

STATE OF WYOMING
AGRICULTURE & NATURAL RESOURCES CLUSTER AND
NATURAL RESOURCE MANAGEMENT PATHWAY COMPETENCIES

AGRICULTURE COMPETENCIES

Cluster Level Core Competencies & Objectives

COMPETENCY

AS1 **Students will demonstrate knowledge of impacts of agriculture on society.**

OBJECTIVES

AS1-1 Students will identify careers in agriculture/ industries

- Identify occupations in agriculture
- Identify individual agriculture career interests

AS1-2 Students will recognize the role of agriculture in society

- Trace major changes and accomplishments in the history of agriculture
- Analyze the importance of agriculture to society
- Demonstrate understanding of the scope of world agricultural production
- Describe the role of consumers in world agriculture systems
- Describe the use of science and technology in world food and fiber production

COMPETENCY

AS2 **Students will demonstrate written and verbal communication skills.**

OBJECTIVES

AS2-1 Students will demonstrate public speaking skills

- Demonstrate effective speaking techniques
- Organize and present a persuasive message

AS2-2 Students will read, comprehend, and interpret technical materials/publications

AS2-3 Students will produce

- Technical report/research paper
- Resume, letter of job application, cover letter application, cover letter and/or job application form

COMPETENCY

AS3 Students will demonstrate an understanding of agribusiness principles and skills.

OBJECTIVES

- AS3-1 Students will describe personal finance management
- Demonstrate the components of personal finances and goal making
 - Distinguish the pros and cons of borrowing money
 - Identify sources of credit.
- AS3-2 Students will maintain and complete a set of financial records based on a Supervised Agricultural Experience Project (SAE) or a simulated class activity
- AS3-3 Students will explain keeping and using records in agricultural occupations
- Explain the purpose of record keeping
 - Complete a balance sheet
 - Demonstrate understanding of cash flow, income statements, and computerized record keeping

COMPETENCY

AS4 Students will demonstrate understanding of applied sciences in agriculture.

OBJECTIVES

- AS4-1 Students will describe how the scientific method is used in agricultural research
- AS4-2 Students will explain the steps of the scientific method

COMPETENCY

AS5 Students will demonstrate understanding of the Future Farmers of America (FFA) organization.

OBJECTIVES

- AS5-1 History and membership of FFA
- AS5-2 Parliamentary procedure
- AS5-3 Identify opportunities through FFA
- AS5-4 Demonstrate leadership, citizenship, and cooperation skills

Agriculture & Natural Resources Cluster

NATURAL RESOURCE MANAGEMENT PATHWAY

Pathway Core Competencies & Objectives

COMPETENCY

ASNRM1 **Students will demonstrate an understanding of natural resource management.**

OBJECTIVES

- ASNRM1-1 Students will explore natural resources
- Identify types of natural resources
 - Distinguish between renewable and nonrenewable resources.
- ASNRM1-2 Students will examine the relationship between natural resources and society, including conflict management
- Define natural resource management
 - Identify and compare major natural resource management agencies and companies
 - Investigate applicable acts and laws pertaining to natural resources
 - Describe human demands on natural resources
- ASNRM1-3 Students will demonstrate an understanding of water resources, watersheds and management
- Explain the water cycle
 - Determine water usage and conservation
 - Identify water sources and quality standards
 - Conduct water quality tests
 - Explain water distribution and regulation
 - Identify the importance of wetlands
- ASNRM1-4 Students will demonstrate an understanding of fisheries/wildlife resources and management
- Describe the food chain and natural selection
 - Define, recognize the importance of, and understand management of fish and wildlife habitat
 - Identify game animals and their respective food webs
 - Analyze and interpret endangered species
- ASNRM1-5 Students will demonstrate an understanding of forest resources and management
- Describe forest ecology and the importance of forests
 - Explain the role of fire in forest management
 - Examine reforestation practices.

- ASNRM1-6 Students will demonstrate an understanding of recreation and resources management
- Identify and explore outdoor recreational enterprises
 - Compare various recreational uses of the region
 - Investigate the economic and environmental impact of the outdoor recreation industry
- ASNRM1-7 Students will assess soil resources and management
- Explain the importance of soil
 - Describe soil texture, structure, and profile
 - Describe soil erosion and management practices
- ASNRM1-8 Students will demonstrate understanding of land classification, planning inventory, and monitoring methods
- Students will describe the interrelationships between land use planning and natural resources
 - Students will demonstrate how GIS applies to land use planning
 - Students will develop a basic plan for monitoring a natural resource project

COMPETENCY

ASNRM2 Students will analyze waste generation, waste reduction, disposal and impacts.

OBJECTIVES

- ASNRM2-1 Students will compare and contrast waste disposal methods
- ASNRM2-2 Students will assess agriculture’s impact on the environment through waste generation (i.e., animal waste, pesticide residue, fertilizer runoff, sedimentation/erosion, and odors/dust)

COMPETENCY

ASNRM3 Students will demonstrate an understanding of range resources and management.

OBJECTIVES

- ASNRM3-1 Students will evaluate range management systems, economics, and improvement techniques
- ASNRM3-2 Students will evaluate
- Livestock use of rangeland
 - Wildlife use of rangeland
 - Range plant succession

COMPETENCY

ASNRM4 Students will understand ecology, ecosystems, and biomes.

OBJECTIVES

- ASNRM4-1 Students will define concepts (i.e. communities, ecosystems, population ecology, food web, homeostasis, and succession)
- ASNRM4-2 Students will identify biomes and explain ecosystem diversity
- ASNRM4-3 Students will use research methodologies to investigate an ecological problem

COMPETENCY

ASNRM5 Students will demonstrate an understanding of air resources and management.

OBJECTIVES

- ASNRM5-1 Students will describe the effects of air pollution on people and their environment
- ASNRM5-2 Students will assess methods of controlling air pollution