

VoCATS Course Blueprint

AGRICULTURAL EDUCATION

6852 - Environmental and Natural Resources II

*Public Schools of North Carolina
State Board of Education • Department of Public Instruction
Curriculum and School Reform Services
Division of Instructional Services*

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This blueprint has been reviewed by business and industry representatives for technical content and appropriateness for the industry. Contact david_e_harris@ncsu.edu for more information.

VoCATS Course Blueprint

A course blueprint is a document laying out the framework of the curriculum for a given course. **Shown on the blueprint are the units of instruction, the core competencies in each unit, and the specific objectives for each competency. The blueprint illustrates the recommended sequence of units and competencies and the cognitive and performance weight of the objective within the course.**

The blueprint should be used by teachers to plan the course of work for the year, prepare daily lesson plans, construct instructionally valid interim assessments. Statewide assessments are aligned directly with the course blueprint.

For additional information about this blueprint, contact program area staff. For additional information about VoCATS, contact program area staff or VoCATS, Career-Technical Education, Division of Instructional Services, North Carolina Department of Public Instruction, 6358 Mail Service Center, Raleigh, North Carolina 27699-5358, 919/807-3876, email: rwelfare@dpi.state.nc.us.

Interpretation of Columns on VoCATS Course Blueprints

No.	Heading	Column information
1	Comp# Obj.#	Comp=Competency number (two digits); Obj.=Objective number (unique course identifier plus competency number and two-digit objective number).
2	Unit Titles/Competency and Objective Statements	Statements of unit titles, competencies per unit, and specific objectives per competency. Each competency statement or specific objective begins with an action verb and makes a complete sentence when combined with the stem "The learner will be able to. . ." (The stem appears once in Column 2.) Outcome behavior in each competency/objective statement is denoted by the verb plus its object.
3	Time Hrs	Space for teachers to calculate time to be spent on each objective based on the course blueprint, their individual school schedule, and analysis of students' previous knowledge on the topic.
4&5	<u>Course Weight</u> Cognitive Performance	Shows the relative importance of each objective, competency, and unit. Weight is broken down into two components: cognitive and performance. Add the cognitive and performance weights shown for an objective in columns 4 and 5 to determine its total course weight. Course weight is used to help determine the percentage of total class time that is spent on each objective. The breakdown in columns 4 and 5 indicates the relative amount of class time that should be devoted to cognitive and performance activities as part of the instruction and assessment of each objective. Objectives with performance weight should include performance activities as part of instruction and/or assessment.
6	Type Behavior	Classification of outcome behavior in competency and objective statements. (C=Cognitive; P=Performance)
7	Integrated Skill Area	Shows links to other academic areas. Integrated skills codes: A=Arts; E=English Language Arts; CD=Career Development; CS=Information/Computer Skills; H=Healthful Living; M=Math; SC=Science; SS=Social Studies.
8	Core Supp	Designation of the competencies and objectives as Core or Supplemental. Competencies and objectives designated "Core" must be included in the Annual Planning Calendar and are assessed on the statewide assessments..

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AGRICULTURAL EDUCATION
COURSE BLUEPRINT FOR 6852 – ENVIRONMENTAL & NATURAL RESOURCES II
(Recommended hours of instruction: 135-180)

Comp # Obj #	Unit Titles/Competency and Objective Statements (The Learner will be able to:)	Time Hours	Course Weight		Type Behavior	Integrated Skill Area	Core Supp
			Cognitive	Performance			
1	2		4	5	6	7	8
			100%				
	Total Course Weight		74%	26%			
A	LEADERSHIP DEVELOPMENT		5%	4%			
ER01.00	Demonstrate the major components of leadership involved in successful employment in environmental and natural resources.		2%	1%			
<i>ER01.01</i>	<i>Identify leadership qualities desired by the natural resources industry.</i>		2%		C1	CD/E	Core
<i>ER01.02</i>	<i>Develop leadership qualities through participation in the environmental and natural resource instructional program.</i>			1%	CSP	CD/E	Core
ER02.00	Adapt public speaking techniques to the audience and purpose of the communication.		2%	1%			
<i>ER02.01</i>	<i>Describe the major types of speeches and the variables to be considered when presenting the speeches.</i>		2%		C1	E	Core
<i>ER02.02</i>	<i>Use public speaking techniques to deliver a speech on an environmental and natural resources topic.</i>			1%	C3P	E	Core
ER03.00	Apply Robert's Rules of Order to conduct business meetings of environmental and natural resource organizations.		1%	2%			
<i>ER03.01</i>	<i>Analyze the role that Roberts' Rules of Order plays in the orderly conduct of business.</i>		1%		C3	E/SS	Core
<i>ER03.02</i>	<i>Use Robert's Rules of Order to conduct an orderly transaction of business.</i>			2%	C3P	E/SS	Core
B	SUPERVISED AGRICULTURAL EXPERIENCE PROGRAM		4%	3%			
ER04.00	Use career objectives to design a school-to-work employment plan.		2%	1%			
<i>ER04.01</i>	<i>Describe the procedures to follow in planning and implementing a school-to-work employment plan.</i>		2%		C1	CD/E	Core
<i>ER04.02</i>	<i>Use career objectives to create an individual written school-to-work employment plan.</i>			1%	C3P	CD/E	Core

