

VoCATS Course Blueprint

Agricultural Education

6811 Agricultural Production I

*Public Schools of North Carolina
State Board of Education • Department of Public Instruction
Curriculum and School Reform Services
Division of Secondary Education
Career-Technical Education*

*North Carolina State University
College of Agriculture and Life Sciences
Department of Agricultural & Extension Education*

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This blueprint has been reviewed by business and industry representatives for technical content and appropriateness for the industry. Contact Aaron Fleming, State Agricultural Education Curriculum Coordinator at aaron_fleming@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 Secondary Education, North Carolina Department of Public Instruction, 6359 Mail Service Center, Raleigh, North Carolina 27699-6359, 919/807-3876, VoCATS@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..

Career-Technical Education conducts all activities and procedures without regard to race, color, creed, national origin, gender, or disability. The responsibility to adhere to safety standards and best professional practices is the duty of the practitioners, teachers, students, and/or others who apply the contents of this document.

AGRICULTURAL EDUCATION
COURSE BLUEPRINT for 6811 AGRICULTURAL PRODUCTION I
(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		77%	23%			
A	LEADERSHIP DEVELOPMENT		5%	3%			
AP01.00	Remember organizations related to the agricultural production industry.		2%		C1		
<i>AP01.01</i>	<i>Recognize opportunities for leadership development and youth activities in agricultural production industry organizations.</i>		1%		C1	CD/E/ SS	Core
<i>AP01.02</i>	<i>Recall a conversational knowledge of agricultural production and the agricultural production industry.</i>		1%		C1	A/CD/E SC/SS	Core
AP02.00	Apply the processes used in public speaking and in conducting business meetings in agricultural production organizations.		3%	3%	C3P		
<i>AP02.01</i>	<i>Explain the role of parliamentary procedure in conducting business meetings.</i>		3%		C2	E/SS	Core
<i>AP02.02</i>	<i>Execute key parliamentary procedure abilities that would be used in a business meeting.</i>			3%	C3P	E/M/SS	Core
<i>AP02.03</i>	<i>Compare techniques of public speaking.</i>				C2	E	Supp
B	SUPERVISED AGRICULTURAL EXPERIENCE PROGRAM		7%	3%			
AP03.00	Understand agricultural production as a profession and its importance in relation to the national, state, and local economies.		5%		C2		
<i>AP03.01</i>	<i>Classify the different categories in the broad field of agricultural production.</i>		1%		C2	CD/E/ SC	Core
<i>AP03.02</i>	<i>Explain the economic importance, issues, and trends for each of the different categories of agricultural production.</i>		2%		C2	E/H/M/ SS	Core
<i>AP03.03</i>	<i>Explain how various skills are necessary for employment in agricultural production careers.</i>		2%		C2	CD/E/ SC	Core

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
AP04.00	Analyze occupations in the field of agricultural production and its common career paths.				C3		
AP04.01	Analyze agricultural production industry careers and related employment opportunities.				C3	CD/E/SC	Supp
AP04.02	Compare characteristics, preparation, and credentials needed in agricultural production industry careers.				C2	CD/E/SC	Supp
AP05.00	Apply opportunities for work-based learning experiences related to the agricultural production industry.				C3P		
AP05.01	Implement revisions to career development plans to reflect agricultural production career opportunities.				C3P	CD/E/SC	Supp
AP05.02	Apply techniques of customer relations in an agricultural production business situation.				C3P	CD/CS/E/M	Supp
AP05.03	Compare various markets, marketing methods, and salesmanship techniques in the agricultural production industry.				C2	CD/CS/E/M	Supp
AP05.04	Explain the principles of supply, demand, and advertising..				C2	E/M/SS	Supp
AP06.00	Understand the Supervised Agricultural Experience component of the agricultural production course and apply procedures for keeping records.		2%	3%	C3P		
AP06.01	Classify the component parts of the Supervised Agricultural Experience Record used in the agricultural production course.		2%		C2	CD/E/M	Core
AP06.02	Implement procedures to correctly record entries in the SAE Record or other financial record systems..			3%	C3P	CD/CS/E/M	Core
AP06.03	Compare computer software programs designed to aid record keeping.				C2	CS/M	Supp
C	LIVESTOCK AND POULTRY PRODUCTION		20%				
AP07.00	Understand terms and external parts of agricultural animals.		7%				
AP07.01	Recognize the major external parts of agricultural animals and the terminology used to distinguish animals by age, sex, and physical traits.		5%		C1	E/SC	Core
AP07.02	Classify the major breeds of agricultural animals.		2%		C2	A/SC	Core
AP08.00	Understand the functions and sources of feed nutrients for agricultural animals.		6%		C2		
AP08.01	Recognize five major groups of nutrients and sources for each..		3%		C1	H/SC	Core
AP08.02	Explain the functions of the five major groups of nutrients.		3%		C2	E/H/SC	Core
Comp #	Unit Titles/Competency and Objective Statements	Time	Course Weight		Type	Integrated	Core

