL.11-12.6 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
<b>ABS.02.02. Performance Indicator: Assemble, interpret and analyze financial information and reports to monitor AFNR business performance and support decision-making (e.g., income statements, balance sheets, cash-flow analysis, inventory reports, break-even analysis, return on investment, taxes, etc.).</b>		
ABS.02.02.01.b. Prepare and interpret financial reports to describe the performance of AFNR businesses (e.g., efficiency, profitability, net worth, financial ratios, etc.).	Event exam Team activity – content	CCSS.ELA-LITERACY.W.9-10.9 CCSS.ELA-LITERACY.W.11-12.9 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.MATH.CONTENT.HSS.ID.C.7 CCSS.MATH.CONTENT.HSS.IC.B.6 CCSS.MATH.CONTENT.HSN.Q.A.1 Savings: Benchmarks: Grade 12, Statements 3

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
		Savings: Benchmarks: Grade 12, Statements 4 Savings: Benchmarks: Grade 12, Statements 6 Savings: Benchmarks: Grade 12, Statements 7 Financial Investing: Benchmarks: Grade 12, Statement 2
ABS.02.02.02.c. Create recommendations to improve management of inventory in AFNR businesses (e.g., maintaining optimal levels, calculating costs of carrying input and output inventory, supply chain management, etc.).	Event exam Team activity – content Team activity – presentation	CCSS.ELA-LITERACY.W.9-10.9 CCSS.ELA-LITERACY.W.11-12.9 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.MATH.CONTENT.HSS.ID.C.7 CCSS.MATH.CONTENT.HSS.IC.B.6 CCSS.MATH.CONTENT.HSN.Q.A.1 Savings: Benchmarks: Grade 12, Statements 3 Savings: Benchmarks: Grade 12, Statements 4 Savings: Benchmarks: Grade 12, Statements 6 Savings: Benchmarks: Grade 12, Statements 7 Financial Investing: Benchmarks: Grade 12, Statement 2
<b>ABS.03.01. Performance Indicator: Develop, assess and manage cash budgets to achieve AFNR business goals.</b>		
ABS.03.01.01.b. Examine and interpret cash budgets for AFNR businesses.	Event exam Team activity – content	CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4 CCSS.MATH.CONTENT.HSS.IC.B.6
ABS.03.01.02.c. Predict the impact of management decisions on cash budgets in AFNR businesses.	Event exam Team activity – process Team activity – content	CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
		CCSS.MATH.CONTENT.HSS.IC.B.6
<b>ABS.04.02. Performance Indicator: Develop production and operational plans for an AFNR business.</b>		
ABS.04.02.01.c. Make recommendations to improve operational plans for an AFNR business based on best practices.	Team activity – content Team activity – presentation Team activity – process	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 3 CCSS.ELA-LITERACY.ELA-W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
ABS.04.02.02.c. Create strategies to improve the production process of an agricultural product for an AFNR facility (e.g., SWOT – strengths, weaknesses, opportunities and threats, supply chain management, etc.).	Team activity – content Team activity – presentation Team activity – process	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 3 CCSS.ELA-LITERACY.ELA-W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
ABS.04.02.02.c. Create strategies to improve the production process of an agricultural product for an AFNR facility (e.g., SWOT- strengths, weaknesses, opportunities and threats, supply chain management, etc	Team activity – content Team activity – presentation Team activity – process	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 3 CCSS.ELA-LITERACY.ELA-W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
<b>AS.01.02. Performance Indicator: Assess and select animal production methods for use in animal systems based upon their effectiveness and impacts.</b>		
AS.01.02.01.c. Evaluate the effectiveness of different production methods and defend the use of selected methods using data and evidence.	Team activity – content Team activity – presentation Team activity – process	AFNR Career Cluster, Statement 1 AFNR Career Cluster – Animal Systems Pathway, Statement 3 STEM Career Cluster, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 3

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
AS.01.02.03.b. Analyze and evaluate the accuracy and effectiveness of records used in an animal system business.	Event exam	AFNR Career Cluster, Statement 1 AFNR Career Cluster – Animal Systems Pathway, Statement 3 STEM Career Cluster, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 3
<b>AS.01.03. Performance Indicator: Analyze and apply laws and sustainable practices to animal agriculture from a global perspective.</b>		
AS.01.03.01.c. Evaluate the impact of laws pertaining to animal agriculture (e.g., pros, cons, effect on individuals, effect on businesses, etc.) and assess the compliance of production practices with established regulations.	Event exam Team activity – content Team activity – presentation Team activity – process	AFNR Career Cluster, Statement 2 AFNR Career Cluster – Animal Systems Pathway, Statement 1 STEM Career Cluster, Statement 1, 4 CCSS.ELA-Literacy.W.9-10.9b CCSS.ELA-Literacy.W.11-12.9b CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.11-12.1 HS-ETS1-1
