

ASSOCIATE OF APPLIED SCIENCE - MANUFACTURING TECHNOLOGIES - MACHINING EMPHASIS

The manufacturing technologies, machining emphasis AAS degree program, 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.

Degree Outcomes

Students completing the degree will:

- Fulfill the requirements of the Associate of Applied Science.
- Demonstrate competency in their specified emphasis.

Emphasis 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.

General Education Requirements

Diversity ¹ [3]

Recommended:

AAD 201 History of the Built Environment

Communications/English 6

Recommended:

ENG 101 Composition I
or ENG 107 Technical Communications I

Fine Arts/Humanities/Social Science 3

Recommended:

AAD 201 History of the Built Environment

Human Relations 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

Mathematics 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

Science 3

Recommended:

MTT 150 Metallurgy I

U.S. and Nevada Constitutions 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 60

¹ Course may also count toward degree requirements. Please consult with Academic Advisement.

Course	Title	Units
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.