Apprenticeship Manitoba

Machinist NOA (2010) Subtask to Unit Comparison

NOA Subtask		Manitoba Unit(s)
Task 1 – Organizes work.		
1.01	Interprets documentation.	A16 Job Planning
1.02	Plans sequence of operations.	A16 Job Planning
1.03	Maintains safe work environment.	A16 Job Planning
		A1 Trade Safety Awareness (ACB Standard)
		A2 Safety
1.04	Uses personal protective equipment (PPE) and safety equipment.	A16 Job Planning
		A1 Trade Safety Awareness (ACB Standard)
		A2 Safety
1.05	Uses hoisting, lifting and rigging equipment.	A5 Hoisting, Lifting and Rigging
1.06	Operates emergency safety equipment.	A1 Trade Safety Awareness (ACB Standard)
		A2 Safety
Task 2 – Processes workpiece material.		
2.01	Selects workpiece material.	A16 Job Planning
		C3 Basic Layout
2.02	Performs layout.	A16 Job Planning
		C3 Basic Layout
		C4 Precision Layout
2.03	Marks workpiece for indentification.	A16 Job Planning
		C3 Basic Layout
		C4 Precision Layout
2.04	Compares drawing information to measurements and features on the workpiece.	A16 Job Planning
		C3 Basic Layout
		C4 Precision Layout
		A6 Basic Drawings
2.05	Tests workpiece materials.	A12 Material Testing
		C4 Precision Layout
2.06	Deburrs workpiece.	B1 Hand and Power Tools
2.07	Sketches parts.	A6 Basic Drawings
Task 3 – Maintains machines and tooling.		
3.01	Cleans machines.	D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.02	Lubricates machines.	B1 Hand and Power Tools
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.03	Sharpens tooling.	B1 Hand and Power Tools
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.04	Applies cutting fluids and coolants	B1 Hand and Power Tools

NOA Subtask		Manitoba Unit(s)
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.05	Troubleshoots equipment.	B1 Hand and Power Tools
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.06	Maintains machine alignment.	B1 Hand and Power Tools
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
3.07	Maintains inspection equipment.	B1 Hand and Power Tools
		D1 Introduction to Conventional Lathes
		E1 Introduction to Milling Machines
		F1 Introduction to Grinding Machines
Task 4 – Performs hand processes.		
4.01	Files workpiece.	B1 Hand and Power Tools
4.02	Saws workpiece.	B1 Hand and Power Tools
4.03	Performs hole-making operations.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D4 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
4.04	Performs threading operations.	A4 Hand Threading
4.05	Installs thread inserts.	A4 Hand Threading
4.06	Broaches workpiece.	B1 Hand and Power Tools
4.07	Performs pressing operations.	B1 Hand and Power Tools
4.08	Bends workpiece.	B1 Hand and Power Tools
4.09	Finishes workpiece.	B1 Hand and Power Tools
Task 5 – Refurbishes components.		
5.01	Disassembles components.	A9 Mechanical Components
5.02	Analyzes components.	A9 Mechanical Components
5.03	Assembles components.	A9 Mechanical Components
Task 6 – Sets up drill presses.		
6.01	Selects drill press types.	B4 Drill and Drill Presses
6.02	Plans drill sequence.	B4 Drill and Drill Presses
6.03	Selects drill press speeds and feeds.	B4 Drill and Drill Presses
6.04	Sets up jigs, fixtures and work holding devices for drill presses.	B4 Drill and Drill Presses
6.05	Sets up tooling for drill presses.	B4 Drill and Drill Presses
Task 7 – Operates drill presses.		
7.01	Drills holes using a drill press.	B4 Drill and Drill Presses
7.02	Cuts countersinks, counterbores, chamfers and spot faces using a drill press.	B4 Drill and Drill Presses
7.03	Performs tapping using a drill press.	B4 Drill and Drill Presses
7.04	Finishes holes using a drill press.	B4 Drill and Drill Presses
Task 8 – Sets up conventional lathes.		
8.01	Sets up conventional lathe types.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.02	Plans sequence of operations for conventional lathes.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation

NOA Subtask		Manitoba Unit(s)
8.03	Sets up work holding devices for conventional lathes.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.04	Sets up tooling for conventional lathes.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.05	Sets up conventional lathe accessories.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.06	Sets up workpiece on conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.07	Selects conventional lathe speeds and feeds.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
8.08	Sets up concentric on conventional lathes.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
Task 9 – Operates conventional lathes.		
9.01	Turns external surfaces using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.02	Bores holes using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.03	Faces surfaces using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.04	Turns tapers on a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.05	Knurls using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.06	Parts off workpiece using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.07	Drills using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.08	Reams holes using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.09	Cuts grooves using a conventional lathe.	D1 Introduction to Conventional Lathes

