Unit/Standard Number	High School Graduation Years 2019, 2020 and 2021 **Machine Tool Technology/Machinist** **CIP 48.0501** **Task Grid**	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
	Secondary Competency Task List	
100	**ORIENTATION / SAFETY**	
101	Describe the Occupational Safety and Health Administration (OSHA) and its role in the machining industry.	
102	RESERVED	
103	Apply general safety procedures.	
104	RESERVED	
105	RESERVED	
106	Review Safety Data Sheets (SDS).	
107	RESERVED	
200	**PERFORMING LAYOUT WORK**	
201	Perform layout work.	
202	RESERVED	
203	Employ basic and precision layout tools.	
300	**PART INSPECTION**	
301	Employ precision measuring instruments.	
302	Calibrate precision measuring instruments.	
303	Conduct quality control procedures.	
400	**BENCH WORK**	
401	Apply bench work safety procedures.	
402	Cut material with a hand hacksaw.	
403	File work to specifications.	
404	Cut threads with hand taps and dies.	
405	RESERVED	
406	Use hand tools.	
407	Use a hand arbor and/or hydraulic press.	
500	**DRILL PRESSES**	
501	Apply drill press safety procedures.	
502	Operate drill press work holding devices.	
503	RESERVED	
504	RESERVED	
505	Select correct drill sizes for drill press application.	
506	RESERVED	
507	Demonstrate counterboring, spotfacing and countersinking.	

Unit/Standard Number	High School Graduation Years 2019, 2020 and 2021 **Machine Tool Technology/Machinist** **CIP 48.0501** **Task Grid**	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
508	RESERVED	
509	RESERVED	
510	RESERVED	
511	RESERVED	
600	**GRINDING MACHINES**	
601	Apply pedestal and surface grinding safety procedures.	
602	Identify parts of pedestal grinder.	
603	Test, mount and dress grinding wheels.	
604	Grind and sharpen tools.	
605	RESERVED	
606	RESERVED	
607	RESERVED	
608	Identify parts of surface grinder.	
609	Grind surfaces flat and parallel using a magnetic chuck.	
610	Grind work surfaces square with a vise or angle plate.	
611	Grind precision angles using a sine plate or sine bar.	
700	**LATHES**	
701	Apply łathe safety procedures.	
702	Mount and indicate work piece in 3-jaw and 4-jaw chucks.	
703	Align centers.	
704	Face workpiece.	
705	RESERVED	
706	Turn inside and outside diameters to shoulders.	
707	Turn tapers.	
708	Demonstrate knurling.	
709	Part off and groove workpiece.	
710	Cut internal and external threads.	
711	RESERVED	
712	File and polish workpiece.	
713	RESERVED	
714	Perform boring operations.	
715	Install and remove tool holders.	
716	Use a collet attachment.	
717	RESERVED	
718	RESERVED	

Unit/Standard Number	High School Graduation Years 2019, 2020 and 2021 **Machine Tool Technology/Machinist** **CIP 48.0501** **Task Grid**	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
719	Select gears for lathe operations.	
800	**MILLING MACHINES**	
801	Apply milling machine safety procedures.	
802	Tram a milling head.	
803	Mount and indicate vise.	
804	Mill angles.	
805	Mill keyways.	
806	RESERVED	
807	RESERVED	
808	RESERVED	
809	Use an edge finder.	
810	Differentiate between climb milling and conventional milling.	
811	Use an adjustable boring head.	
812	RESERVED	
813	Install and remove cutting tool holders.	
814	Select cutter for milling operations.	
815	Square part.	
900	**POWER SAW**	
901	Apply power saw safety procedures.	
902	RESERVED	
903	RESERVED	
904	Follow the 3 tooth rule.	
905	Saw work piece.	
906	RESERVED	
1000	**MACHINES AND TOOLS**	
1001	Lubricate and maintain machinery.	
1002	Clean and store equipment.	
1003	Inspect machine guards.	
1004	RESERVED	
1005	RESERVED	
1100	**METALLURGY**	
1101	Identify metals classifications.	
1102	Identify metal property applications.	

Unit/Standard Number	High School Graduation Years 2019, 2020 and 2021 **Machine Tool Technology/Machinist** **CIP 48.0501** **Task Grid**	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
1103	Identify heat-treating and annealing processes.	
1200	**CHARTS AND REFERENCES**	
1201	Use the decimal equivalent chart.	
1202	Calculate speeds and feeds.	
1203	Use tap and drill charts.	
1204	Use Machinery Handbook and/or shop references to locate information.	
1300	**BLUEPRINT READING**	
1301	Identify orthographic views and projections.	
1302	RESERVED	
1303	Identify the alphabet of lines and symbols.	
1304	RESERVED	
1305	Calculate material sizes.	
1306	Differentiate angle projections.	
1307	RESERVED	
1308	Interpret title block information.	
1400	**CNC PROGRAMMING**	
1401	Apply CNC safety procedures.	
1402	Use G and M codes.	
1403	RESERVED	
1404	Use of Cartesian coordinate systems.	
1405	RESERVED	
1406	Prove a CNC program.	
1407	RESERVED	
1408	RESERVED	
1409	Set part zero and tool offsets.	
1410	Transfer data files to and from a CNC machine.	
1411	use CNC control functions.	
1412	RESERVED	