

VoCATS

Course Blueprint

Agricultural Education

Course Name: Horticulture II

6842

Summer 2003

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, preparing 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 the VoCATS Competency Achievement Tracking System, contact program area staff or VoCATS, Workforce Development, Division of Instructional Services, North Carolina Department of Public Instruction, 6358 Mail Service Center, Raleigh, North Carolina 27600-6358, 919.807.3876, email: rwelfare@dpi.state.nc.us.

Interpretation of Columns on Course Blueprints

No.	Heading	Column Information
1	Comp # & Obj. #	Comp=Competency number (two digits); Obj.=Objective number (unique course identifier 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 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 assessed on the statewide assessments.

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AGRICULTURAL EDUCATION
COURSE BLUEPRINT FOR 6842 - HORTICULTURE 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	3	4	5	6	7	8
			100%				
	Total Course Weight		77%	23%			
A	LEADERSHIP DEVELOPMENT		6%	3%			
HM01.	Demonstrate the major components of leadership involved in successful employment.		2%	1%	C3P		
HM01.01	Identify leadership qualities desired by the horticulture industry.		2%		C1	CD/E	Core
HM01.02	Develop leadership qualities through participation in the horticulture instructional program.			1%	C3P	CD/E	Core
HM02.	Adapt public speaking techniques to the audience and purpose of the communication.		2%	1%	C3P		
HM02.01	Describe the major types of speeches and the variables to be considered when presenting the speeches.		2%		C1	E	Core
HM02.02	Deliver a speech to a horticulture industry organization.			1%	C3P	E	Core
HM03.	Apply <u>Robert's Rules of Order</u> to conduct business meetings of horticulture organizations.		2%	1%	C3P		
HM03.01	Analyze the role of <u>Robert's Rules of Order</u> in the orderly conduct of business.		2%		C3	E/SS	Core
HM03.02	Conduct an orderly transaction of business utilizing <u>Robert's Rules of Order</u> .			1%	C3P	E/SS	Core
B	SUPERVISED AGRICULTURAL EXPERIENCE PROGRAM		4%	3%			
HM04.	Design a school-to-work employment plan based upon career objectives.		2%	1%	C3P		

1	Unit Titles/Competency and Objective Statements (The student will be able to:)	Time Hrs.	Course Weight		Type Behavior	Integrated Skill Area	Core Supp
			Cognitive	Performance			
1	2	3	4	5	6	7	8
HM04.01	Describe the procedures for planning and implementing a school-to-work employment plan.		2%		C1	CD/E	Core
HM04.02	Create an individual written school-to-work employment plan based upon career objectives.			1%	C3P	CD/E	Core
HM05.	Develop a financial record system for use in the horticulture industry.		2%	2%	C3P		
HM05.01	Identify the elements of a financial statement.		2%		C1	M	Core
HM05.02	Compose a financial statement.			2%	C3P	M	Core
C.	FLORICULTURE & NURSERY/LANDSCAPE PLANT IDENTIFICATION		10%				
HM06.	Identify floriculture and nursery/landscape plants.		10%		C1		
HM06.01	Use physical characteristics and uses to identify floriculture plants.		5%		C1	SC	Core
HM06.02	Use physical characteristics and uses to identify nursery/landscape plants.		5%		C1	SC	Core
D.	GREENHOUSE PLANT PRODUCTION		19%	4%			
HM07.	Explore the functions of a greenhouse as related to plant production.		1%	2%	C3P		
HM07.01	Summarize the functions of the greenhouse and its usefulness to plant production.		1%		C2	E/SC	Core
HM07.02	Demonstrate the use of greenhouse environmental controls for heat, air, light and moisture.			2%	C3P	SC	Core
HM08.	Regulate greenhouse equipment to control temperature, light and moisture.		2%		C3		
HM08.01	Compare the greenhouse maintenance items.		1%		C3	M/SC	Core
HM08.02	Explain how temperature, light and moisture are controlled in a greenhouse.		1%		C2	E/M/SC	Core
HM09.	Apply appropriate maintenance of a greenhouse.		2%		C3		
HM09.01	Describe greenhouse weed control procedures.				C1	E/SC	Supp
HM09.02	Investigate the general maintenance of a greenhouse.		2%		C3	M/SC	Core
HM10.	Examine bedding plant production in the greenhouse.		4%		C3		
HM10.01	Describe selected bedding plants including marigolds, geraniums, petunias, pansies, impatiens and begonias.		2%		C1	E/SC	Core

