

Golden Standards- Barron Agricultural Education- Forestry Science

Overall- the Agricultural Education Program Standards – as stated by DPI-Ag/Natural Resources Team are to:

- ❖ to prepare students for careers in the agriculture industry;
- ❖ to support students in their career choices;
- ❖ to develop leadership skills in students to benefit their community and the food, fiber, and natural resource systems; and
- ❖ To develop premier leadership, personal growth and career success through agricultural education.

Common Career & Technical Standards- applied to all pathways within AFNR offerings at BHS

Students will be able to:

Content Area: 4C/Creativity, Critical Thinking, Communication and Collaboration

Standard: 4C1: Students will think and work creatively to develop innovative solutions to problems and opportunities.

Standard: 4C2: Students will formulate and defend judgments and decisions by employing critical thinking skills.

Standard: 4C3: Students will communicate and collaborate with others to accomplish tasks and develop solutions to problems and opportunities.

Content Area: CD/Career Development

Standard: CD1: Students will consider, analyze and apply an awareness of self, identity and culture to identify skills and talents.

Standard: CD2: Students will identify the connection between educational achievement and work opportunities in order to reach personal and career goals.

Standard: CD4: Students will identify and apply employability skills.

Content Area: LE/Leadership

Standard: LE1: Students will apply leadership skills in real-world, family, community and business and industry applications.

Content Area: IMT/Information, Media and Technology Skills

Standard: IMT1: Students will access, interpret and evaluate information from a variety of sources in order to inform and support premises, arguments, decisions, ideas and initiatives.

Specific Content Areas

Natural Resource Systems, Environmental Science Systems Pathways

Courses included: Wildlife Management, Forestry, Plants, Animals & You , Soil Science

Class: Forestry Science

**Class is also crosswalked with WI Science Standards, and alternative science credit pending.*

*** CCTS and IMT standards listed above are included in this course.*

Golden Standard- WI Agriculture, Food & Natural Resource Standards -2014 <u>AFNR Standard</u>	<u>Maroon Standard</u> <u>AFNR- Learning Priority</u>	<u>AFNR Performance Indicator/</u> <u>What does it look like</u>	<u>Assessment</u> <i>How will I know if students learned the information</i>
<ul style="list-style-type: none">● Content Area: 4C/Creativity, Critical Thinking, Communication and Collaboration● Content Area: CD/Career Development● Content Area: LE/Leadership	Participating in FFA & SAE events	<ul style="list-style-type: none">● Students will participant in relevant SAE and FFA leadership opportunities. See above for CCTS, Career Development, Leadership, and Instructional Media Standards	FFA Career Development Events -Wildlife Management -Environmental Science -Forestry -Envirothon SAE - Related awards- -Degrees -Proficiency applications in related areas

<p>Standard: NR1: Students will explain interrelationships between natural resources and humans necessary to conduct management activities in natural environments.</p>	<p>NR1.a: Apply knowledge of natural resource components to the management of natural resource systems.</p>	<ul style="list-style-type: none"> • NR1.a.3.m: Differentiate between renewable and nonrenewable natural resources. • NR1.a.4.m: Define ecosystem and related terms. • NR1.a.5.h: Research and debate one or more current issues related to the conservation or preservation of natural resources. • NR1.a.6.h: Compare and contrast the interdependence of organisms within an ecosystem. 	<p>-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports</p>
	<p>NR1.b: Classify natural resources.</p>	<ul style="list-style-type: none"> • NR1.b.7.m: Explain morphological characteristics used to identify herbaceous plants. • NR1.b.8.m: Compare and contrast wildlife species. • NR1.b.9.m: Compare and contrast aquatic species. • NR1.b.10.m: Demonstrate techniques used to identify rock, mineral and soil differences. • NR1.b.11.h: Compare and contrast trees and other woody plants. • NR1.b.12.h: Compare and contrast herbaceous plants. • NR1.b.13.h: Compare and contrast wildlife species. • NR1.b.14.h: Conduct an aquatic field inventory experience. 	<p>-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports</p>

		<ul style="list-style-type: none"> • NR1.b.15.h: Identify rock, mineral and soil types. • 	
Standard: NR2: Students will apply scientific principles to natural resource management activities	.NR2.a: Use cartographic skills to aid in developing, implementing and evaluating natural resource management plans, measure and survey for natural resource status in developing related plans with interpretation of laws related to natural resource management and protection.	<ul style="list-style-type: none"> • NR2.a.7.h: Demonstrate safety practices. • NR2.a.8.h: Demonstrate and use appropriate techniques and equipment when working with biohazard materials along with appropriate responses. • NR2.a.9.h: Locate natural resources using a land survey and employ a Global Positioning System and/or Geographic Information Systems technologies to inventory features in natural resource management. 	<ul style="list-style-type: none"> -Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports
	NR2.b: Apply ecological concepts and principles to natural resource systems.	<ul style="list-style-type: none"> • NR2.b.4.m: Describe the value of resource inventories and population studies. • NR2.b.5.m: Identify laws associated with natural resource systems. • • NR2.b.8.h: Identify purposes of laws associated with natural resource systems and abide by specific laws pertaining to natural resource systems 	<ul style="list-style-type: none"> -Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports

