# Competency Task List – Secondary Component

# Drafting and Design Technology/Technician, General CIP 15.1301

# High School Graduation Years 2025, 2026, 2027

## 100 Orientation

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 101 | Follow safety measures in the drafting room. |   |   |
| 102 | Display professional demeanor and behavior.  |  |  |

## 200 Introduction to Drafting and Design

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 201 | Identify basic board drafting tools and equipment which are used to produce drawings. |   |   |
|  | RESERVED (202) |   |   |
| 203 | Use various types of scales (architectural, engineer, and metric). |   |   |
| 204 | Create single view drawings using the imperial and metric systems of measurement.  |   |  |
| 205 | Identify components of a drawing. |   |   |
|  | RESERVED (206) |   |   |

## 300 Geometric Construction

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 301 | Draw to scale. |  |   |
| 302 | Draw geometric figures. |  |   |
| 303 | Create drawings using geometric construction principles. |  |  |

## 400 Reserved

## 500 Freehand Drawing and Sketching

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 501 | Sketch the alphabet of lines.  |   |  |
| 502 | Sketch multiview drawings using orthographic principles. |   |   |
| 503 | Sketch isometric drawings. |  |  |
| 504 | Develop a perspective drawing using freehand methods. |  |  |
|  | RESERVED (505-506) |  |  |
| 507 | Communicate ideas using the sketching process. |  |  |
| 508 | Create letters and numbers in single stroke capital letters (Gothic) on a technical sketch.  |  |  |

## 600 Introduction to Engineering Math

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 601 | Determine the scale of various drawings. |   |   |
| 602 | Use basic applied mathematics to solve engineering problems. |   |   |
| 603 | Construct lines using relative, absolute, and polar coordinate systems. |   |   |
| 604 | Establish the relationship among points, lines, and planes in ~~a~~ 3-D space. |   |   |
| 605 | Solve descriptive geometry problems. |  |  |

## 700 Introduction to Mechanical Drawing and Design

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 701 | Draw necessary orthographic views. |   |  |
| 702 | Explain the relationship of orthographic projection in ~~a~~ multi-view drawing. |  |  |
| 703 | Identify 1st angle and 3rd angle projection. |  |  |
| 704 | Draw auxiliary views. |  |  |
| 705 | Draw various types of section views. |  |  |
| 706 | Draw various types of threads and fasteners.  |  |  |
| 707 | Create working drawings (assembly, detail drawings, BOM) |  |  |
| 708 | Create a title block on a mechanical drawing. |  |  |
| 709 | Draw basic welding symbols.  |  |  |
| 710 | Reverse engineer a drawing from an existing part. |  |  |

## 800 Dimensioning

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 801 | Apply measurements, notes, and symbols to a technical drawing. |   |   |
| 802 | Apply ASME Standards for dimensions, tolerances, and notes. |   |   |
| 803 | Apply ISO Standards for dimensions and notes. |   |   |
|  | RESERVED (804-805) |  |  |

## 900 Introduction to Architecture

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
|  | RESERVED (901) |   |   |
| 902 | Construct various plan views. |   |   |
| 903 | Construct interior and exterior elevations. |   |   |
| 904 | Construct ~~a~~ typical building and wall sections. |  |  |
| 905 | Draw a pictorial view. |  |  |
|  | RESERVED (906-907) |  |  |
| 908 | Apply current ADA guidelines to set of architectural plans.  |  |  |

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## 1000 Introduction to Civil Drafting

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 1001 | Construct a site plan.  |   |   |
|  | RESERVED (1002-1004)  |   |  |
| 1005 | Identify survey and/or GPS equipment. |  |  |
| 1006 | Identify the elements used to create a Civil design plan. |  |  |
| 1007 | Read and interpret a deed. |  |  |

## 1100 Introduction to Electronic Drafting

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 1101 | Identify and describe various symbols.  |   |   |
|  | RESERVED (1102) |   |   |

## 1200 Computer Assisted Drafting (CAD)

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 1201 | Utilize input and output devices.  |   |   |
| 1202 | Use drawing aids and controls. |   |   |
| 1203 | Use drawing and editing tools. |   |   |
| 1204 | Use viewing tools. |  |  |
| 1205 | Utilize ~~a~~ commercially built drafting libraries. |  |  |
| 1206 | Produce a custom-built drafting library. |  |  |
| 1207 | Make revisions to existing drawings. |  |  |
| 1208 | Configure and use dimensions and tolerances. |  |  |
| 1209 | Create 3-dimensional models. |  |  |
|  | RESERVED (1210) |  |  |
| 1211 | Create parametric solid models. |  |  |
| 1212 | Create rendered drawings. |  |  |
| 1213 | Import, export, and link drawings. |  |  |
| 1214 | Manage and store files.  |  |  |
| 1215 | Use rapid prototyping methods. |  |  |
| 1216 | Create, modify, and apply text justifications on a CAD system. |  |  |

1 Student Demonstrated Entry-Level Industry Proficiency as Indicated by (X)

Secondary CTE Instructor Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_