

Machinist RSOS (2018) Subtask-to-Unit Comparison

RSOS Subtask		Manitoba Unit(s)
Task 1 - Performs safety-related tasks.		
1.01	Maintains safe work environment.	A1 Trade Safety Awareness A2 Safety B4 Introduction to Welding B12 Introduction to Grinding Machines C2 Material Testing D4 Computer Numerical Control (CNC) III Operation
1.02	Uses personal protective equipment (PPE) and safety equipment.	A1 Trade Safety Awareness A2 Safety B4 Introduction to Welding B12 Introduction to Grinding Machines C2 Material Testing D4 Computer Numerical Control (CNC) III Operation
Task 2 - Organizes work.		
2.01	Interprets documentation.	A6 Basic Drawings A11 Basic Layout
2.02	Plans sequence of operations.	A11 Basic Layout
Task 3 - Uses communication and mentoring techniques.		
3.01	Uses communication techniques.	A3 Learning About Work
3.02	Uses mentoring techniques.	A3 Learning About Work
Task 4 - Processes workplace material.		
4.01	Selects workpiece material.	A11 Basic Layout
4.02	Uses hoisting, lifting and rigging equipment.	A5 Hoisting, Lifting and Rigging
4.03	Marks workpiece for identification.	A11 Basic Layout
4.04	Performs heat treatment.	B3 Heat Treatment C2 Material Testing
4.05	Performs quality assurance of workpiece.	B8 Precision Measurement II C2 Materials Testing D2 Journeyperson Trainer D3 Quality Inspection
4.06	Deburrs workpiece.	A8 Hand and Power Tools
4.07	Sketches parts.	A6 Basic Drawings
Task 5 - Maintains machines, tooling and inspection equipment.		
5.01	Cleans machines.	A8 Hand and Power Tools B2 Mechanical Components C3 Precision Layout
5.02	Lubricates machines.	A8 Hand and Power Tools
5.03	Sharpens tooling.	A8 Hand and Power Tools C6 Abrasive Finishing
5.04	Applies cutting fluid and coolant.	A7 Fluids and Coolants B2 Mechanical Components C5 Gears and Gear Cutting
5.05	Troubleshoots equipment.	A9 Hand and Power Tools B7 Cutting Machine Tools C2 Material Testing
5.06	Maintains machine alignment.	A8 Hand and Power Tools B2 Mechanical Components
5.07	Maintains inspection equipment.	A8 Hand and Power Tools

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Task 6 - Performs hand processes.		
6.01	Performs layout.	A11 Basic Layout
6.02	Saws workpiece.	A8 Hand and Power Tools
6.03	Files workpiece.	A8 Hand and Power Tools
6.04	Performs hole making operations.	A9 Drill and Drill Presses
6.05	Performs threading operations.	A4 Hand Threading
6.06	Installs thread inserts.	A4 Hand Threading
6.07	Broaches workpiece.	A8 Hand and Power Tools
6.08	Performs pressing operations.	A8 Hand and Power Tools
6.09	Bends workpiece.	A8 Hand and Power Tools
6.10	Finishes workpiece.	A8 Hand and Power Tools
Task 7 - Refurbishes components.		
7.01	Disassembles components.	A8 Hand and Power Tools B2 Mechanical Components
7.02	Analyzes components.	A8 Hand and Power Tools B2 Mechanical Components
7.03	Assembles components.	B2 Mechanical Components
Task 8 - Sets up power saws.		
8.01	Selects power saw types.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Contour Bandsaws
8.02	Selects saw blades.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Countour Bandsaws
8.03	Installs saw blades.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Countour Bandsaws
8.04	Selects power saw speeds and feeds.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Countour Bandsaws
8.05	Makes power saw adjustments.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Countour Bandsaws
8.06	Sets up workpiece on power saw.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Contour Bandsaws
Task 9 - Operates power saws.		
9.01	Saws straight and angle cuts.	A1 Trade Safety Awareness A2 Safety A8 Hand and Power Tools B5 Power Saws B6 Contour Bandsaws
9.02	Cuts irregular shapes.	A1 Trade Safety Awareness A2 Safety

