Machine Tool Technology - Numerical Control Technology(MTT.CNC.AAS)

Associate in Applied Science

Engineering/Manufacturing and Industrial Technology

Auburn Hills Campus

The Machine Tool Technology program is designed to emphasize the concepts of manually operated and computer-driven metal cutting machinery. Instruction will include cutting principles, programming techniques, computer controls, and computer numerical control (CNC) machine tool operations. In addition, the interfacing of automated equipment with computer aided design (CAD) and computer aided manufacturing (CAM) systems will be addressed.

Program Webpage - Click Here **(**https://www.oaklandcc.edu/programs/mtt/default.aspx**)**

Program Outcomes and Full Time Plan Example - Click Here **(**https://www.oaklandcc.edu/program-plan/mtt.cnc.aas**)**

Code	Title	Credit Hours
Major Requirements		
MTT 1000	Introduction to Computer Numerical Control (CNC)	4
MTT 1050	G&M Code CNC Programming	4
MTT 1150	Metrology	2
MTT 1200	Machine Tool Setup & Operation	3
MTT 1300	Advanced Machining Processes	3
MTT 2250	Fundamentals of Computer Aided Manufacturing	3
MTT 2300	2D & 3D Computer Aided Machining	4
MTT 2400	Jig & Fixture Assemblies	3
MTT 2500	Multi-Axis Computer Aided Manufacturing	3
Required Supportive Courses		
CAD 1050	Geometric Dimensioning and Tolerancing (GD&T)	4
CAD 1501	Special Topics in CAD: Fusion 360 Design	2
MAT 1560[3]	Trigonometry	3-6
or APM 8110 & APM 8210	Geometry Algebra and Plane Trigonometry	
MSE 1000	Material Science Fundamentals-Metallurgy	3
TED 1030	Basic Blueprint Reading	3
Choose 3 of the following Supportive Courses:		9-10
MCT 1100	Fluid Power Systems	3
MTT 1400	Manufacturing Processes	3
ROB 1500	Introduction to Robotics Technology	4
WEL 1111	Welding for the Non-Career Welder	3
Complete one of the following ENG courses:		3-4
ENG 1450[2,3]	Writing and Reading for Problem Solving	3
or		
ENG 1510[3]	Composition I	3
or ENG 1510E	Composition I Enhanced	4
Total Credit Hours for Program-Related Courses		**56-61**
General Education Requirements		
Communication / English (3-credits)		0 or 3
May be satisfied with ENG-1450 or ENG-1510. This course will apply toward the Communication/English requirement or the Written Communication requirement, but not both. (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#communication-english)		
Fine Arts / Humanities (3-credits)		3
Complete 3 credits from Fine Arts/Humanities courses listed in the General Education Distribution List (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#fine-arts-humanities)		
Mathematics / Science (3-credits)		
Satisfied		
Social Science (3-credits)		3
Complete 3 credits from Social Science courses listed in the General Education Distribution List (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#social-science)		
Written Communication (3-credits)		0 or 3
May be satisfied with ENG-1450 or ENG-1510. This course will apply toward the Communication/English requirement or the Written Communication requirement, but not both. (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#written-communication)		

Additional elective credits needed to meet requirements for an Associate in Applied Science degree	
Total Credit Hours	**62-67**

1 Prospective transfer students should select MAT 1560.

2 Prospective transfer students should select ENG 1510.

3 Course may be used to meet General Education requirements.

A minimum cumulative 2.00 grade point average (GPA) overall is required for graduation.