

**Drafting and Design Technology/Technician, General
CIP 15.1301
Task Grid**

**Proficiency Level
Achieved:
(X) Indicates
Competency
Achieved to Industry
Proficiency Level**

Unit/Standard Number

Secondary Competency Task List

| | | |
|------------|---|--|
| 100 | ORIENTATION | |
| 101 | Demonstrate safety in the drafting room. | |
| 102 | Demonstrate professionalism. | |
| 200 | INTRODUCTION TO DRAFTING AND DESIGN | |
| 201 | Identify basic board drafting tools and equipment, which are used to produce drawings. | |
| 202 | RESERVED | |
| 203 | Demonstrate the knowledge of the basic uses of scales. | |
| 204 | Demonstrate skill in using Imperial and Metric System of measurement. | |
| 205 | Identify components of a drawing. | |
| 206 | Identify and select a letter style appropriate for technical drawings. | |
| 300 | GEOMETRIC CONSTRUCTION | |
| 301 | Draw to scale. | |
| 302 | Draw geometric figures using basic drafting principles | |
| 303 | Create drawings using geometric construction principles. | |
| 400 | RESERVED | |
| 401 | RESERVED | |
| 402 | RESERVED | |
| 403 | RESERVED | |
| 500 | FREEHAND DRAWING AND SKETCHING | |
| 501 | Identify and sketch the alphabet of lines. | |
| 502 | Sketch orthographic views. | |
| 503 | Sketch an isometric drawing. | |
| 504 | Develop a perspective drawing using freehand methods. | |
| 505 | RESERVED | |
| 506 | RESERVED | |
| 507 | Express an idea using the sketching process. | |
| 508 | Create letters and numbers in single stroke capital letters (Gothic) on a technical sketch. | |

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| 600 | INTRODUCTION TO ENGINEERING MATH | |
| 601 | Use basic math operations to demonstrate scaling techniques. | |
| 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 3-D space. | |
| 605 | Solve descriptive geometry problems. | |
| | | |
| 700 | INTRODUCTION TO MECHANICAL DRAWING AND DESIGN | |
| 701 | Identify and draw necessary orthographic views. | |
| 702 | Explain the relationship of orthographic projection to multiview drawing. | |
| 703 | Identify 1st angle and 3rd angle projection. | |
| 704 | Identify and draw auxiliary views. | |
| 705 | Identify and draw section views. | |
| 706 | Identify and draw threads and fasteners. | |
| 707 | Create working drawings (assembly, detail drawings, BOM) | |
| 708 | Create a title block on a mechanical drawing. | |
| | | |
| 800 | DIMENSIONING | |
| 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. | |
| 804 | Specify dimensions and tolerances using symbols and notes. | |
| 805 | Reverse engineer a drawing from an existing part. | |
| | | |
| 900 | INTRODUCTION TO ARCHITECTURE | |
| 901 | RESERVED | |
| 902 | Construct a floor plan. | |
| 903 | Construct an elevation. | |
| 904 | Construct a typical wall section. | |
| 905 | Draw a pictorial view. | |
| 906 | RESERVED | |
| | | |
| 1000 | INTRODUCTION TO CIVIL DRAFTING | |
| 1001 | Construct a site plan. | |
| 1002 | RESERVED | |

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| 1003 | RESERVED | |
| 1004 | Read and interpret a deed. | |
| 1005 | Identify survey and/or GPS equipment. | |
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| 1100 | INTRODUCTION TO ELECTRICAL AND ELECTRONIC DRAFTING | |
| 1101 | Identify and describe various symbols. | |
| 1102 | Create a schematic wiring diagram. | |
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| 1200 | COMPUTER ASSISTED DRAFTING (CAD) | |
| 1201 | Utilize input and output devices such as printers, plotters, etc. | |
| 1202 | Use drawing aids and controls. | |
| 1203 | Use drawing and editing tools. | |
| 1204 | Use viewing tools. | |
| 1205 | Utilize a commercially built drafting library. | |
| 1206 | Produce a custom built drafting library. | |
| 1207 | Make a revision to an existing drawing. | |
| 1208 | Configure and use dimensions and tolerances. | |
| 1209 | Create 3-dimensional models. | |
| 1210 | RESERVED | |
| 1211 | Create parametric solid models. | |
| 1212 | Render a drawing. | |
| 1213 | Import, export and link drawings. | |
| 1214 | Manage and store files. | |
| 1215 | Use rapid prototyping. | |
| 1216 | Draw, modify and apply text justifications on a CAD system. | |