

MANUFACTURING TECHNOLOGIES, AAS

Machining

The Associate of Applied Science, Manufacturing Technologies, Machining is a two-year program designed to provide training and technical job skills to students seeking employment and/or skill upgrades within the manufacturing and machine trades. The program requires students to complete a variety of hands-on learning exercises ranging from manually machined projects to advanced multi-axis CNC tasks. This program is formatted to respond to the needs of industry and the working professional. The TMCC machining emphasis AAS curriculum aligns with the standards set forth by the National Institute for Metalworking Skills (NIMS) and prepares students to earn a variety of NIMS credentials.

Outcomes

Students completing the emphasis will:

- Read and interpret technical prints for the production and inspection of manufactured work pieces.
- Produce precision machined work pieces within print specifications on manually controlled machine tools.
- Produce precision machined work pieces within print specifications on computer numerical controlled (CNC) machine tools.

AAS degrees are generally non-transfer degrees that are designed for students to enter the workforce.

To earn an AAS degree, students must:

1. Maintain a minimum cumulative GPA of 2.0 (see requirements for graduation.)
2. Complete a minimum of 15 units within the college.
3. Satisfy General Education requirements for the AAS (<http://catalog.tmcc.edu/degrees-certificates/general-education/aas>).
4. Have no financial or library obligation to the college.

Code	Title	Units
General Education Requirements		
<i>Diversity</i> ¹ [3]		
Recommended:		
AAD 201	History of the Built Environment	
<i>Communications/English</i> 6		
Recommended		
ENG 101	Composition I	3
or ENG 107	Technical Communications I	
<i>Fine Arts/Humanities/Social Science</i> 3		
Recommended:		
AAD 201	History of the Built Environment	
<i>Human Relations</i> ¹ [3]		
Requirement is satisfied through embedded curriculum in the following courses:		
MPT 140	Quality Control	
MTT 230	Computer Numerical Control I	
MTT 232	Computer Numerical Control II	
OSH 222	General Industry Safety	

<i>Mathematics</i> ¹ [3]		
Requirement is satisfied through embedded curriculum in the following courses:		
DFT 110	Print Reading for Industry	
MPT 140	Quality Control	
MTT 230	Computer Numerical Control I	
MTT 232	Computer Numerical Control II	
MTT 292	Computer-Aided Manufacturing I	
<i>Science</i> 3		
Recommended:		
MTT 150	Metallurgy I	
<i>U.S. and Nevada Constitutions</i> 3		
Recommended:		
PSC 101	Introduction to American Politics	
Degree Requirements		
DFT 110	Print Reading for Industry	3
MPT 140	Quality Control	3
OSH 222	General Industry Safety	1
Emphasis Requirements		
MTT 105	Machine Shop I	3
MTT 140	Inspection Techniques	3
MTT 230	Computer Numerical Control I	4
MTT 232	Computer Numerical Control II	4
MTT 250	Machine Shop III	3
MTT 292	Computer-Aided Manufacturing I	4
Elective Requirements		
Select 17 units from the following: 17		
CE 290	Work Experience	
MTT 101	Introduction to Machine Shop	
MTT 110	Machine Shop II	
MTT 145	Lean Manufacturing Systems	
MTT 234	Computer Numerical Control III	
MTT 260	Machine Shop IV	
MTT 261	Machine Projects	
MTT 291	CNC Practice	
MTT 293	Computer-Aided Manufacturing II	
Any other MTT course not listed above or WELD course		
Total Units	63	
¹ Course may also count toward degree requirements. Please consult with Academic Advisement.		
1st semester		
DFT 110	Print Reading for Industry	3
MPT 140	Quality Control	3
MTT 105	Machine Shop I	3
MTT 150	Metallurgy I	3
OSH 222	General Industry Safety	1
U.S. and Nevada Constitutions ²		3
Semester Total		16
2nd semester		
Communications/English ²		3
Elective ²		6

Humanities/Diversity ²		3
MTT 250	Machine Shop III	3
Semester Total		15
3rd semester		
Communications/English ²		3
Elective ²		3
MTT 230	Computer Numerical Control I	4
MTT 292	Computer-Aided Manufacturing I	4
Semester Total		14
4th semester		
Elective ²		8
MTT 140	Inspection Techniques	3
MTT 232	Computer Numerical Control II	4
Semester Total		15
Total Units		60

² See program recommendations or requirements.