

INTEGRATED METALS: MACHINE TOOL OPERATOR - CERTIFICATE

Limited Entry, Certificate

Faculty Advisers

Mark Thomas: 503-491-7569 | Room IT43 | Mark.Thomas@mhcc.edu

This program offers an intro to metalworking jobs. Students will learn basic skills for entry level jobs, and setup / operation of CNC lathes and milling machines.

Students are required to maintain a minimum grade of "C" in all IMTL courses. All core courses must be completed within 5 years in order for the certificate to be awarded.

Program Outcomes

At the completion of this program, students should be able to:

- Demonstrate and/or describe safe work habits and environmental issues associated with modern manufacturing settings
- Read, interpret and apply blueprints for the production and inspection of manufactured work pieces
- Demonstrate the correct application and use of precision measuring equipment commonly found in a manufacturing setting
- Plan and produce work pieces on a manual drill press, manual engine lathe and manual milling machine to required blueprint specifications using common industry methods
- Demonstrate, explain and/or apply CNC program code and machine tools and software to produce work pieces to required blueprint specifications

General education courses (such as math, writing, health, etc.) can be taken during any term, or before starting the program.

First Quarter

Fall		Credits
IMTL110	Machine Shop I Theory	3
IMTL111	Machine Shop I Lab	3
IMTL114	Blueprint Reading for the Metals Industry	3
IMTL116	Introduction to Precision Measuring	3
IMTL118	Machine Shop Math Applications	2
Human Relations requirement (https://catalog.mhcc.edu/degree-certificate-requirements/aas/#human)		3-4
Credits		17-18

Second Quarter

Winter		
IMTL130	Machine Shop II Theory	3
IMTL131	Machine Shop II Lab	3
IMTL134	Metallurgy Theory	3
IMTL135	Metallurgy Lab	1
IMTL136	Introduction to CNC (Computer Numerical Control) Machining	3

Select one of the following: 3-4

WR101	Workplace Communications I ★	
WR121Z	Composition I ★ (if planning to transfer)	
Credits		16-17
Third Quarter		
Spring		
IMTL150	Machine Shop III Theory	3
IMTL151	Machine Shop III Lab	3
IMTL153	CNC (Computer Numerical Control) Machining	4
IMTL155	Industrial Safety	3
MTH095	Intermediate Algebra with Right Triangle Trigonometry ★ (or MTH111Z or higher)	5
Credits		18
Total Credits		51-53

How to Apply

The machine tool operator certificate program is a limited-entry program. This means you must meet certain criteria before you can apply (<https://mhcc.edu/education-options/degrees-certificates/integrated-metals/machine-tool-operator/get-started/>). The program admits 36 students every fall term. Students of all races, ethnicities, ages, genders, religions, sexual orientations, socio-economic statuses, nationalities, physical abilities, and cognitive differences are welcome!