AS.01.03.02.c. Select, evaluate and defend the use of sustainable practices in animal agriculture.	Team activity – content Team activity – presentation	AFNR Career Cluster, Statement 2 AFNR Career Cluster – Animal Systems Pathway, Statement 1 STEM Career Cluster, Statement 1, 4 CCSS.ELA-Literacy.W.9-10.9b CCSS.ELA-Literacy.W.11-12.9b CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.11-12.1 HS-ETS1-1
<b>AS.02.01. Performance Indicator: Demonstrate management techniques that ensure animal welfare.</b>		
AS.02.01.01.b. Design programs that assure the welfare of animals and prevent abuse or mistreatment.	Event exam	HS-ETS1-2
AS.02.01.02.c. Devise, implement and evaluate safety procedures and plans for working with animals by species using information based on animal behavior and responses.	Team activity – content Team activity – presentation	HS-ETS1-2

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
AS.02.01.03.b. Analyze and document animal husbandry practices and their impact on animal welfare.	Event exam Team activity – content	HS-ETS1-2
<b>AS.03.01. Performance Indicator: Analyze the nutritional needs of animals.</b>		
AS.03.01.01.c. Assess nutritional needs for an individual animal based on its growth stage and production system.	Event exam Team activity – content Team activity – presentation	
<b>AS.03.02 Performance Indicator: Analyze feed rations and assess if they meet the nutritional needs of animals.</b>		
AS.03.02.01.c. Select appropriate feedstuffs for animals based on a variety of factors (e.g., economics, digestive system and nutritional needs, etc.).	Event exam Team activity – content Team activity – presentation	
AS.03.02.02.c. Select and utilize animal feeds based on nutritional requirements, using rations for maximum nutrition and optimal economic production.	Event exam Team activity – content Team activity – presentation	
AS.03.02.03.b. Compare and contrast methods that utilize feed additives and growth promotants with production practices that do not (e.g., organic versus conventional production methods).	Event exam	
AS.03.02.03.c. Make and defend decisions regarding whether to use feed additives and growth promotants after researching and considering scientific evidence, production system needs and goals, and input from industry professionals.	Team activity – content Team activity – presentation	
<b>AS.03.03 Performance Indicator: Utilize industry tools to make animal nutrition decisions.</b>		
AS.03.03.01.b. Utilize tools and equipment to perform animal nutrition tasks.	Event exam	
AS.03.03.01.c. Select, evaluate and defend the use of specific tools or equipment used to perform animal nutrition tasks.	Team activity – content Team activity – presentation	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
AS.03.03.02.b. Analyze and apply information from a feed label and feeding directions to feed animals.	Event exam	
AS.03.03.03.b. Analyze technologies used to provide animal nutrition and summarize their potential benefits and consequences.	Event exam	
AS.03.03.03.c. Research and recommend technology improvements to provide proper nutrition to animals.	Team activity – content Team activity – presentation	
<b>AS.04.01. Performance Indicator: Evaluate animals for breeding readiness and soundness.</b>		
AS.04.01.02.c. Evaluate and select animals for reproductive readiness.	Selection classes	
AS.04.02.03.c. Treat or cull animals with reproductive problems.	Event exam	
<b>AS.04.02. Performance Indicator: Apply scientific principles to select and care for breeding animals.</b>		
AS.04.02.01.c. Select and evaluate a breeding system based on the principles of genetics.	Team activity – content Team activity – presentation Event exam	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3
AS.04.02.02.c. Select and evaluate breeding animals and determine the probability of a given trait in their offspring.	Event exam Selection classes Team activity – content Team activity – presentation Team activity – process	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3
AS.04.02.04.b. Analyze the care needs for breeding stock in each stage of growth.	Event exam	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3
<b>AS.04.03 Performance Indicator: Apply scientific principles to breed animals.</b>		
AS.04.03.01.c. Select animal breeding methods based on reproductive and economic efficiency.	Team activity – content Team activity – presentation	
AS.04.03.02.c. Evaluate the implementation and effectiveness of artificial insemination techniques.	Team activity – content Team activity – presentation	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
AS.04.03.03.b. Analyze the processes of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer.	Event exam	
AS.04.03.03.c. Create and evaluate plans and procedures for estrous synchronization, superovulation, flushing, embryo transfer and other reproductive management practices.	Event exam Team activity – content Team activity – presentation	
AS.04.03.04.c. Select and assess animal performance based on quantitative breeding values for specific characteristics.	Event exam Selection classes Team activity – content Team activity – presentation	