Obj #	(The Learner will be able to:)	Hours	Cognitive	Performance	Behavior	Skill Area	Supp
1	2		4	5	6	7	8
AP09.00	Understand reproduction of agricultural animals.		7%		C2		
AP09.01	<i>Recognize terminology related to reproductive management, breeding systems, and the major parts of female and male reproductive systems.</i>		4%		C1	E/H/M/SC	Core
AP09.02	<i>Explain functions of the female and the male reproductive systems.</i>		3%		C2	E/H/SC	Core
AP10.00	Apply approved production practices for each of the major classes of agricultural animals produced in North Carolina.				C3P		
AP10.01	<i>Explain appropriate production practices for optimum production.</i>				C2	CS/E/H/M/SC/SS	Supp
AP10.02	<i>Recognize facilities and equipment needed.</i>				C1	A/CS/E/H/M/SC/SS	Supp
AP10.03	<i>Implement major management tasks associated with optimum production including a marketing plan for a specific class of animal.</i>				C3P	CS/M/SC/SS	Supp
D	AGRONOMY		24%	4%			
AP11.00	Understand land capability classes.		5%		C2		
AP11.01	<i>Explain soil characteristics and properties as they relate to land capability classes and plant growth.</i>		2%		C2	A/E/M/SC	Core
AP11.02	<i>Classify land by capability classes with their recommended uses and management practices for agricultural and urban uses.</i>		3%		C2	A/M/SC/SS	Core
AP12.00	Apply procedures to measure and calculate land acreage.		2%	2%	C3P		
AP12.01	<i>Explain basic units and procedures used to measure land.</i>		2%		C2	A/E/M	Core
AP12.02	<i>Implement procedures for measuring and calculating the acreage in a given land area.</i>			2%	C3P	A/M	Core
AP13.00	Understand how to use soil samples to determine soil fertility.		5%		C3P		
AP13.01	<i>Explain procedures for taking a soil sample and completing an information sheet.</i>		3%		C2	A/E/M/SC	Core
AP13.02	<i>Interpret a soil sample report.</i>		2%		C3P	E/M/SC	Core
AP14.00	Apply procedures to determine the role of nutrients in plant growth.		5%	2%	C3P		
AP14.01	<i>Explain primary and secondary nutrients and the characteristics caused by the specific nutrient deficiencies.</i>		3%		C2	E/M/SC	Core
AP14.02	<i>Compare the advantages and disadvantages of different types of fertilizers.</i>		2%		C2	E/M/SC	Core
AP14.03	<i>Execute procedures to determine the units of primary nutrients needed per acre for various crops.</i>			2%	C3P	M/SC	Core

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			Cognitive	Performance			
1	2		4	5	6	7	8
AP15.00	Understand plant growth principles as they relate to crop production.		7%		C2		
AP15.01	<i>Recognize biological terms used to describe plants and major plant parts with the distinguishing characteristics of each..</i>		4%		C1	E/SC	Core
AP15.02	<i>Explain the functions of plant parts and their relationships and how light, moisture, temperature, and nutrients affect plants.</i>		3%		C2	E/SC	Core
AP16.00	Apply approved production practices for each of the major crops produced in North Carolina.				C3P		
AP16.01	<i>Implement procedures to determine the appropriate varieties, site, tillage, planting, fertilization, irrigation, pest control, and harvesting practices.</i>				C3P	CS/H/M/SC	Supp
AP16.02	<i>Execute a marketing plan for the specific crop.</i>				C3P	CS/E/M/SS	Supp
E	FOREST AND WILDLIFE MANAGEMENT						
AP17.00	Apply approved practices to manage forests.				C3P		
AP17.01	<i>Explain the importance of forestry and forest management and the factors that affect the productivity of forests including harvesting and reforestation techniques.</i>				C2	E/M/SC	Supp
AP17.02	<i>Classify common North Carolina trees based on their physical characteristics.</i>				C2	A/M/SC	Supp
AP17.03	<i>Implement procedures used to measure saw timber and pulpwood.</i>				C3P	M/SC	Supp
AP18.00	Apply principles of managing wildlife on private property.				C3P		
AP18.01	<i>Explain methods of managing wildlife resources and the impact of federal, state, and local legislation on the management and use of wildlife.</i>				C2	CS/E/M/SC/SS	Supp
AP18.02	<i>Implement procedures used to increase and maintain adequate supplies of diverse wildlife populations.</i>				C3P	M/SC/SS	Supp
AP19.00	Apply safe practices in managing and harvesting wildlife species.				C3P		
AP19.01	<i>Explain the responsibilities of a hunter for the purpose of developing safe and efficient wildlife management practices.</i>				C2	E/H/M/SC	Supp
AP19.02	<i>Implement the safe use of firearms, hunting equipment, and supplies.</i>				C3P	H/M/SC	Supp