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		A8 Hand and Power Tools B5 Power Saws B6 Contour Bandsaws
Task 10 - Sets up drill presses.		
10.01	Selects drill press types.	A9 Drills and Drill Presses
10.02	Plans drill press sequence.	A9 Drills and Drill Presses
10.03	Selects drill press speeds and feeds.	A9 Drills and Drill Presses
10.04	Sets up jigs, fixtures and work holding devices for drill presses.	A9 Drills and Drill Presses
10.05	Sets up tooling for drill presses.	A9 Drills and Drill Presses
Task 11 - Operates drill presses.		
11.01	Drill holes using a drill press.	A9 Drills and Drill Presses
11.02	Cuts countersinks, counterbores, chamfers and spot faces using a drill press.	A9 Drills and Drill Presses
11.03	Performs tapping using a drill press.	A9 Drills and Drill Presses
11.04	Finishes holes using a drill press.	A9 Drills and Drill Presses
Task 12 - Sets up conventional lathes.		
12.01	Sets conventional lathe types.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
12.02	Plans sequence of operations for conventional lathes.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
12.03	Sets up work holding devices for conventional lathes.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
12.04	Sets up tooling for conventional lathes.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
12.05	Set up conventional lathe accessories.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
12.06	Sets up workpiece on conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
12.07	Selects conventional lathe speeds and feeds.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
Task 13 - Operates conventional lathes.		
13.01	Faces surface using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
13.02	Turns external surfaces using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
13.03	Drills using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
13.04	Bores holes using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
13.05	Reams holes using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
13.06	Turns tapers using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation B10 Taper Turning
13.07	Knurls using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation

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		B9 Advanced Conventional Lathe Operation B10 Taper Turning
13.08	Cuts grooves using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
13.09	Cuts threads using a conventional lathe. threads	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation B10 Taper Turning
13.10	Parts off workpiece using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
Task 14 - Sets up conventional milling machines.		
14.01	Sets up conventional milling machines.	A15 Introduction to Milling Machines
14.02	Plans milling sequence.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
14.03	Sets up work holding devices for conventional milling machines.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
14.04	Sets up tooling for conventional milling machines.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
14.05	Sets up milling accessories.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine D4 Computer Numerical Control (CNC) II Operation
14.06	Sets up workpiece on a conventional milling machine.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
14.07	Selects conventional milling machine speeds and feeds.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
Task 15 - Operates conventional milling machines.		
15.01	Mills surfaces using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.02	Mills profiles and pockets using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.03	Mills slots, grooves and keyways using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.04	Cuts gears and splines using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine D4 Computer Numerical Control (CNC) III Operation
15.05	Drills holes using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.06	Reams holes using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.07	Cuts countersinks, counterbores, chamfers and spot faces using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.08	Performs tapping using a conventional milling machine.	B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine
15.09	Bores holes using a conventional milling machine.	A15 Introduction to Milling Machines B11 Conventional Milling Machine Operation C4 Horizontal/Universal Milling Machine

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Task 16 - Sets up precision grinding machines.		
16.01	Selects precision grinding machine types.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.02	Plans grinding sequence.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.03	Sets up work holding devices for precision grinding machines.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.04	Mounts grinding wheel.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.05	Sets up grinding accessories.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.06	Sets up workpiece on precision grinding machines.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
16.07	Selects precision grinding machine speeds and feeds.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
Task 17 - Operates precision grinding machines.		
17.01	Grinds flat surfaces using a precision grinder.	A8 Hand and Power Tools B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.02	Grinds profiles.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.03	Grinds internal and external cylindrical and tapered surfaces.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.04	Grinds tools and cutters	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.05	Finishes holes using a honing machine.	B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
Task 18 - Performs CNC programming.		
18.01	Reviews process documentation.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
18.02	Creates manual input program.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
18.03	Transfers program to and from control memory.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code

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18.04	Optimizes program.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
18.05	Creates 2D and 3D models.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
18.06	Programs using Computer-Aided Manufacturing (CAM)	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
Task 19 - Sets up CNC machines.		
19.01	Selects tooling and tool holders for CNC machines.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
19.02	Sets up tooling and tool holders on CNC machines.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code
19.03	Sets up workpieces on CNC machines.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III Operation
19.04	Establishes work datum.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation
19.05	Verifies program.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation
Task 20 - Operates CNC machines.		
20.01	Adjusts offsets.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation
20.02	Monitors machining processes.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation
20.03	Interrupts program cycle.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation
20.04	Restarts program cycle.	B13 Computer Numerical Control (CNC) I - Machine-Tools C9 Computer Numerical Control (CNC) II - Program Code D4 Computer Numerical Control (CNC) III - Operation