

VoCATS Course Blueprint

Technology Education

8108 Exploring Technology Systems

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

*Raleigh, North Carolina
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This blueprint has been reviewed by business and industry representatives for technical content and appropriateness for the industry. Contact tshown@dpi.state.nc.us for more information.

1/1/03

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 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/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 the students' performance on preassessments.
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 VoCATS Annual Planning Calendar shows how to use the course weight to determine the approximate number of days to be devoted to 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=Psychomotor; A=Affective)
7	Integrated Skill Area	Shows links to other academic areas. Integrated skills codes: A=Arts; C=Communications; CD=Career Development; CS=Information/Computer Skills; H=Health and Safety; 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 pre- and postassessments..

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Comp # Obj #	Unit Titles/Competency and Objective Statements (The Student will be able to:)	Time Hours	Course Weight		Type Behavi or	Integrate d Skill Area	Core Supp 8
			Cognitive 4	Performan ce 5			
1	2		4	5	6	7	8
			100%				
	Total Course Weight	67 ½	36%	64%			
	A INTRODUCTION						
001.00	Apply communication, leadership, and lab safety and management skills.		2%	3%			
001.01	Explain appropriate lab, classroom, and teaming skills.		2%		C1	H/CD/CS	Core
001.02	Apply management, leadership, and communication skills through classroom experiences and student activities. (TSA)			2%	C3P	H/CD/CS	Core
01.03	Create a Career Development Plan.			1%	C3P	CD	Core
	B NATURE OF TECHNOLOGY						
002.00	Analyze the nature of technology.		5%	5%			
002.01	Explain the characteristics and scope of technology.		1%		C2	SC	Core
002.02	Explain the 7 major areas of Technology and distinguish between the natural world and the technological world.		1%		C2	SC/SS	Core
002.03	Explain the relationships among the core concepts of technology.		1%		C2	SC	Core
002.04	Analyze the relationships of the different technologies and their connection with other fields of study.		2%		C3	SC	Core
002.05	Create a product that shows the different areas of technology and its relationship with society.			5%	C3P	SC/SS	Core
	C TECHNOLOGY AND SOCIETY						
003.00	Analyze the relationships between technology and society.		2%	5%			
003.01	Explain the tools and processes used to assess technologies.		2%		C1	SC	Core
003.02	Assess how cultural, social, economic, political, historical and environmental factors affect technology and are affected by technology. (Technology Assessment)			5%	C3P	SC/SS	Core
	D DESIGN AND PROBLEM SOLVING						
004.00	Apply Problem solving and design methods		2%	8%			
004.01	Explain the nature of design and the design/problem solving model DEAL.		2%		C2	SC/A	Core
004.02	Apply design and problem solving concepts and principles.			8%	C3P	SC/A	Core

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			Cognitive	Performan ce			
1	2		4	5	6	7	8
E	ABILITIES FOR A TECHNOLOGICAL WORLD						
005.00	Apply technological tools and systems to real world experiences.		3%	4%			
005.01	<i>Explain the concepts used to develop and maintain technological products and systems.</i>		3%		C2	SC	Core
005.02	<i>Use computers and other tools of technology in various applications.</i>			4%	C3P	CS	Core
	THE DESIGNED WORLD						
F	MEDICAL AND AGRICULTURAL TECHNOLOGY						
006.00	Assess how medical and agricultural technology affects society.		4%	8%			
006.01	<i>Explain how medicine, healthcare, and agriculture have been improved by inventions and innovations.</i>		2%		C2	H/SC/SS	Core
006.02	<i>Describe genetic engineering, including its role in modifying the structure of DNA to produce new biotechnology products.</i>		2%		C2	SC	Core
006.03	<i>Evaluate how healthcare, medicine, agriculture, and biotechnology influence and is influenced by economics, politics, and the environment. (Report – Research)</i>			4%	C3P	H/SC/SS	Core
006.04	<i>Apply the principles of medical, biotechnological, and agricultural technology in an activity.</i>			4%	C3P	SC/C	Core
G	ENERGY, POWER, AND TRANSPORTATION						
007.00	Apply principles of energy, power, and transportation.		6%	8%			
007.01	<i>Describe the types and forms of energy, and scientific principles of energy, power, and transportation.</i>		3%		C2	SC	Core
007.02	<i>Describe systems, sub-systems, and modes of transportation systems.</i>		3%		C2	SC	Core
007.03	<i>Design and fabricate a transportation vehicle.</i>			8%	C3P	SC/A	Core
H	COMMUNICATION SYSTEMS						
008.00	Analyze and produce communication products.		5%	7%			
008.01	<i>Explain the components and types of communication systems.</i>		5%		C2	SC	Core
008.02	<i>Produce a communications product using one of the following: technical drawings, graphic communication, electronic communication.</i>			7%	C3P	SC/CS/C	Core

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I	PRODUCTION SYSTEMS						
009.00	Explain and apply principles of manufacturing and construction.		7%	16%			
<i>009.01</i>	<i>Explain the concepts and principles of manufacturing systems.</i>		2%		C2	SC	Core
<i>009.02</i>	<i>Explain the concepts of separating, forming, combining, and conditioning.</i>		2%		C2	SC	Core
<i>009.03</i>	<i>Create a manufactured product.</i>			8%	C3P	SC/A	Core
<i>009.04</i>	<i>Explain the concepts and principles of structural systems.</i>		3%		C2	SC	Core
<i>009.05</i>	<i>Create a structure.</i>			8%	C3P	SC/A	Core