

Unit/Standard Number	<p style="text-align: center;">High School Graduation Years 2019, 2020 and 2021 and Design Technology/Technician, General CIP 15.1301 Task Grid</p>	<p style="text-align: center;">Drafting</p> <p>Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level</p>
Secondary Competency Task List		
100	ORIENTATION	
101	Demonstrate safety in the drafting room.	
102	Demonstrate professionalism.	
160	Identify and follow the Drafting and Design Program's Rules and Procedures	
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.		
760	Draw common geometric constructions		
761	Draw two-view drawings		
762	Draw three-view drawings		
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.		
860	Identify and use common dimensioning systems		
861	Place proper general notes for manufacturing		
862	Interpret and use correct tolerancing techniques		
863	Draw sectional views, including full, half, aligned broke-out, auxiliary, revolved, and removed sections		
864	Prepare drawings with conventional revolutions and conventional breaks		
865	Draw complete set of working drawings, including details, assemblies, and parts list		
866	Group information on assembly drawing with identification numbering system		
867	Define and describe various manufacturing materials, terminology, numbering systems, and material treatment		
868	Discuss casting processes and terminology		
869	Explain the forging process and terminology		
870	Describe manufacturing processes		

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871	Explain welding process drafting symbols	
872	Electrical schematics	
873	Sheet metal layout	
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	
950	Describe tools and techniques of drafting	
951	Prepare proportional design sketches (1/8" scale)	
952	Sketch preliminary presentation layouts (1/4" scale)	
953	Draw interior perspectives-one point and two point	
954	Draw exterior perspectives-two point	
955	Draw presentation floor plan with furniture (1/4" scale)	
956	Draw presentation elevation views (1/4" scale)	
957	Letter presentation drawings	
958	Use lettering devices	
959	Draw floor plan (1/4" scale)	
960	Check plan dimensions	
961	Draw basement plan (1/4" scale)	
962	Draw foundation plan (1/4" scale)	
963	Draw framing plan	
964	Draw electrical and plumbing plans	
965	Draw exploded view of plans - isometric view	
966	Draw second floor working drawing (1/4" scale)	
967	Draw exterior elevations (1/4" scale)	
968	Draw interior elevations	
969	Check elevation drawings	
970	Draw floor sections (1/4" scale)	
971	Draw typical wall section (3/4" scale)	
972	Draw cabinet sections/details	
973	Draw stair sections	
974	Draw fire place/chimney sections	
975	Draw door section	
976	Draw window section	
977	Draw millwork sections	

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978	Draw parapet and roof sections	
979	Prepare plan abbreviations list/legends	
980	Use reference catalogs, research, internet, e-mail and feedback	
981	Complete a set of specification for a residential structure	
982	Build preliminary scale model (1/8" scale)	
983	Build presentation scale model (1/4" scale)	
984	Describe necessary ingredients for climate control in a residential structure and effects of geographic location and sun control	
985	Explain estimating as it relates to building construction	
986	Code Review	
987	Draw HVAC plan	
988	Draw plumbing plan	
989	Draw electrical plan	
990	Draw structural plan	
991	Draw fire protection plan	
1000	INTRODUCTION TO CIVIL DRAFTING	
1001	Construct a site plan.	
1002	RESERVED	
1003	RESERVED	
1004	Read and interpret a deed.	
1005	Identify survey and/or GPS equipment.	
1060	Sketch preliminary site layout and study environmental impacts	
1061	Draw plot plan, utilities and services	
1062	Check site and plot plans	
1063	Draw landscape plans	
1100	INTRODUCTION TO ELECTRICAL AND ELECTRONIC DRAFTING	
1101	Identify and describe various symbols.	
1102	Create a schematic wiring diagram.	
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.	

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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.		
1260	Explore and learn the auto cad main menu		
1261	Learn how to begin a new drawing		
1262	Examine the status and command lines		
1263	Navigate the auto cad screen and pull-down menu systems		
1264	Discover the uses of dialogue and icon boxes		
1265	Learn how to obtain help from cad while in a drawing		
1266	Perform Plotting Techniques		
1267	Draw a three-dimensional object using 3-D coordinates (wire frame)		
1268	Construct objects using isometric, diametric, and trimetric methods		
1269	Construct objects using oblique drawing methods		
1270	Create a solid model		
1271	Draw objects using one, two or three point perspective/CAD		
1272	Apply a variety of shading techniques to pictorial drawings		
1273	Render a computer drawing		
1274	Apply drafting standards for Autocad		
1275	Prepare drawings using paper space / model space		
1276	Understand file storage / management		
1277	Understand multiple file management		
3000	PERFORMING SUPPLEMENTAL DRAFTING ACTIVITIES		
3060	Draw a cover sheet		
3061	Prepare plan abbreviations list		
3062	Add title block information to drawings		
3063	Indicate on plans the location of section views		
3064	Make copies of original drawings		
3065	File original working drawings		
3066	Perform intermediate reproduction; Scanning Rastor/Vector		
3067	Learn plotting techniques		