

VoCATS

Course Blueprint

Agricultural Education

6810 Agriscience Applications

Public Schools of North Carolina
State Board of Education • Department of Public Instruction
Office of Instructional and Accountability Services
Division of Instructional Services

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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 or relative importance of the objective within the course.

The blueprint is intended to be used by teachers in planning the course of work for the year preparing daily lesson plans, and constructing instructionally valid assessments.

For additional information about this blueprint, contact program area staff. For additional information about the VoCATS Competency Achievement Tracking System, contact program area staff or VoCATS, Workforce Development, Division of Instructional Services, North Carolina Department of Public Instruction, 301 North Wilmington Street, Raleigh, North Carolina 27601-2825, 919|715-1674, email: rwelfare@dpi.state.nc.us.

Interpretation of Columns on VoCATS Course Blueprints

No.	Heading	Column information
1	Comp# Obj.#	Comp=Competency number (three digits); Obj.=Objective number (competency number plus two-digit objective number).
2	Unit Titles/Competen cy 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	Show 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.

Agriculture Education
COURSE BLUEPRINT for 6810 Agriscience Applications
 (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 4	Performance 5			
1	2				6	7	8
			100%				
	Total Course Weight		81%	19%			
A	BASIC AGRICULTURE AWARENESS		8%				
AG01.00	Explain the development of today's agriculture industry as related to the development of technology.		4%	%	C2	SC/SS	Core
AG01.01	Discuss agriculture, agriscience, and agribusiness and their impact on the development of today's agricultural industry.		2%	%	C2	SC/SS	Core
AG01.02	Describe total worldwide agriscience career opportunities as related to developing technology.		2%	%	C1	SC/SS	Core
AG02.00	Recognize the influence and impact of agriculture on the development of nations around the world.		4%	%	C1	C/SC/SS	Core
AG02.01	Describe historical agricultural discoveries that increased the global production of food and fiber.		2%		C1	C/SC/SS	Core
AG02.02	Name agriscience products and their impact on national and international economic growth.		2%		C1	C/SC/SS	Core
B.	LEADERSHIP & EMPLOYABILITY SKILLS		14%	6%			
AG03.00	Discuss the history of organizations that have made a significant contribution to agriculture.		4%		C2	C/SC/SS	Core
AG03.01	Describe at least ten historical events that have shaped the establishment of Agricultural Education.		2%		C1	C/SC/SS	Core
AG03.02	Summarize three professional agricultural organizations that seek to improve the agricultural industry.		2%		C2	C/SS	Core
AG04.00	Explore leadership development opportunities related to pursuing a career in agriculture.		6%		C3	C/M/SC/SS	Core

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1	2		4	5	6	7	8
AG04.01	Investigate the significance and meaning of the mission, goals, ceremonies and traditions in organizations such as the National FFA Organization.		2%		C3	C/SS	Core
AG04.02	Interpret youth development activities that prepare students for advancement in an agricultural career pathway.		2%		C2	C/M/SC	Core
AG04.03	Explain the significant contributions that the FFA organization has made to the development of leadership for the agricultural industry.		2%		C2	C/SS	Core
AG05.00	Develop professional oral/written communication skills as related to gainful employment in the agriculture industry.		4%	2%	C3	C/SS	Core
AG05.01	Discuss the steps in preparing and delivering a public presentation on an agricultural topic.		2%		C2	C/SS	Core
AG05.02	Describe the order of business and agenda for a school-based organization meeting.		2%		C1	C/SS	Core
AG05.03	Apply parliamentary practices in order to appropriately transact an item of business.			2%	C3P	C/SS	Core
AG06.00	Apply employability skills in work-based learning and career planning activities in order to understand the needs of today's agricultural workplace.			4%	C3P	C/M/SC	Core
AG06.01	Establish a plan for a work-based learning experience program that will allow progress into an agricultural career.			2%	C3P	C/M/SC	Core
AG06.02	Apply basic financial recordkeeping skills for the establishment of a work-based learning experience program.			2%	C3P	C/M/SC	Core
C.	AGRICULTURAL ENGINEERING		15%	2%			
AG07.00	Identify careers related to the field of agricultural engineering.		4%		C1	M/SC	Core
AG07.01	Describe careers related to the agricultural engineering industry.		2%		C1	M/SC	Core
AG07.02	Define tools and materials used in agricultural engineering careers.		2%		C1	M/SS/SC	Core
AG08.00	Summarize personal safety measures in the use of tools, equipment, materials, and fire prevention utilized in agricultural engineering facilities.		7%		C2	M/H/SC	Core
AG08.01	Interpret personal safety hazards related to careers and work related to the field of agricultural engineering.		2%		C2	M/H/SC	Core
AG08.02	Identify safety color meanings as defined by the Occupational Safety and Health Administration.		2%		C1	H/SC	Core