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ER05.00	Develop a financial record system for use in the environmental and natural resources industry.		2%	2%			
<i>ER05.01</i>	<i>Identify the elements in a financial statement.</i>		2%		C1	M	Core
<i>ER05.02</i>	<i>Use a record keeping system to compose a financial statement.</i>			2%	C3P	M	Core
C	FORESTRY		11%	4%			
ER06.00	Summarize information about common tree species, insects and diseases that occur in North Carolina.		6%				
<i>ER06.01</i>	<i>Summarize the identifying characteristics and value of trees in North Carolina.</i>		4%		C2	E/SC	Core
<i>ER06.02</i>	<i>Discuss common forest pests and their damage.</i>		2%		C2	E/SC	Core
ER07.00	Examine management practices related to forestry production as recommended by the North Carolina Division of Forest Resources (NCDFR).		5%	4%			
<i>ER07.01</i>	<i>Summarize proper road layout and construction in relation to forestry management.</i>		2%		C2	E/SC	Core
<i>ER07.02</i>	<i>Discuss silvicultural practices as related to their benefit to the production of forestry products.</i>		3%		C2	E/SC	Core
<i>ER07.03</i>	<i>Demonstrate harvesting skills that reflect management practices as recommended by the NCDFR.</i>			4%	C3P	E/SC	Core
<i>ER07.04</i>	<i>Apply forestry concepts to evaluate timber in a natural setting.</i>				C3P	E/SC/SS	Supp
<i>ER07.05</i>	<i>Apply Global Positioning System (GPS) technology in the management of a forest.</i>				C3P	E/SC/SS/M	Supp
D	NATURAL RESOURCES RECREATIONAL OPPORTUNITIES		14%	2%			
ER08.00	Examine basic procedures involved in camping.		4%				
<i>ER08.01</i>	<i>Discuss the fundamentals of establishing and using a campsite for cooking and living.</i>		4%		C2	E/H/SC	Core
<i>ER08.02</i>	<i>Use the principles of surveying to identify state and privately operated camping sites in the community.</i>				C3P	E/H/SC	Supp
<i>ER08.03</i>	<i>Use principles of camping to plan a camping trip.</i>				C3P	E/H/SC	Supp
ER09.00	Apply principles of hunting and firearm safety.		6%				
<i>ER09.01</i>	<i>Discuss the history and purposes of hunter education.</i>		2%		C2	E/H/SC/SS	Core

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ER09.02	<i>Explain responsibilities of hunters in regard to the safe use of firearms.</i>		4%		C2	E/H/SC/SS	Core
ER09.03	<i>Demonstrate knowledge and proficiencies needed to obtain NC hunter certification.</i>				C3P	E/H/SC/SS	Supp
ER09.04	<i>Demonstrate the safe use of firearms.</i>				C3P	H/H/SC/SS	Supp
ER10.00	Examine basic principles of freshwater fishing.		4%	2%			
ER10.01	<i>Summarize fundamentals associated with freshwater fishing and equipment selection.</i>		4%		C2	E/SC	Core
ER10.02	<i>Demonstrate freshwater angling techniques.</i>			2%	C3P	E/SC/SS	Core
E	SOIL AND LAND RESOURCES		6%	7%			
ER11.00	Apply practices related to classifying soils according to their potential agricultural and urban use.			5%			
ER11.01	<i>Evaluate soil properties that affect land use in agricultural and urban areas.</i>			3%	C3P	E/SC/SS	Core
ER11.02	<i>Critique land capability classes to determine possible land use.</i>			2%	C3P	E/SC/SS	Core
ER11.03	<i>Apply judging techniques to evaluate the properties and use of soils.</i>				C3P	E/SC/SS	Supp
ER12.00	Examine soil conservation management practices that affect land use planning in rural and urban areas.		4%				
ER12.01	<i>Explain soil conservation considerations and practices in relation to farming situations.</i>		2%		C2	E/SC/SS	Core
ER12.02	<i>Discuss local and regional land use planning concepts.</i>		2%		C2	E/H/SC/SS	Core
ER12.03	<i>Develop a soil conservation or land use plan that maximizes the potential of the site.</i>				C3P	E/M/SC/SS	Supp
ER13.00	Demonstrate the ability to properly sample soils and evaluate test results.		2%	2%			
ER13.01	<i>Interpret a computerized soil report from the North Carolina Department of Agriculture and Consumer Services (NCDA&CS).</i>		2%		C2	E/M/SC	Core
ER13.02	<i>Apply soil sampling skills utilizing soil sampling instructions from NCDA&CS.</i>			2%	C3P	E/M/SC	Core
F	WATER RESOURCES AND THE ENVIRONMENT		11%	2%			
ER14.00	Discuss the properties of water.		4%				
ER14.01	<i>Describe the characteristics of water and the water cycle.</i>		2%		C1	E/H/M/SC	Core
ER14.02	<i>Discuss flowing and nonflowing water.</i>		2%		C2	E/SC	Core
ER14.03	<i>Identify methods of determining volume of water in a river or stream</i>				C1	E/M/SC	Supp

