

ARIZONA CTE CAREER PREPARATION STANDARDS & MEASUREMENT CRITERIA

DRAFTING AND DESIGN TECHNOLOGY Architectural Drafting, 15.1300.2	
STANDARD 1.0—APPLY MEASUREMENT AND SCALE CONCEPTS IN DESIGN DRAFTING	
1.1	Identify types of measurement used in design drafting
1.2	Select proper measurement tools
1.3	Perform measurements with hand held instruments
1.4	Determine and apply appropriate scale
1.5	Transcribe illustrations accurately
STANDARD 2.0—INTERPRET ENGINEERING DOCUMENTS AND CONTROL DOCUMENTS	
2.1	Interpret dimensions, symbols, legends, scales, and directions/orientations
2.2	Analyze how content and information are communicated in schematics, blueprints, and technical drawings
2.3	Analyze schematics, blueprints, and technical drawings for clarity, completeness, and accuracy
2.4	Recognize cross-referencing on technical drawings
2.5	Identify and describe basic types of drawings by trade
2.6	Locate and interpret information on specific documents
2.7	Check prints for dimensional accuracy, completeness, and note detail
2.8	Compare schematics to dimensional drawings
2.9	Verify drawing elements
2.10	Identify conflicting data
STANDARD 3.0—CREATE TECHNICAL DRAWINGS	
3.1	Identify, select, and use fundamental drafting techniques for drawings
3.2	Demonstrate freehand lettering technique
3.3	Identify and utilize line types and line weights
3.4	Create title blocks
3.5	Format borders
3.6	Apply notes and dimensions

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3.7	Plot or print drawings using correct layout
3.8	Organize and maintain drawings and supporting documents
STANDARD 41.0—UTILIZE BASIC COMPUTER CONCEPTS, OPERATIONS, AND INFORMATION TECHNOLOGY APPLICATIONS	
4.1	Use computer hardware and input/output devices for design drafting problems
4.2	Apply basic commands of operating system software
4.3	Apply file and disk management techniques
4.4	Import and export data files using different formats (dxf, dxb, Tiff, gif, pcx, eps, spd, or other formats as required)
4.5	Prepare files for electronic transfer
4.6	Access and use the Internet for file transfer
4.7	Access and use a computer network for file management and transfer
STANDARD 51.0—USE A CADD/VDCM (VIRTUAL DESIGN AND CONSTRUCTION MODELING) SYSTEMS AND PROCEDURES	
5.1	Explore and determine applicability of CADD/VDCM systems to the project
5.2	Analyze drawings using CADD/VDCM software functions/commands
5.3	Use CADD/VDCM software commands to set up drawing scale, format, dimensioning, etc.
5.4	Apply layers/visible items, colors, line types, editing commands, and grouping techniques
5.5	Control entity properties
5.6	Incorporate standard parts, symbol libraries, and/or templates
5.7	Control viewing commands
5.8	Create and manipulate views by modifying coordinate system settings
5.9	Minimize a drawing file for storage and transmission
STANDARD 6.0—DETAIL PROJECTION VIEWS/COMPONENTS	
6.1	Determine views for projection (i.e., plan, top, front, etc.)
6.2	Identify, create, and place views for orthographic features
6.3	Identify, create, and place auxiliary views to determine true size, shape, and location of non-orthogonal features
6.4	Identify, create, and place appropriate section views

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6.5	Construct full, half, and offset section of an object
6.6	Utilize various material hatch patterns in section views
STANDARD 7.0a—UTILIZE ARCHITECTURAL DESIGN DRAFTING CONCEPTS	
7.1a	Use architectural terminology in context
7.2a	Interpret legal land descriptions and draft finished site plan
7.3a	Read and interpret architectural drawings
7.4a	Read and interpret plat and/or plot maps
7.5a	Apply architectural symbols to a drawing
7.6a	Use industry standards, codes, and regulations for architectural drafting to solve a problem
STANDARD 8.0—DEMONSTRATE DESIGN DRAFTING CONCEPTS AS RELATED TO ARCHITECTURAL DESIGN USING CADD/VDCM SYSTEMS	
8.1a	Draft a floor plan from preliminary sketch
8.2a	Draft a foundation/basement foundation plan
8.3a	Draft a roof plan
8.4a	Draft an electrical plan locating receptacle, switch, and lighting outlets
8.5a	Draft a plumbing plan showing drain vent system
8.6a	Draft an HVAC plan locating HVAC diffusers, outlets, equipment
8.7a	Draft a reflected ceiling plan combining elements of electrical and HVAC plans
8.8a	Draft, locate, and label fasteners on production, assembly drawings, and parts lists
8.9a	Prepare and draft a window and door schedule
8.10a	Apply dimensions with annotations
8.11a	Develop a set of working drawings for a residential or small commercial structure
8.12a	Draft cabinet elevations
8.13a	Prepare bill of materials for drawings
STANDARD 9.0a—CREATE DRAWINGS OF STRUCTURAL SECTIONS AND DETAILS USING CADD/VDCM SYSTEMS	
9.1a	Draft structural shapes and details

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9.2a	Draft longitudinal and/or cross sections and details
9.3a	Draft wall sections and details
9.4a	Draft a stairway section
9.5a	Draft structural connections
STANDARD 10.0a—CREATE PICTORIAL DRAWINGS AND MODELS	
10.1a	Identify and create isometric drawings using both manual and electronic techniques
10.2a	Identify and create perspective drawings (1-point and 2-point) using both manual and electronic techniques
10.3a	Identify and render materials