

COMPETENCY ANALYSIS PROFILE

General Machinist 429A

SKILL SETS

SKILLS

PROTECT SELF AND OTHERS	Identify health and safety hazards in the workplace	Identify and locate workplace safety features	Wear, adjust, and maintain personal protective equipment	Wear, adjust, and maintain respiratory protectors	Practice safe work habits
5230.0	5230.01	5230.02	5230.03	5230.04	5230.05
	Follow fire procedures	Operate emergency safety equipment	Practice industrial hygiene	Practice housekeeping in the workplace	Conduct pre-operational check of equipment
	5230.06	5230.07	5230.08	5230.09	5230.10
	Report injuries	Follow procedures for applying first aid	Lock out mechanical equipment to ensure zero energy	Handle designated substances	Inspect and operate lifting equipment
	5230.11	5230.12	5230.13	5230.14	5230.15

PLAN AND PREPARE FOR MACHINING JOB	Read and interpret working drawings	Perform calculations for machining operations	Read and interpret work-process documentation	Verify workpiece material	Identify and select cutting fluids
5231.0	5231.01	5231.02	5231.03	5231.04	5231.05
	Identify and select machines	Identify and check machine controls and systems	Identify and select tooling	Identify and prepare cutting tools	Select and calibrate measuring instrument and checking devices
	5231.06	5231.07	5231.08	5231.09	5231.10
	Select machine speeds and feeds	Lay out features of working drawings	Select work-holding devices	Pick up datum/starting position	Select and inspect lifting and rigging equipment
	5231.11	5231.12	5231.13	5231.14	5231.15
	Communicate with co-workers				
	5231.16				

PERFORM WORK-IN- PROCESS DIMENSIONAL OR SURFACE VERIFICATION	Check straight cuts	Check shapes	Check threads	Check holes	Check tapers
5232.0	5232.01	5232.02	5232.03	5232.04	5232.05
	Check hardness	Maintain material identification	Deburr workpiece	Check surfaces	Perform inspection
	5232.06	5232.07	5232.08	5232.09	5232.10
	Complete work documentation				
	5232.11				

PERFORM BENCHWORK	Hand-file	Hand-saw	Hand-drill holes	Hand-thread	Hand-ream
5233.0	5233.01	5233.02	5233.03	5233.04	5233.05
	Repair threads	Hand-finish	Hand-broach	Operate heating equipment	Refurbish machines and components
	5233.06	5233.07	5233.08	5233.09	5233.10
	Practice housekeeping	Complete work documentation			
	5233.11	5233.12			

PERFORM POWER SAWING	Select and visually inspect blade	Lay out features of working drawings	Locate and position workpiece in saw	Select speeds and feeds of saw	Install and test-run blade
5234.0	5234.01	5234.02	5234.03	5234.04	5234.05

GENERAL MACHINIST

Check cut-off 5234.06	Cut shapes using a vertical bandsaw 5234.07	Cut squared and angled surfaces using a power cut-off saw 5234.08	Maintain material identification 5234.09	Deburr workpiece 5234.10
Practice housekeeping 5234.11	Complete work documentation 5234.12			

PERFORM DRILLING USING DRILL PRESS/MACHINE 5235.0	Select drill press/machine tooling 5235.01	Prepare cutting tools for drills 5235.02	Locate and position workpiece in drill press/machine 5235.03	Set up tooling in drill press/machine 5235.04	Select speeds and feeds of drill press/machine 5235.05
	Centre-drill a layout punch mark 5235.06	Drill a hole 5235.07	Chamfer a hole 5235.08	Ream a hole 5235.09	Machine thread a hole 5235.10
	Spotface a hole 5235.11	Counterbore a hole 5235.12	Countersink a hole 5235.13	Deburr workpiece 5235.14	Perform inspection 5235.15
	Practice housekeeping 5235.16	Complete work documentation 5235.17			

PERFORM MACHINE GRINDING 5236.0	Select grinding wheel 5236.01	Select feed rate and depth of cut 5236.02	Check condition of grinding wheel 5236.03	Dress grinding wheel 5236.04	Locate and position workpiece in grinder 5236.05
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GENERAL MACHINIST

Surface grind workpiece 5236.06	Hone holes 5236.07	Lap workpiece 5236.08	Grind inside and outside diameters (ID/OD) 5236.09	Grind tools and cutters 5236.10
Check ground surfaces 5236.11	Perform inspection 5236.12	Practice housekeeping 5236.13	Complete work documentation 5236.14	

PERFORM LATHE WORK 5237.0	Select lathe cutting tools 5237.01	Prepare lathe cutting tools 5237.02	Locate and position workpiece in lathe 5237.03	Set up lathe cutting tools 5237.04	Select speeds and feeds of lathe and depth of cut 5237.05
	Perform a trial cut 5237.06	Establish a reference or starting point (datum) 5237.07	Face a surface 5237.08	Turn an external diameter 5237.09	Drill a hole 5237.10
	Bore an internal diameter 5237.11	Ream a hole 5237.12	Tap a hole 5237.13	Turn an internal or external thread 5237.14	Cut a taper 5237.15
	Knurl cylindrical surface patterns 5237.16	Groove and part-off 5237.17	Deburr workpiece 5237.18	Perform inspection 5237.19	Practice housekeeping 5237.20
	Complete work documentation 5237.21				

GENERAL MACHINIST

PERFORM MILLING	Select milling cutting tools	Prepare milling cutting tools	Set-up and maintain milling adjustable support tools	Set-up milling cutting tools	Select speeds and feeds of mill
5238.0	5238.01	5238.02	5238.03	5238.04	5238.05
	Perform fly-cutting	Face-mill	Machine steps, cut-outs, angles and open slots	Machine a pocket or slot	Machine a hole
	5238.06	5238.07	5238.08	5238.09	5238.10
	Bore holes	Deburr workpiece	Perform inspection	Practice housekeeping	Complete work documentation
	5238.11	5238.12	5238.13	5238.14	5238.15

PERFORM CNC MACHINING	Identify and select CNC machining process	Prepare CNC set-up sheet	Input program data to machine memory	Determine tool path and calculate coordinates	Identify and select CNC cutting tools and tooling
5239.0	5239.01	5239.02	5239.03	5239.04	5239.05
	Set up CNC cutting tools	Identify, select, and set machine parameters	Position and align workpiece in CNC machine	Verify part program at CNC machine controls	Store and record verified program
	5239.06	5239.07	5239.08	5239.09	5239.10
	Monitor CNC machining process	Perform inspection	Practice housekeeping	Complete work documentation	
	5239.11	5239.12	5239.13	5239.14	