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1	2	3	4	5	6	7	8
HM10.02	Compare cultural requirements of selected bedding plants including marigolds, geraniums, petunias, pansies, impatiens and begonias.		2%		C3	SC	Core
HM11.	Investigate problems related to growing bedding plants in the greenhouse.		6%		C3		
HM11.01	Explain potential problems related to bedding plant production.		2%		C2	SC	Core
HM11.02	Hypothesize causes of problems with bedding plant production.		2%		C3	SC	Core
HM11.03	Propose possible solutions to problems with greenhouse plant production.		2%		C3	SC	Core
HM12.	Seed bedding plants.				C3P		
HM12.01	Explain procedures for sowing seeds.				C3	M/SC	Supp
HM12.02	Demonstrate the use of seed flat containers for sowing bedding plant seeds.				C3P	M/SC	Supp
HM13.	Transplant bedding plants.		2%	2%	C3P		
HM13.01	Compare types of media and containers used in transplanting bedding plants.		2%		C3	M/SC	Core
HM13.02	Use the proper procedures to transplant bedding plants.			2%	C3P	M/SC	Core
HM14.	Apply production methods of photoperiodic greenhouse crops.		2%		C3P		
HM14.01	Compare procedures of photoperiodic production of poinsettias and chrysanthemums.		2%		C3	M/SC	Core
HM14.02	Operate lighting and shading systems in a greenhouse for the production of photoperiodic crops.				C3P	M/SC	Supp
HM15.	Use irrigation methods for selected greenhouse crops.				C3P		
HM15.01	Regulate an automatic watering system.				C3P	M/SC	Supp
HM15.02	Explain the difference in water requirements of plants grown in clay, plastic and peat pots.				C3	M/SC	Supp
HM15.03	Demonstrate the procedure of watering crops to provide good "run-through."				C3P	M/SC	Supp
HM16.	Construct a hanging basket with flowering and foliage plants from the greenhouse.				C3		

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1	2	3	4	5	6	7	8
HM16.01	Examine reasons for selecting specific hanging basket containers.				C3	M/SC	Supp
HM16.02	Research plants that grow well in a hanging basket.				C3	M/SC	Supp
E.	LANDSCAPE DESIGN AND MAINTENANCE		17%	6%			
HM17.	Explore landscaping and landscape planning.		9%		C3		
HM17.01	Summarize occupational opportunities in landscaping		2%		C3	CD/E	Core
HM17.02	Compare different types of plans used in landscaping.		3%		C3	A/M	Core
HM17.03	Examine procedures of landscape planning		4%		C3	A/M/SC	Core
HM18.	Create a landscape plan, illustrating the steps from beginning to finished product.				C3P		
HM18.01	Explore all elements of creating a landscape plan.				C3P	A/M/SC	Supp
HM18.02	Research proper layout of plant materials, tools, and steps to follow in landscaping.				C3	A/M/SC	Supp
HM18.03	Calculate the cost of implementing a landscape plan.				C3	A/M/SC	Supp
HM19.	Research landscape planning aids.				C3P		
HM19.01	Use computer programs to develop landscape plans.				C3P	A/M/CS	Supp
HM19.02	Compare advantages and disadvantages of methods of landscape planning.				C3	A/CC/SC	Supp
HM20.	Research interior landscaping and its objective.		4%		C3		
HM20.01	Summarize the uses of interior landscaping		2%		C2	A/E/SC	Core
HM20.02	Compare the advantages and disadvantages of interior and exterior landscaping.		2%		C3	A/E/SC	Core
HM21.	Plant selected ornamental plants to establish an attractive landscape.		2%		C3P		
HM21.01	Explore methods of planting ornamental plants.		2%		C3	M/SC	Core
HM21.02	Demonstrate procedures for planting bare-root plants, container-grown plants, balled burlapped plants, trees and various bulbs.				C3P	M/SC	Supp

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1	2	3	4	5	6	7	8
HM22.	Maintain newly planted plants in a given environment.			4%	C3P		
HM22.01	Explore maintenance and care of plants after planting to maintain an attractive landscape.			2%	C3P	M/SC	Core
HM22.02	Prepare a maintenance schedule for newly planted shrubs, trees, annuals, and perennials.			2%	C3P	E/M/SC	Core
HM23.	Apply appropriate irrigation methods for newly planted stock in a given landscape.				C3		
HM23.01	Investigate watering needs of newly planted stock.				C3	SC	Supp
HM23.02	Explain different irrigation methods for watering stock.				C3P	SC/M	Supp
HM24.	Explore elements and objectives of soil sterilization.				C3P		
HM24.01	Explain the rationale behind soil sterilization.				C3P	H/SC	Supp
HM24.02	Compare methods of soil sterilization.				C3	H/SC	Supp
HM24.03	Apply appropriate procedures including safety practices related to sterilizing soil.				C3P	H/SC	Supp
HM25.	Prune ornamental plants to maintain an attractive landscape.		2%	2%	C3P		
HM25.01	Compare the principles and effects of the different types of pruning, including seasonal considerations.		2%		C3	SC	Core
HM25.02	Use pruning tools and supplies safely.			2%	C3P	SC	Core
HM26.	Demonstrate different types of pruning.				C3P		
HM26.01	Perform corrective pruning on a damaged tree or shrub.				C3P	A/SC	Supp
HM26.02	Perform corrective pruning on an odd-shaped plant.				C3P	A/SC	Supp
HM26.03	Shear a formal hedge plant to maintain desired confirmation of the plant.				C3P	A/SC	Supp
HM27.	Apply an appropriate procedure for espaliering a given plant.				C3		
HM27.01	Design at least two lattice or trellis designs.				C3	A/M/SC	Supp
HM27.02	Research plants appropriate for espaliering.				C3	A/SC	Supp

