

ARIZONA CTE CAREER PREPARATION STANDARDS & MEASUREMENT CRITERIA

PLANT SYSTEMS, 01.0100.3	
STANDARD 1.0—APPLY PRINCIPLES OF ANATOMY AND PHYSIOLOGY TO PRODUCE AND MANAGE PLANTS IN BOTH A DOMESTICATED AND A NATURAL ENVIRONMENT	
1.1	Describe nutrient sources
1.2	Determine plant nutrient requirements for optimum growth
1.3	Identify function of plant nutrients in plants
1.4	Determine the environmental factors that influence and optimize plant growth
1.5	Apply nutrients to plants for economic growth
1.6	Describe nutrient application methods and appropriate practices
1.7	Collect and test soil/media and/or plant tissue
1.8	Interpret tests of soil/media and/or plant tissue
1.9	Identify soil slope, structure and texture
1.10	Evaluate soil/media permeability and water-holding capacity
1.11	Determine the chemical properties of soil/media
1.12	Determine land use capability
1.13	Determine the biological functions of microorganisms of soil/media
1.14	Determine the role of genetics in plants
1.15	Describe the components and functions of plant reproductive parts
1.16	Identify and practice methods of asexual/sexual plant propagation
1.17	Describe the principles of plant micro-propagation
1.18	Apply principles and practices of biotechnology to plant propagation
1.19	Distinguish between natural and artificial plant selection
1.20	Identify plant pests (e.g., insects, diseases, weeds, rodents)
1.21	Determine pest management safety practices
1.22	Determine pest management methods
1.23	Develop pest management plans based on pest life cycles

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1.24	Implement pest control plan with appropriate treatments
1.25	Evaluate pest control plan
1.26	Prevent, identify and manage pest resistance
STANDARD 2.0—ADDRESS TAXONOMIC OR OTHER CLASSIFICATIONS TO EXPLAIN BASIC PLANT ANATOMY AND PHYSIOLOGY	
2.1	Identify plant structures (e.g., seeds)
2.2	Describe physiological functions of plants
2.3	Describe germination process and conditions
2.4	Investigate the seven levels of classifications (Kingdom, Division, Class, Order, Family, Genus, Species)
2.5	Investigate the five kingdoms (Monera, Protists, Fungi, Plants, Animals)
2.6	Classify plants as monocots or dicots
2.7	Classify plants as annuals, biennials or perennials
2.8	Classify plants according to growth habit
2.9	Classify plants by type
2.10	Classify plants by economic value
2.11	Describe horticultural crops
2.12	Define agronomic crops
2.13	Compare and contrast horticultural and agronomic crops
STANDARD 3.0—APPLY FUNDAMENTALS OF PRODUCTION AND HARVESTING TO PRODUCE PLANTS	
3.1	Discuss the development of agriculture in America
3.2	Examine Arizona agriculture and its advancements
3.3	Identify and select seeds and plants
3.4	Manipulate and evaluate environmental conditions (e.g., irrigation, mulch, shading) to foster plant germination, growth and development
3.5	Evaluate and demonstrate planting practices (e.g., population rate, germination/seed vigor, inoculation, seed and plant treatments)
3.6	Evaluate and demonstrate transplanting practices
3.7	Prepare soil/media for planting

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3.8	Control plant growth (e.g., pruning, pinching, disbudding, topping, detasseling, staking, cabling, shearing, shaping)
3.9	Prepare plants and plant products for distribution
3.10	Investigate the production of horticultural crops and agronomic crops