MACHINE TOOL TECHNOLOGY: COMPUTER NUMERICAL CONTROL PROGRAMMER (CERT)

CERTIFICATE OF ACHIEVEMENT

The Machine Tool Technology – Computerized Numerical Control Programmer – Certificate of Achievement provides students with a technical education in basic and advanced training in Computer Numerical Control (CNC) machining, multi-axis Mastercam mill and lathe programming and quality control. These fundamental skills and expected knowledge prepare students for employment with potential for future advancement in the metal working industry.

Program Student Learning Outcomes

- Students apply industry standard safety practices and specific safety requirement for different machining operations.
- Students create the digital geometry necessary for machine programming.
- Students generate a tool path and verify its execution.
- Students inspect the produced part to ensure completion per blueprint requirement.
- Students interpret blueprint information and translate into actionable items.
- Students perform basic setup and operation of CNC lathe & mill.

Program Requirements

Code Number	Course Title	Units
Required Courses		
MTT 100	Machine Tool Introduction	2.0
MTT 130	Quality Practices and Measurement	2.0
MTT 131	Geometric Tolerance Inspection using Verisurf	3.0
MTT 140	Industrial and Machine Tool Safety	1.0
MTT 151	Mastercam Introduction	3.5
MTT 152	Setup and Operation of CNC Milling Machines	2.5
MTT 157	Setup and Operation of CNC Lathes	2.5
MTT 180	Robotics for Computer Numerically Controlled Machines	3.0
MTT 191L	CNC Mill Machining Laboratory	1.0
MTT 195L	CNC Lathe Machining Laboratory	1.0
MTT 278	Mastercam Advanced	3.5
MTT 279	Mastercam Multi-Axis	3.5
MTT 280	Setup and Operation of Multi-Axis CNC Machines	2.5
Select two courses from the following (5-7.5)		**5.0-7.5**
MTT 110	Mechanical Maintenance of Machine Tools (3)	
MTT 120	Fanuc Multi-Axis Robotics (2)	
ENGT 258	Tools and Fixtures Applications Using Solid Modeling (4)	
ENGT 259	Solidworks Introduction (4)	
Total Units		**36-38.5**

Recommended Courses

Code Number	Course Title	Units
MTT 100	Machine Tool Introduction	2.0
MTT 120	Fanuc Multi-Axis Robotics	2.0
ENGT 258	Tools and Fixtures Applications Using Solid Modeling	4.0
ENGT 259	Solidworks Introduction	4.0
WELD 120	Beginning Arc Welding	5.0
WELD 130	Gas Tungsten Arc Welding Fundamentals	5.0