<b>AS.05.01. Performance Indicator: Design animal housing, equipment and handling facilities for the major systems of animal production.</b>		
AS.05.01.01.b. Critique designs for an animal facility and prescribe alternative layouts and adjustments for the safe, sustainable and efficient use of the facility.	Event exam Team activity – content Team activity – presentation	AFNR Career Cluster – Animal Systems Pathway, Statement 2 STEM Career Cluster, Statement 4 STEM Career Cluster, Statement 5
AS.05.01.02.b. Analyze the use of modern equipment, technology and handling facility procedures and determine if they enhance the safe, economic and sustainable production of animals.	Event exam Team activity – content Team activity – presentation	AFNR Career Cluster – Animal Systems Pathway, Statement 2 STEM Career Cluster, Statement 4 STEM Career Cluster, Statement 5
<b>AS.06.03. Performance Indicator: Select animals for specific purposes and maximum performance based on anatomy and physiology.</b>		
AS.06.03.01.c. Evaluate and select animals to maximize performance based on anatomical and physiological characteristics that affect health, growth and reproduction	Selection classes	STEM Career Cluster, Statement 5
AS.06.03.02.c. Choose, implement and evaluate sustainable and efficient procedures (e.g., selection, housing, nutrition and management) to produce consistently high-quality animals that are well suited for their intended purposes.	Selection classes Team activity – content Team activity – presentation	STEM Career Cluster, Statement 5
AS.06.03.03.c. Evaluate and select animals to produce superior animal products based on industry standards.	Selection classes	STEM Career Cluster, Statement 5

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>AS.07.01. Performance Indicator: Design programs to prevent animal diseases, parasites and other disorders and ensure animal welfare.</b>		
AS.07.01.02.c. Determine when an animal health concern needs to be referred to an animal health professional.	Event exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.03.b. Identify and describe common illnesses and disorders of animals based on symptoms and problems caused by wounds, diseases, parasites and physiological disorders.	Event exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.04.c. Design and implement a health maintenance and a disease and disorder prevention plan for animals in their natural and/or confined environments.	Team activity – content Team activity – presentation	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.05.c. Identify and describe surgical and nonsurgical veterinary treatments and procedures to meet specific animal health care objectives.	Team activity – content Team activity – presentation	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
<b>AS.07.02. Performance Indicator: Analyze biosecurity measures utilized to protect the welfare of animals.</b>		
AS.07.02.01.c. Design and evaluate a biosecurity plan for an animal production operation.	Event exam Team activity – content Team activity – presentation	
<b>AS.08.01. Performance Indicator: Design and implement methods to reduce the effects of animal production on the environment.</b>		
AS.08.01.01.b. Assess methods of reducing the effects of animal agriculture on the environment.	Event exam	AFNR Career Cluster – Environmental Service Systems Pathway, Statement 1 HS-LS2-6 HS-LS2-7
AS.08.01.01.c. Devise a plan that includes measures to reduce the impact of animal agriculture on the environment.	Team activity – content Team activity – presentation	AFNR Career Cluster – Environmental Service Systems Pathway, Statement 1 HS-LS2-6 HS-LS2-7

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>AS.08.02. Performance Indicator: Evaluate the effects of environmental conditions on animals and create plans to ensure favorable environments for animals.</b>		
AS.08.02.02.c. Devise and improve plans to establish favorable environmental conditions for animal growth and performance based on a variety of factors (e.g., economic feasibility, environmental sustainability, impact on animals, etc.).	Event exam Team activity – content Team activity – presentation	HS.LS4-6
<b>CS.01.02. Performance Indicator: Examine technologies and analyze their impact on AFNR systems.</b>		
CS.01.02.01.b. Apply appropriate use of technologies in AFNR workplace scenarios.	Team activity – content Team activity – presentation	
CS.01.02.01.c. Solve problems in AFNR workplaces or scenarios using technology.	Event exam Team activity – content Team activity – presentation	
CS.01.02.02.b. Analyze how technology is used in AFNR systems to maximize productivity.	Team activity – content Team activity – process	
<b>CS.03.01. Performance Indicator: Identify required regulations to maintain and improve safety, health and environmental management systems.</b>		
CS.03.01.01.b. Assess health, safety and environmental procedures to comply with regulatory and safety standards.	Team activity – content Team activity – presentation Team activity – process	