	NR2.c: Demonstrate natural resource enhancement techniques.	<ul style="list-style-type: none"> • NR2.c.14.h: Develop and conduct a timber stand improvement (TSI) plan. • NR2.c.15.h: Design a blueprint and/or survey of a wildlife habitat. • NR2.c.17.h: Explain natural resource management techniques for improving recreation opportunities. <p>Explain sustainable harvesting techniques</p>	<p>-Written & oral quizzes & exams</p> <p>-In class activities, demonstrations, simulations</p> <p>-Field trips</p> <p>-Lab activities and lab reports</p> <p>-State park planning project</p>
	NR2.d: Apply ecological concepts and principles to natural resource systems.	<ul style="list-style-type: none"> • NR2.d.12.m: Describe the processes associated with ecological succession. • NR2.d.13.m: Explain population ecology, population density and population dispersion. • NR2.d.14.m: Define invasive species along with pollution descriptions and delineation between point and nonpoint source pollutants with descriptions of climatic factors that influence natural resources. • NR2.d.15.h: Diagram biogeochemical cycles and explain the processes. • NR2.d.16.h: Relate the function of watersheds to natural resources. 	<p>-Written & oral quizzes & exams</p> <p>-In class activities, demonstrations, simulations</p> <p>-Field trips</p> <p>-Field studies</p> <p>-Lab activities and lab reports</p>

		<ul style="list-style-type: none"> • NR2.d.17.h: Explain stream hydrology and structure and determine different classes of streams. • NR2.d.19.h: Give examples of primary-succession and secondary-succession species in a community of organisms. • NR2.d.20.h: Evaluate and create a management plan based on a population study for a community of organisms. • NR2.d.21.h: Discuss factors that influence the establishment and spread of invasive species. 	
Standards: NR3: Students will apply knowledge of natural resources to production and processing industries.	NR3.a: Produce, harvest, process and use natural resource products.	<ul style="list-style-type: none"> • NR3.a.14.m: Identify recreational uses of natural resources. • NR3.a.15.h: List and describe uses of trees species and determine when to harvest forest products. • NR3.a.16.h: Describe techniques used in the harvesting of wildlife and aquatic species. • NR3.a.21.h: Debate an issue related to the recreational use of natural resources. 	<p>-Written & oral quizzes & exams</p> <p>-In class activities, demonstrations, simulations</p> <p>-Field trips</p> <p>-Lab activities and lab reports</p>

<p>Standard: NR4: Students will demonstrate techniques used to protect natural resources.</p>	<p>NR4.a: Manage fires in natural resource systems.</p>	<ul style="list-style-type: none"> ● NR4.a.1.e: Recognize forest fire types. ● NR4.a.2.m: Differentiate between desirable and undesirable fires and prepare a report on the role fire plays in a healthy ecosystem. ● NR4.a.3.h: Describe techniques used to suppress wildfires and manage prescribed fires. 	<p>-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports</p>
	<p>NR4.b: Diagnose plant and wildlife diseases and follow protocol to prevent their spread while acquiring management protocol of insect infestations of natural resources.</p>	<ul style="list-style-type: none"> ● NR4.b.5.m: Identify causes of diseases in wildlife. ● NR4.b.6.m: Identify harmful and beneficial insects and signs of insect damage to natural resources. ● NR4.b.7.h: Report the observance of diseases affecting plants to the appropriate authorities. ● NR4.b.8.h: Report observance of insect pests to the appropriate authorities and describe techniques used to manage pests of natural resources. 	<p>-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports</p>
<p>Standard: NR5: Students will use effective methods and venues to communicate natural resource processes to the public.</p>	<p>NR5.a: Communicate natural resource information to the public.</p>	<ul style="list-style-type: none"> ● NR5.a.3.h: Design and/or construct a display communicating a natural resource message for a media type. 	<p>-Written & oral quizzes & exams -In class activities, demonstrations, simulations</p>

			-Field trips -Lab activities and lab reports -Conservation poster contest -Conservation speaking contest
Standard: ESS1: Students will use analytical procedures to plan and evaluate environmental service systems while assessing the impact of policies and regulations on environmental service systems.	ESS1.a: Analyze and interpret samples.	<ul style="list-style-type: none"> ● ESS1.a.4.m: Identify basic laboratory equipment and environmental monitoring instruments and explain their uses. ● ESS1.a.5.h: Determine appropriate sampling techniques, analyze and interpret samples and generate statistical analysis report(s) and prepare valid chemical laboratory samples according to instructions. ● ESS1.a.6.h: Demonstrate proper use, maintenance and calibration of lab and monitoring equipment according to standard operating procedures. 	-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips -Lab activities and lab reports
	ESS1.b: Interpret laws affecting environmental service systems.____	<ul style="list-style-type: none"> ● ESS1.b.2.m: Identify laws associated with Wisconsin environmental service systems. ● ESS1.b.3.h: Identify purposes of Wisconsin laws associated with environmental service systems. 	-Written & oral quizzes & exams -In class activities, demonstrations, simulations -Field trips

			-Lab activities and lab reports
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