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1	2	3	4	5	6	7	8
HM28.	Apply procedures and processes necessary for weed control in the landscape.				C3		
HM28.01	Research weeds common in landscapes.				C3	E/SC	Supp
HM28.02	Recommend methods of weed control in the landscape.				C3	SC	Supp
HM29.	Maintain equipment used in a given landscape.				C3P		
HM29.01	Service parts of small engines used in landscape maintenance equipment.				C3P	H/SC	Supp
HM29.02	Sharpen blades of cutting tools and equipment used in landscaping.				C3P	H/SC	Supp
F.	FLORAL DESIGN		6%	3%			
HM30.	Research flowers, fillers, and materials used in floral arrangements as related to the floricultural industry.		4%		C3		
HM30.01	List characteristics of flowers, fillers, and other components of floral design.		2%		C1	A/E/M/SC	Core
HM30.02	Explain the role of both flowering plants and foliage plants in floral design.		2%		C3	A/E/SC	Core
HM31.	Prepare a specified floral arrangement.		2%	3%	C3P		
HM31.01	Distinguish between floral arrangements.		2%		C3	A/SC	Core
HM31.02	Explore techniques in floral design.			3%	C3P	A/SC	Core
HM32.	Examine procedures for preparing potted plants as an area of floral design.				C3P		
HM32.01	Research common potted plants.				C3	E/SC	Supp
HM32.02	Prepare a potted plant for sale.				C3P	A/E/SC	Supp
G.	NURSERY PRODUCTION		3%	4%			
HM33.	Analyze principles of growing nursery stock for use in a horticultural business.		3%		C3		
HM33.01	Examine practices necessary to produce a plant to salable size in a nursery.		3%		C3	SC	Core
HM33.02	Compare results of practices used in the production of nursery stock.				C3	M/SC	Supp

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1	2	3	4	5	6	7	8
HM34.	Apply appropriate procedures for growing container stock.			4%	C3P		
HM34.01	Demonstrate potting, watering, and calculating fertilizer needs for nursery plants.			2%	C3P	M/SC	Core
HM34.02	Prune young nursery stock to train plant for mature form.			2%	C3P	A/SC	Core
HM35.	Examine ways nursery stock is sold.				C3P		
HM35.01	Compare bare-root, balled and burlapped, and container grown nursery stock.				C3	SC	Supp
HM35.02	Demonstrate the correct procedures for marketing bare-root, balled and burlapped, and container grown nursery stock.				C3P	SC	Supp
HM36.	Prepare specimens for mist-bed propagation.				C3P		
HM36.01	Prepare methods of preparation for hardwood and softwood stem cuttings in the mist bed.				C3	SC	Supp
HM36.02	Prepare selected cuttings for mist-bed propagation.				C3P	SC	Supp
H.	ESTABLISHING AND MAINTAINING LAWNS		8%				
HM37.	Examine lawn grasses adapted to North Carolina.		4%		C3		
HM37.01	Identify North Carolina lawn grass varieties.		2%		C1	E/SC	Core
HM37.02	Determine environmental requirements for North Carolina lawn grasses.		2%		C3	H/SC	Core
HM38.	Examine methods of lawn seed bed preparation.		4%		C3		
HM38.01	Contrast techniques for preparing a seed bed.		2%		C3	E/SC	Core
HM38.02	List the steps involved in preparing a seed bed.		2%		C1	E/SC	Core
HM39.	Examine problems in establishing and maintaining lawns.				C3		
HM39.01	Explain the proper cutting practices for North Carolina lawn grasses.				C3	SC	Supp
HM39.02	Analyze pest and drainage problems in the lawn area.				C3	H/SC	Supp
I	PEST MANAGEMENT		4%				
HM40.	Explore pesticide safety practices.		2%		C3		

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1	2	3	4	5	6	7	8
HM40.01	Research safety regulations for handling, applying, and storing pesticides.		2%		C3	E/H/M/S	Core
HM40.02	Explain EPA regulations for the safe handling of pesticides.		2%		C3	E/H/M/SC	Core
HM41.	Compare chemical labels for various types of pesticides.				C3P		
HM41.01	Determine whether a product is a fungicide, insecticide, or herbicide based upon the label.				C3	E/H/SC	Supp
HM41.02	Select pesticides to control common horticultural plant pests.				C3P	E/H/SC	Supp