<b>CS.03.02. Performance Indicator: Develop a plan to maintain and improve health, safety and environmental compliance and performance.</b>		
CS.03.02.01.b. Analyze health and safety performance plans of an AFNR business.	Event exam Team activity – content Team activity – presentation	
CS.03.02.02.b. Develop plans to improve environmental compliance and performance within an AFNR system.	Team activity – content Team activity – presentation	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>CS.03.04. Performance Indicator: Use appropriate protective equipment and demonstrate safe and proper use of AFNR tools and equipment.</b>		
CS.03.04.01.c. Design plans to ensure the use of appropriate protective equipment when using various AFNR tools and equipment.	Event exam Team activity – content	
CS.03.04.02.c. Evaluate and select appropriate tools and equipment to complete AFNR tasks.	Event exam Team activity – content	
CS.03.04.03.b. Assess and demonstrate appropriate operation, storage and maintenance techniques for AFNR tools and equipment.	Event exam Team activity – content Team activity – presentation	
CS.03.04.03.c. Devise operation, storage and maintenance plans or schedules for AFNR tools and equipment.	Event exam Team activity – content Team activity – presentation	
<b>CS.04.01. Performance Indicator: Identify and implement practices to steward natural resources in different AFNR systems.</b>		
CS.04.01.01.b. Analyze available practices to steward natural resources in AFNR systems (e.g., wildlife and land conservation, soil and water practices, ecosystem management, etc.).	Event exam	
CS.04.01.01.c. Devise strategies for stewarding natural resources at home and within community.	Team activity – content Team activity – presentation Team activity – process	
CS.04.01.02.b. Analyze and assess sustainability practices that can be applied in AFNR systems (e.g., energy efficiency, recycle/reuse/repurpose, green resources, etc.).	Event exam	
<b>CS.04.02. Performance Indicator: Assess the natural resource related trends, technologies and policies that impact AFNR systems.</b>		
CS.04.02.01.b. Analyze natural resources trends and technologies and document how they impact AFNR systems (e.g., climate change, green technologies, water resources, etc.).	Event exam	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>CRP.01.01. Performance Indicator: Model personal responsibility in the workplace and community.</b>		
CRP.01.01.01.c. Evaluate past workplace and community situations and determine how personal responsibility positively or negatively impacted outcomes.	Team activity – content Team activity – presentation	
<b>CRP.01.02 Performance Indicator: Evaluate and consider the near-term and long-term impacts of personal and professional decisions on employers and community before taking action.</b>		
CRP.01.02.02.c. Make and defend professional decisions after evaluating their near- and long-term impacts on employers and community.	Oral reasons	
<b>CRP.01.03. Performance Indicator: Identify and act upon opportunities for professional and civic service at work and in the community.</b>		
CRP.01.03.01.c. Devise strategies for involvement in professional service opportunities at work and in the community (e.g., coaching/mentorship, presentations at meetings, etc.).	Team activity – content Team activity – presentation	
<b>CRP.02.01. Performance Indicator: Use strategic thinking to connect and apply academic learning, knowledge and skills to solve problems in the workplace and community.</b>		
CRP.02.01.01.b. Assess workplace problems and identify the most appropriate academic knowledge and skills to apply.	Event exam Team activity – content Team activity – presentation Team activity – process	
CRP.02.01.01.c. Apply academic knowledge and skills to solve problems in the workplace and reflect upon the results achieved.	Event exam	
<b>CRP.02.02. Performance Indicator: Use strategic thinking to connect and apply technical concepts to solve problems in the workplace and community.</b>		
CRP.02.02.01.b. Assess workplace problems and distinguish the most appropriate technical concepts to apply.	Event exam Team activity – content Team activity – presentation Team activity – process	
CRP.02.02.02.b. Assess community problems and identify the most appropriate technical concepts to apply.	Event exam Team activity – content Team activity – process	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>CRP.04.01. Performance Indicator: Speak using strategies that ensure clarity, logic, purpose and professionalism in formal and informal settings.</b>		
CRP.04.01.02.b. Apply strategies for speaking with clarity, logic, purpose and professionalism in a variety of situations in formal and informal settings.	Team activity – content Team activity – presentation Team activity – process	
<b>CRP.04.03. Performance Indicator: Model active listening strategies when interacting with others in formal and informal settings.</b>		
CRP.04.03.01.b. Apply active listening strategies (e.g., be attentive, observe non-verbal cues, ask clarifying questions, etc.).	Team activity – process	
CRP.04.03.02.c. Model active listening strategies in formal and informal settings.	Team activity – process	