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ER15.00	Analyze water quality issues.		3%	2%			
<i>ER15.01</i>	<i>Describe water pollution and processing methods used for purification.</i>		3%		C1	E/H/SC	Core
<i>ER15.02</i>	<i>Demonstrate the ability to monitor and test water for quality.</i>			2%	C3P	E/H/SC	Core
ER16.00	Discuss the important characteristics and classifications of wetlands.		4%				
<i>ER16.01</i>	<i>Describe the kinds of wetlands and their importance.</i>		2%		C1	E/H/SC/SS	Core
<i>ER16.02</i>	<i>Explain the causes of wetland damage and improvement methods.</i>		2%		C2	E/H/SC/SS	Core
G	WILDLIFE		8%				
ER17.00	Discuss factors related to the management of animals.		6%				
<i>ER17.01</i>	<i>Discuss concepts affecting the interaction of animals and society.</i>		2%		C2	E/SC	Core
<i>ER17.02</i>	<i>Discuss variables affecting wildlife populations.</i>		4%		C2	E/SC/SS	Core
ER18.00	Examine characteristics of animal species.		2%				
<i>ER18.01</i>	<i>Identify animals using characteristics found in NC Wildlife Profiles.</i>		2%		C1	E/SC	Core
<i>ER18.02</i>	<i>Apply environmental principles to develop a habitat or observation point to identify wildlife.</i>				C3P	E/SC	Supp
H	SUSTAINABLE AGRICULTURE		3%				
ER19.00	Explore the importance of and practices involved in sustainable agriculture.		3%				
<i>ER19.01</i>	<i>Describe sustainable agriculture practices and their importance to resource management.</i>		3%		C1	E/SC/SS	Core
<i>ER19.02</i>	<i>Evaluate sustainable agriculture practices being conducted in the community.</i>				C3P	E/SC/SS	Supp
I	ENERGY RESOURCES		6%				
ER20.00	Summarize terms and concepts related to energy.		6%				
<i>ER20.01</i>	<i>Define terms related to energy.</i>		2%		C1	E/SC/SS	Core
<i>ER20.02</i>	<i>Discuss major sources of energy and ways to conserve energy.</i>		4%		C2	E/SC/SS	Core

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J	FISHERIES		2%	4%			
ER21.00	Investigate factors involved in planning and establishing an aquaculture facility.		2%				
<i>ER21.01</i>	<i>Summarize factors involved in planning and managing an aquaculture facility site.</i>		2%		C2	E/M/SC/SS	Core
<i>ER21.02</i>	<i>Research the evolvement of the aquaculture industry in the United States.</i>				C3	E/M/SC/SS	Supp
ER22.00	Establish an aquaculture facility that produces economically beneficial species of fish.			4%			
<i>ER22.01</i>	<i>Analyze the factors and materials necessary for establishing an aquarium aquaculture system.</i>			2%	C3P	E/M/SC/SS	Core
<i>ER22.02</i>	<i>Apply aquaculture concepts in developing a re-circulating aquaculture facility that produces economically beneficial species of fish.</i>			2%	C3P	E/M/SC/SS	Core
<i>ER22.03</i>	<i>Use information about the local geographical region to develop a marketing plan for aquatic crops.</i>				C3P	E/M/SC/SS	Supp
K	CAREERS IN NATURAL RESOURCES AND THE ENVIRONMENT		4%				
ER23.00	Examine careers related to natural resources and the environment.		4%				
<i>ER23.01</i>	<i>Describe careers related to the management of our natural resources and the environment.</i>		4%		C1	E/SC/SS	Core
<i>ER23.02</i>	<i>Analyze a career choice in the natural resources industry.</i>				C3P	E/SC/SS	Supp