NOA Subtask		Manitoba Unit(s)
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
9.10	Cuts threads using a conventional lathe.	D1 Introduction to Conventional Lathes
		D2 Basic Conventional Lathe Operation
		D3 Advanced Lathe Drilling, Boring, Reaming, Tapping and Die Threading
Task 10 – Sets up conventional milling machines.		
10.01	Selects conventional milling machine types.	E1 Introduction to Milling Machines
10.02	Plans milling sequence.	E1 Introduction to Milling Machines
10.03	Sets up work holding devices for conventional milling machines.	E1 Introduction to Milling Machines
10.04	Sets up tooling for conventional milling machines.	E1 Introduction to Milling Machines
10.05	Sets up milling accessories.	E1 Introduction to Milling Machines
10.06	Sets up workpiece for conventional milling machine.	E1 Introduction to Milling Machines
10.07	Selects conventional milling machine speeds and feeds.	E1 Introduction to Milling Machines
Task 11 – Operates conventional milling machines.		
11.01	Mills surfaces using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.02	Mills profiles and pockets using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.03	Mills slots, grooves and keyways using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.04	Cuts gears and splines using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.05	Drills holes using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.06	Reams holes using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.07	Cuts countersinks, counterbores, chafers and spot faces using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.08	Performs tapping using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
11.09	Bores holes using a conventional milling machine.	E1 Introduction to Milling Machines
		E2 Conventional Milling Machine Operation
Task 12 – Sets up power saws.		
12.01	Selects power saw types.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
12.02	Selects saw blades.	B1 Hand and Power Tools
		B2 Power Saws

NOA Subtask		Manitoba Unit(s)
		B3 Countour Bandsaws
12.03	Installs saw blades.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
12.04	Selects power saw speeds and feeds.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
12.05	Makes power saw adjustments.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
12.06	Sets up workpiece on power saw.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
Task 13 – Operates power saws.		
13.01	Saws straight and angle cuts.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
13.02	Cuts irregular shapes.	B1 Hand and Power Tools
		B2 Power Saws
		B3 Countour Bandsaws
Task 14 – Sets up precision grinding machines.		
14.01	Selects precision grinding machine types.	F1 Introduction to Grinding Machines
14.02	Plans grinding sequence.	F1 Introduction to Grinding Machines
14.03	Sets up work holding devices for precision grinding machines.	F1 Introduction to Grinding Machines
14.04	Mounts grinding wheel.	F1 Introduction to Grinding Machines
14.05	Sets up grinding accessories.	F1 Introduction to Grinding Machines
14.06	Sets up workpiece on precision grinding machines.	F1 Introduction to Grinding Machines
14.07	Selects precision grinding machine speeds and feeds.	F1 Introduction to Grinding Machines
Task 15 – Operates precision grinding machines.		
15.01	Grinds flat surfaces using a surface grinder.	F1 Introduction to Grinding Machines
		F2 Abrasive Finishing
		F3 Surface Grinders
		F4 Cylindrical Grinders
15.02	Grids profiles.	F1 Introduction to Grinding Machines
		F2 Abrasive Finishing
		F3 Surface Grinders
		F4 Cylindrical Grinders
15.03	Grinds internal and external cylindrical and tapered surfaces.	F1 Introduction to Grinding Machines
		F2 Abrasive Finishing
		F3 Surface Grinders
		F4 Cylindrical Grinders
15.04	Grinds tools and cutters.	F1 Introduction to Grinding Machines
		F2 Abrasive Finishing
		F3 Surface Grinders
		F4 Cylindrical Grinders
15.05	Finishes holes using a honing machine.	F1 Introduction to Grinding Machines
		F2 Abrasive Finishing
		F3 Surface Grinders

NOA Subtask		Manitoba Unit(s)
		F4 Cylindrical Grinders
Task 16 – Performs basic CNC programming.		
16.01	Review process documentation.	G1 Computer Numerical Control ()CNC) Machine - Tools
16.02	Calculates coordinates for tool path.	G1 Computer Numerical Control ()CNC) Machine - Tools
16.03	Creates basic program.	G1 Computer Numerical Control ()CNC) Machine - Tools
16.04	Inputs program into control memory.	G1 Computer Numerical Control ()CNC) Machine - Tools
16.05	Optimizes program.	G1 Computer Numerical Control ()CNC) Machine - Tools
Task 17 – Sets up CNC machine tools.		
17.01	Selects tooling and tool holders for CNC machine-tools.	G1 Computer Numerical Control ()CNC) Machine - Tools
17.02	Sets up tooling and tool holders for CNC machine-tools.	G1 Computer Numerical Control ()CNC) Machine - Tools
17.03	Sets up workpiece for CNC machine-tool.	G1 Computer Numerical Control ()CNC) Machine - Tools
17.04	Establishes work datum.	G1 Computer Numerical Control ()CNC) Machine - Tools
17.05	Verifies program.	G1 Computer Numerical Control ()CNC) Machine - Tools
Task 18 – Operates CNC machine-tools.		
18.01	Adjusts offsets.	G2 Computer Numerical Control (CNC) Operation
18.02	Monitors machining processes.	G2 Computer Numerical Control (CNC) Operation
18.03	Interrupts program cycle.	G2 Computer Numerical Control (CNC) Operation
18.04	Restarts program cycle.	G2 Computer Numerical Control (CNC) Operation