

VoCATS Course Blueprint

Trade and Industrial Education

7972 Drafting – Engineering 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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Special thanks to the following educators and business people who reviewed and approved this blueprint for technical content and appropriateness for the industry.

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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.

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, 301 North Wilmington Street, Raleigh, North Carolina 27601-2825, 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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TRADE AND INDUSTRIAL EDUCATION
COURSE BLUEPRINT for: 7972 ENGINEERING II
 (Recommended hours of instruction: 135-180 hours)

Comp # Obj #	Unit Titles/Competency and Objective Statements (The Student will be able to:)	Time Hours	Course Weight		Type Behavior	Integrated Skill Area	Core Supp
			Cognitive	Performance			
1	2	3	4	5	6	7	8
			100%				
	Total Course Weight		51%	49%			
A	LEADERSHIP						
D401.00	Demonstrate communication, problem solving, and team building skills.		1%	2%	C3P	C	Core
<i>D401.01</i>	<i>Demonstrate communication skills</i>		1%	1%	<i>C3P</i>	<i>C</i>	<i>Core</i>
<i>D401.02</i>	<i>Demonstrate problem solving and team building skills.</i>			1%	<i>C3P</i>	<i>C</i>	<i>Core</i>
B	3D MODELING						
D402.00	Demonstrate 3D solid modeling techniques.		10%	10%			Core
<i>D402.01</i>	<i>Explain techniques for creating 3D geometry.</i>		7%		<i>C3</i>		<i>Core</i>
<i>D402.02</i>	<i>Explain techniques for modifying and duplicating 3D geometry.</i>		3%		<i>C3</i>		<i>Core</i>
<i>D402.03</i>	<i>Construct a 3D solid model.</i>			10%	<i>C3P</i>		<i>Core</i>

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			Cognitive	Performance			
1	2	3	4	5	6	7	8
C	MANUFACTURING PROCESSES						
D403.00	Demonstrate basic manufacturing processes.		10%	9%	C3P		Core
<i>D403.01</i>	<i>Explain the concepts of manufacturing processes.</i>		4%		C2		Core
<i>D403.02</i>	<i>Explain the ANSI standards of applying annotations to a drawing that best describes the manufacturing processes.</i>		6%		C3		Core
<i>D403.03</i>	<i>Demonstrate the skills needed in applying annotations to a drawing that best describes the manufacturing processes.</i>			9%	C3P		Core
D	DIMENSIONING AND CONVENTIONAL TOLERANCING						
D404.00	Demonstrate intermediate dimensioning and conventional tolerancing techniques.		9%	9%	C3P		Core
<i>D404.01</i>	<i>Explain intermediate dimensioning techniques.</i>		4%		C2		Core
<i>D404.02</i>	<i>Explain procedures for determining tolerance dimensions.</i>		5%		C3		Core
<i>D404.03</i>	<i>Construct drawings that require conventional tolerances.</i>			9%	C3P		Core
E	SECTIONAL VIEWS						
D405.00	Demonstrate the correct techniques for preparing sectional views.		9%	9%	C3P		Core
<i>D405.01</i>	<i>Explain the concepts and principles of sectional views.</i>		9%		C3		Core
<i>D405.02</i>	<i>Construct sectional views.</i>			9%	C3P		Core
F	AUXILIARY VIEWS						
D406.00	Prepare primary auxiliary views.		6%	5%	C3P		Core
<i>D406.01</i>	<i>Explain the concepts and principles of primary auxiliary views.</i>		6%		C3		Core
<i>D406.02</i>	<i>Construct primary auxiliary views.</i>			5%	C3P		Core

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			Cognitive	Performance			
1	2	3	4	5	6	7	8
G	PATTERN DEVELOPMENT						
D407	Prepare pattern developments.		6%	5%	C3P		
<i>D407.01</i>	<i>Explain techniques and procedures for constructing pattern developments.</i>		6%		C3		
<i>D407.02</i>	<i>Construct pattern developments.</i>			5%	C3P		