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AG08.03	Discuss conditions necessary for combustion and the appropriate type of fire extinguisher for each class of fire.		3%		C2	M/H/SC	Core
AG09.00	Plan an agricultural engineering project.		4%	2%	C3	M/TI	Core
AG09.01	Describe the drawing equipment needed to produce a scaled drawing of an agricultural engineering project.		2%		C1	A/M/TI	Core
AG09.02	Apply design and drawing interpretation skills to determine methods and materials to be used in building an agricultural engineering project.			2%	C3P	C/M/TI	Core
AG09.03	Discuss tools, equipment and materials needed to construct the selected agricultural engineering project based upon price, availability and user expertise.		2%		C2	H/SC/TI	Core
D.	BIOTECHNOLOGY		8%				
AG10.00	Explain biotechnology applications in the agriculture industry.		4%		C2	H/M/SC	Core
AG10.01	Describe methods of plant and animal improvement as a result of biotechnology.		2%		C1	H/M/SC	Core
AG10.02	Discuss the value of agricultural biotechnology applications related to the food, fiber and natural resource systems.		2%		C2	H/M/SC	Core
AG11.00	Explore concepts and safe practices as related to the use of biotechnology in the production of agricultural products.		4%		C3	H/M/SC	Core
AG11.01	Describe the structure of DNA as related to examples of agricultural plants and animals.		2%		C1	H/M/SC	Core
AG11.02	Investigate recombinant DNA technology and related safety concerns found in the use of agricultural biotechnology.		2%		C3	H/M/SC	Core
E.	ANIMAL SCIENCE		8%	4%			
AG12.00	Investigate careers related to the field of animal science.		4%		C3	H/SC	Core
AG12.01	Discuss careers related to the animal science industry.		2%		C2	H/SC	Core
AG12.02	Examine tools related to the animal science industry.		2%		C3	SC	Core
AG13.00	Interpret the differences between the beef, swine and poultry industry as related to their impact on the agricultural economy.			4%	C2	SC	Core
AG13.01	Discuss the various breeds of beef, swine and poultry as related to the use of each breed.			2%	C2	SC	Core

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AG13.02	Discuss the various breeds of beef, swine and poultry as related to the economic value of each breed.			2%	C2	SC	Core
AG14.00	Interpret animal nutrition and digestion in relation to livestock and poultry management.		4%		C2	H/M/SC	Core
AG14.01	Explain nutritional requirements for livestock and poultry breeds found in North Carolina.		2%		C2	H/M/SC	Core
AG14.02	Describe animal digestive systems of beef, swine and poultry.		2%		C1	H/SC	Core
F.	ENVIRONMENTAL SCIENCE		14%	5%			
AG15.00	Apply conservation practices for water and soil in the environment.		4%	3%	C3	C/H/SC	Core
AG15.01	Investigate water and its properties as it relates to the production of food and fiber.		2%		C3	H/SC	Core
AG15.02	Discuss soil as related to the production of food and fiber.			3%	C2	SC	Core
AG15.03	Summarize careers, equipment and tools related to soil/water management.		2%		C2		
AG16.00	Analyze the conservation practices for utilizing forest, wildlife, fisheries, and environmental resources.		10%	2%	C3	C/H/SC	Core
AG16.01	Describe type of tree species in the U.S. as related to their significance in the forestry industry.		10%	2%	C3	C/H/SC	Core
AG16.02	Explain approved woodlot management as it relates to replanting, harvesting and protecting the woodlot.		2%		C2	SC	Core
AG16.03	Describe careers, equipment, and tools utilized in the forest industry in the United States.		2%		C1	SC/TI	Core
AG16.04	Interpret wildlife management practices as related to good environmental stewardship.		2%		C3	H/SC	Core
AG16.05	Describe career opportunities in the area of wildlife and environmental management.		2%		C1	SC	Core
AG16.06	Compare types of production aquaculture systems and their utility in efficiently producing aquaculture food products.		2%		C3	SC	Core
G.	PLANT SCIENCE		14%	2%			
AG17.00	Interpret career opportunities as related to plant science.		4%		C2	C/SC	Core
AG17.01	Describe career opportunities related to plant science related industries.		2%		C1	C/SC	Core
AG17.02	Discuss tools and materials used in plant science industries.		2%		C2	SC	Core

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AG18.00	Tell what relationships among air, soil, water, and plant nutrients are required for plant growth.		4%		C1	M/SC	Core
AG18.01	Describe basic soil and media requirements for growth of agricultural crops.		2%		C1	M/SC	Core
AG18.02	Identify nutrient requirements and soil amendments needed for the growth of agricultural crops.		2%		C1	M/SC	Core
AG19.00	<i>Analyze the role of photosynthesis, respiration, and transpiration in plants as related to agricultural crops.</i>		4%		C3	C/M/SC	Core
AG19.01	<i>Define the function of major plant parts as related to plant growth and health.</i>		2%		C1	M/SC	Core
AG19.02	<i>Explore the photosynthesis process as related to the growth and development of a plant.</i>		2%		C3	M/SC	Core
AG20.00	<i>Explain the propagation methods used to reproduce plants.</i>		2%	2%	C2	SC	Core
AG20.01	<i>Describe flower and seed parts, including their function.</i>		2%		C1	SC	Core
AG20.02	<i>Discuss methods of asexual propagation using plants that are typically reproduced asexually.</i>			2%	C2	SC	Core