<b>CRP.05.02. Performance Indicator: Make, defend and evaluate decisions at work and in the community using information about the potential environmental, social and economic impacts.</b>		
CRP.05.02.01.c. Evaluate and defend decisions applied in the workplace and community situations.	Oral reasons Team activity – content Team activity – presentation	
CRP.05.02.02.c. Evaluate workplace and community situations and propose decisions to be made based upon the positive impact made on environment, social and economic areas.	Team activity – content Team activity – presentation Team activity – process	
<b>CRP.06.02. Performance Indicator: Assess a variety of workplace and community situations to identify ways to add value and improve the efficiency of processes and procedures.</b>		
CRP.06.02.01.c. Evaluate past workplace and community situations and determine how processes and procedures impacted outcomes.	Team activity – content Team activity – presentation Team activity – process	
<b>CRP.06.03. Performance Indicator: Create and execute a plan of action to act upon new ideas and introduce innovations to workplace and community organizations.</b>		
CRP.06.03.02.b. Elicit and assimilate input and feedback from individuals and organizations about new ideas or innovations for the workplace or community.	Team activity – process	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>CRP.07.02. Performance Indicator: Evaluate the validity of sources and data used when considering the adoption of new technologies, practices and ideas in the workplace and community.</b>		
CRP.07.02.01.b. Assess data sources for reliability and validity.	Team activity – presentation Team activity – process	
CRP.07.02.02.b. Assimilate data to assist in making a decision about the adoption of a new technology, practice or idea by workplaces and community organizations.	Team activity – presentation Team activity – process	
<b>CRP.08.01. Performance Indicator: Apply reason and logic to evaluate workplace and community situations from multiple perspectives.</b>		
CRP.08.01.01.b. Apply steps for critical thinking to a variety of workplace and community situations.	Team activity – process	
CRP.08.01.02.b. Assess solutions to workplace and community problems for evidence of reason, logic and consideration of multiple perspectives.	Team activity – process	
<b>CRP.08.02. Performance Indicator: Investigate, prioritize and select solutions to solve problems in the workplace and community.</b>		
CRP.08.02.01.b. Assimilate and prioritize potential solutions to solve problems in the workplace and community.	Team activity – process	
CRP.08.02.02.c. Evaluate and select solutions with greatest potential for success to solve workplace and community problems.	Team activity – process	
<b>CRP.08.03. Performance Indicator: Establish plans to solve workplace and community problems and execute them with resiliency.</b>		
CRP.08.03.02.b. Create plans to solve workplace and community problems.	Team activity – content Team activity – presentation Team activity – process	
<b>CRP.09.03. Performance Indicator: Demonstrate behaviors that contribute to a positive morale and culture in the workplace and community (e.g., positively influencing others, effectively communicating, etc.).</b>		
CRP.09.03.02.c. Model respectful and purposeful behaviors that contribute to positive morale and culture in the workplace and community (e.g., effectively communicating, recognizing accomplishments of others, etc.).	Team activity – process	

Measurements Assessed	Event Activities Addressing Measurements	Related Academic Standards
<b>CRP.11.01. Performance Indicator: Research, select and use new technologies, tools and applications to maximize productivity in the workplace and community.</b>		
CRP.11.01.02.c. Evaluate effectiveness and make recommendations for using new technologies, tools and applications in the workplace and community.	Team activity – content Team activity – presentation	
<b>CRP.12.01. Performance Indicator: Contribute to team-oriented projects and build consensus to accomplish results using cultural global competence in the workplace and community.</b>		
CRP.12.01.03.b. Assess the need and benefit for cultural and global competency in team settings at work and in the community.	Team activity – process	
<b>CRP.12.02. Performance Indicator: Create and implement strategies to engage team members to work toward team and organizational goals in a variety of workplace and community situations (e.g., meetings, presentations, etc.).</b>		
CRP.12.02.02.b. Select strategies to engage team members and apply in a variety of situations.	Team activity – presentation Team activity – process	
<b>BS.03.04. Performance Indicator: Apply biotechnology principles, techniques and processes to enhance plant and animal care and production (e.g., selective breeding, pharmaceuticals, biodiversity, etc.).</b>		
BS.03.04.02.b. Assess the benefits, risks and opportunities associated with using biotechnology to promote animal health.	Event exam Team activity – content Team activity – presentation	HS-ETS1-2 HS-LS4-6