



Fundamental Natural Resources

Career Cluster	Agriculture, Food and Natural Resources
Course Code	18504
Prerequisite(s)	Recommended: Introduction to AFNR
Credit	0.5 or 1.0 credit
Program of Study and Sequence	Cluster course – Fundamental Natural Resources – Advanced Natural Resources or Wildlife and Fisheries – Capstone
Student Organization	National FFA Organization
Coordinating Work-Based Learning	Job shadowing, mentoring, internships, entrepreneurship, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)
Industry Certifications	OSHA 10 Hour Safety Certification (General Industry), National Career Readiness Certificate (NCRC)
Dual Credit or Dual Enrollment	https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf
Teacher Certification	Agriculture Food and Natural Resources Cluster Endorsement; Natural Resources and Environmental Service Pathway Endorsement; *Agriculture Education
Resources	

Course Description

People depend on natural resources. Regions, cultures, nations, and societies are shaped by how people use land, water, plants, and wildlife. South Dakota’s natural resources – minerals, forests, ranges, wetlands, lakes, rivers, soils, along with all connected domestic and native plant and animal communities – play an important role in its economic health, including mining, agriculture, outdoor recreation, and tourism. The large and small ecosystems that make up the environment are complex. Fundamental Natural Resources provides students with an overview of the planet’s natural resource systems, along with examining those resources unique to South Dakota. Students will explore and develop a basic understanding of how the systems relate to one another. Students will consider the roles people play in, and the occupations related to, managing, using, protecting, and conserving natural resources. Classroom and laboratory content should be enhanced by utilizing up to date equipment and technology, such as Geographic Information System (GIS) software. Biology, statistics, algebra, English, and human relations skills will be reinforced throughout the course. Opportunities for application of clinical and leadership skills are provided by participation in FFA activities, conferences and skills competitions such as sales related career development events and proficiency awards. Each student will be expected to maintain a Supervised Agricultural Experience (SAE) Program/Internship.

Program of Study Application

Fundamental Natural Resources is a first pathway course in the Agriculture, Food and Natural Resources cluster, Natural Resources and Environmental Science Systems pathway. Fundamental Natural Resources would follow a cluster course and would prepare a student to participate in either Advanced Natural Resources or Wildlife and Fisheries.

Course Standards

FNR 1: Examine the importance of resource and human interrelations to conduct management activities in natural habitats.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	FNR 1.1 Explain resource management components to establish or enhance relationships in natural resource systems.
Two Skill/Concept	FNR 1.2 Explain GPS and GIS and how they impact natural resource management activities.
Two Skill/Concept	FNR 1.3 Examine planning data to determine natural resource status.
One Recall	FNR 1.4 Discuss safety related to weather and other criteria in an outdoor environment.
Two Skill/Concept	FNR 1.5 Investigate forestry management techniques.
Two Skill/Concept	FNR 1.6 Define and Investigate the role of ecosystem services and their impact on human society.

FNR 2: Interpret scientific principles of natural resource management activities.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	FNR 2.1 Identify and classify plant- and animal-based natural resources.
Two Skill/Concept	FNR 2.2 Identify natural cycles and related phenomena to describe ecological concepts and principles.
Two Skill/Concept	FNR 2.3 Examine soil compositions, properties, and health.
Two Skill/Concept	FNR 2.4 Demonstrate techniques used to classify soils.
Two Skill/Concept	FNR 2.5 Explain the importance of soil conservation.
Three Strategic Thinking	FNR 2.6 Analyze wetland, watershed and groundwater properties, classifications and functions.

FNR 3: Describe production practices and processing procedures for natural resources.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	FNR 3.1 Describe how natural resource products are produced, harvested, processed and used.

FNR 4: Develop employability skills related to the AFNR Cluster.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	FNR 4.1: Develop soft skills to enhance employability.

FNR 5: Implement an individual project for career development through a Supervised Agriculture Experience/Work based Experience.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	FNR 5.1 Develop an individual project plan with goals and timeline.
Two Skill/Concept	FNR 5.2 Explore opportunities within AFNR industries.
Three Strategic Thinking	FNR 5.3 Apply concepts of financial management appropriate to agricultural projects and personal finances.
Three Strategic Thinking	FNR 5.4 Develop and document knowledge and skills to ensure workplace safety regarding personal health and environmental management.
Four Extended Thinking	FNR 5.5 Research and analyze how public policy, laws, and advocacy impact agricultural systems and agricultural literacy.

FNR 6: Explain responsible practices to protect natural resources.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	FNR 6.1 Describe techniques and equipment needed to manage and conserve natural resources.
Two Skill/Concept	FNR 6.2 Discuss animal and plant disease symptoms and prevention.
One Recall	FNR 6.3 Recognize insect types and available controls to prevent insect infestation.