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1	2		4	5	6	7	8
F	PEST MANAGEMENT		8%				
AP20.00	Understand pesticide safety practices.		4%		C2		
AP20.01	Recall safety regulations for handling, applying, and storing pesticides.		2%		C1	CS/H/M /SC	Core
AP20.02	Explain EPA regulations for the safe handling of pesticides.		2%		C2	CS/E/H/M /SC	Core
AP21.00	Apply procedures for selecting various types of pesticides based on chemical labels.		4%		C3P		
AP21.01	Classify the type of product based upon the label.		2%		C2	E/H/SC	Core
AP21.02	Implement procedures to select pesticides to control common plant and animal pests.		2%		C3P	H/M/SC	Core
G	AGRICULTURAL MECHANICS		13%	13%			
AP22.00	Apply procedures for the safe use of agricultural tools, machinery, and equipment.		4%	4%	C3P		
AP22.01	Explain safety rules including color codes, safety emblems and signs, and the importance of good organization.		2%		C2	A/E/H	Core
AP22.02	Explain the uses of agricultural tools, machinery, and equipment.		2%		C2	E/H/MSC	Core
AP22.03	Implement the procedures for safe use of agricultural tools, machinery, and equipment.			4%	C3P	E/H/M/SC	Core
AP23.00	Apply cold metal skills.		2%	3%	C3P		
AP23.01	Explain skills needed to perform cold metal tasks.		2%		C2	E/SC	Core
AP23.02	Implement procedures used to identify, cut, drill, bend, shape, file, and grind cold metals.			3%	C3P	M/SC	Core
AP24.00	Understand proper procedures for oxyacetylene processes.				C2		
AP24.01	Explain oxy-fuel procedures.				C2	E/SC	Supp
AP24.02	Explain how cutting and welding tips are used to cut and weld metal.				C2	E/SC	Supp

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1	2		4	5	6	7	8
AP25.00	Apply procedures for basic arc welding.		4%	4%	C3P		
AP25.01	Compare types and uses of arc welding machines, welding equipment, and electrodes.		2%		C2	E/SC	Core
AP25.02	Explain basic arc welding procedures.		2%		C2	E/M/SC	Core
AP25.03	Execute basic steps of arc welding in the flat position.			4%	C3P	M/SC	Core
AP25.04	Execute out-of-position welds.				C3P	M/SC	Supp
AP26.00	Apply procedures used to purchase and calculate construction materials.		3%	2%	C3P		
AP26.01	Classify lumber, plywood, and other construction materials and their uses.		3%		C2	E/M/SC	Core
AP26.02	Execute procedures used to calculate board feet and square feet.			2%	C3P	M	Core
AP27.00	Create an agricultural project from wood and/or metal.				C3P		
AP27.01	Explain procedures to design a project.				C2	A/E/M/SC	Supp
AP27.02	Plan a project using correct procedures.				C3P	A/M/SC	Supp
AP27.03	Implement proper procedures for fastening wood and/or metal with nails, bolts, nuts, washers, screws, rivets, taps, and dies.				C3P	M/SC	Supp
AP27.04	Produce a construction project.				C3P	A/M/SC	Supp
AP28.00	Evaluate preventive maintenance procedures for tractors, equipment, and small engines.				C3P		
AP28.01	Explain preventive maintenance procedures for tractors, equipment, and small engines.				C2	E/M/SC	Supp
AP28.02	Check problems in agricultural tractors, equipment, and small engines by using owner's manuals to troubleshoot.				C3P	E/M/SC	Supp