

Machinist RSOS (2018) Subtask-to-Unit Comparison

| RSOS Subtask | | Manitoba Unit(s) |
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| 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 | Deburs 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 |
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| 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 |