Appendix A

METROPOLITAN COMMUNITY COLLEGE
BUSINESS & TECHNOLOGY
ADVANCED MANUFACTURING GROUP

WORK PROCESS SCHEDULE
OCCUPATION TITLE OF
Machine Repair Maintenance
O*NET-SOC CODE: 49-9041.00 RAPIDS CODE: 0292

1. TYPE OF OCCUPATION

X	Time-based	☐	Competency-based	☐	Hybrid

2. TERM OF APPRENTICESHIP

The term of the occupation is 4 years with an OJL attainment of 8000 hours, supplemented by the minimum required 576 hours of related instruction.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey worker ratio is: **One (1)** Apprentice(s) to **One (1)** journey worker(s).

4. APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey worker wage rate, which is Minimum of: **$22**.

1st	0000-1000 hours 60%=	$13.20	5th	4001-5000 hours 80%=	$17.60
2nd	1001-2000 hours 65%=	$14.30	6th	5001-6000 hours 85%=	$18.70
3rd	2001-3000 hours 70%=	$15.40	7th	6001-7000 hours 90%=	$19.80
4th	3001-4000 hours 75%=	$16.50	8th	7001-8000 hours 95%=	$20.90
				Final Wages=	$22.00

4-Year Term Example:

5. WORK PROCESS SCHEDULE (See attached Work Process Schedule)

The sponsor may modify the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

6. RELATED INSTRUCTION OUTLINE (See attached Related Instruction Outline)

Appendix A

Occupation Title Machine Repair Maintenance
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DESCRIPTION: Repairs and maintains mechanical and hydraulic components of production machines and equipment, such as metal fabricating machine tools, material handling system, and automated lubrication system, following blueprints and specifications and using hand tools, power tools, and precision measuring instruments: Visually inspects and listens to machines and equipment to locate causes of malfunctions. Dismantles machines and equipment to gain access to problem area, using hand tools and power tools. Inspects and measures parts to detect wear, misalignment, or other problems. Removes and replaces worn or defective parts of drive mechanism or hydraulic system, using hand tools and power tools, and following blueprints, diagrams, and service manuals. Realigns and adjusts components, such as spindles and clutches, using hand tools and following diagrams. Locates damaged air and hydraulic pipes on machine, and measures, cuts, threads, and installs new pipe. Starts machines and equipment to test operation following repair. Repairs broken parts, using brazing, soldering, and welding equipment and hand tools. May modify computer-controlled motion of robot, applying knowledge of program commands and using robot controller and teach pendant. May set up and operate metalworking tools, such as lathe, drill press, or grinder, to make or repair parts. May assist MECHANICAL ENGINEER to modify sketches or computer-generated designs of machine components, such as hydraulic system and drive mechanism, applying knowledge of shop mathematics, hydraulics, and mechanics, and using computer keyboard and software programs.

WORK PROCESS SCHEDULE

		APPROXIMATE HOURS
A	General Bench Check and Repair of Production Machine Components	750
B	Hand and Powered shop tools	400
C	Mechanical Systems and Troubleshooting	950
D	Pneumatic Systems and Troubleshooting	400
E	Hydraulic systems and Troubleshooting	950
F	Electrical Systems and Troubleshooting	950
G	Material Handling and Storage Equipment	400
H	Production Equipment Maintenance	1000
I	Lubrication and Preventative Maintenance Inspection	850
J	Shop Fabrication of Parts	400
K	Production Equipment Installation, checkout and Safety Procedures	400
L	Building, Utilities and HVAC	550
	Total Hours	8000

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Related instruction - This instruction shall include, but not be limited to:

		APPROXIMATE HOURS
Year 1		
COLL 100 First year Seminar		16
MATH 103 Technical Math I or MATH 120		48
INTE 107 Industrial Electrical Safety		32
EHSS 111 Intro to Health & Safety for General Industry		16
ENGL 101 Composition and Reading I		48
INTE 140 Fundamentals of Industrial Machine Repair		48
INTE 113 Industrial Electrical AC Principles		32
INTE 112 Industrial Electrical DC Principles		32
		272
Year 2		
ENGL 215 Technical Writing		48
INTE 115 Electrical Print Reading		48
CIMM 101 Machine Shop Safety		16
CIMM 102 Basic Lathe Operations		16
CIMM 103 Basic Mill Operations		16
INTE 175 Electrical Motor Controls I		48
INTE 275 Electric Motor Controls II		48
		240
Year 3		
HVAC 230 Sheet Metal Layout and Fabrication		48
INTE 151 Industrial Rigging		48
INTE 150 Fluid Power Fundamentals of Hydraulics and Pneumatics		48
INTE 271 Programmable Logic Controllers I		64
WELD 105 for the Trades		48
		256
Year 4		
INTE 240 Advanced Industrial Machine Repair		48
INTE 260 Pipe Fitting Fundamentals		48
INTE 276 Electrical and PLC Troubleshooting		64
INTE 281 Industrial Robotics		64
		224
	4 year	992