

Competency Task List – Secondary Component
Machine Tool Technology/Machinist CIP 48.0501
 High School Graduation Years 2025, 2026, 2027

100 Orientation/Safety

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
101	Follow Occupational Safety and Health Administration (OSHA) regulations.		
	RESERVED (102)		
103	Follow safety procedures.		
	RESERVED (104-105)		
106	Follow Safety Data Sheets (SDS).		
	RESERVED (107)		

200 Performing Layout Work

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
201	Perform layout work.		
	RESERVED (202-203)		

300 Part Inspection

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
301	Use precision measuring instruments.		
302	Calibrate precision measuring instruments.		
303	Create quality control procedures.		

400 Bench Work

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
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.		
	RESERVED (405)		
406	Select and use hand tools.		
407	Use a hand arbor and hydraulic press.		

500 Drill Presses

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
501	Apply drill press safety procedures.		
502	Operate drill press work holding devices.		
	RESERVED (503-504)		
505	Select correct drill sizes for drill press application.		
	RESERVED (506)		
507	Demonstrate counterboring, spotfacing, reaming, and countersinking.		
	RESERVED (508-511)		

600 Grinding Machines

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
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.		
	RESERVED (605-607)		
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

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
701	Apply lathe safety procedures.		
702	Indicate work piece in a 4-jaw chuck.		
703	Align centers.		
704	Face workpiece.		
	RESERVED (705)		
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.		
	RESERVED (711)		
712	File and polish workpiece.		

	RESERVED (713)		
714	Perform boring operations.		
715	Install and remove tool holders.		
716	Select and apply work holding devices.		
	RESERVED (717-718)		
719	Select gears for lathe operations.		
720	Perform drilling operations.		
721	Identify parts of engine lathe		

800 Milling Machines

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
801	Apply milling machine safety procedures.		
802	Tram a mill head.		
803	Mount and indicate vise.		
804	Mill angles.		
805	Mill keyways.		
	RESERVED (806-808)		
809	Use an edge finder.		
810	Differentiate between climb milling and conventional milling.		
811	Use an adjustable boring head.		
	RESERVED (812)		
813	Install and remove cutting tool holders.		
814	Select cutting tool for milling operations.		
815	Square part.		
816	Select cutting tool for drilling operations.		
817	Identify parts of manual milling machine		

900 Power Saw

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
901	Apply power saw safety procedures.		
	RESERVED (902-903)		
904	Follow the 3-tooth rule.		
905	Saw work piece.		
	RESERVED (906)		
907	Identify parts of power saw		

1000 Machines and Tools

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
1001	Lubricate and maintain machinery.		
1002	Clean and store equipment.		
1003	Inspect machine guards.		
	RESERVED (1004-1005)		

1100 Metallurgy

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
1101	Identify metals classifications.		
1102	Identify metal property applications.		
1103	Identify heat-treating processes.		

1200 Charts and References

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
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

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
1301	Identify orthographic views and projections.		
	RESERVED (1302)		
1303	Identify the alphabet of lines and symbols.		
	RESERVED (1304)		
1305	Calculate material sizes.		
	RESERVED (1306-1307)		
1308	Interpret title block information.		
1309	Identify the GD&T symbols		

1400 CNC Programming/Operations

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
1401	Apply CNC safety procedures.		
1402	Interpret G and M codes.		
	RESERVED (1403)		
1404	Use Cartesian coordinate systems.		
	RESERVED (1405)		
1406	Prove a CNC program.		
	RESERVED (1407-1408)		
1409	Set part zero and tool offsets.		
1410	Transfer data files to and from a CNC machine.		
1411	Use CNC control functions.		
	RESERVED (1412)		
1413	Select and use workholding devices.		
1414	Identify parts of CNC lathe		
1415	Identify parts of CNC mill		

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

Secondary CTE Instructor Signature _____ Date _____

Student Signature _____ Date _____