ASSOCIATE OF APPLIED SCIENCE - MANUFACTURING TECHNOLOGIES - ADVANCED MANUFACTURING EMPHASIS

Manufacturing Technologies Advanced Manufacturing Emphasis is a two-year program designed to provide advanced training and technical job skills to students seeking employment and/or skill upgrades within the manufacturing and machine trades.

Emphasis Outcomes

Students completing this emphasis will:

- Read and interpret technical prints for the production and inspection of manufactured work pieces.
- Diagnose and repair electrical and mechanical components commonly used in a production operation. Students will use quality control standards to troubleshoot inefficiencies in a production system.
- Manage complex production systems, equipment, and controls. In doing so, students will apply quality and statistical process control techniques. Students will also 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]*
Communications/English [1]		*6*
Fine Arts/Humanities/Social Science [1]		*3*
Human Relations		*[3]*
Embedded in Degree and Emphasis requirements		
Mathematics		*[3]*
Embedded in Degree and Emphasis requirements		
Science		*3*
Required:		
MTT 150	Metallurgy I	
U.S. and Nevada Constitutions [1]		*3*
Degree Requirements		
DFT 110	Print Reading for Industry	3
MPT 140	Quality Control	3
OSH 222	General Industry Safety	1
Emphasis Requirements		
ELM 110	Electrical/Electronic Circuits	4
ELM 127	Introduction to AC Controls	3
ELM 233	Introduction to Instrumentation	3
MPT 110	Automated Production Concepts I	3
MPT 150	Solid Modeling for Manufacturing Technicians	3
MTT 230	Computer Numerical Control I	4
Elective Requirements		
Select 18 units of the following:		18
CHEM: Any transferable Chemistry course		
CIT 112	Network +	
CIT 114	IT Essentials	
ECON 102	Principles of Microeconomics	
ELM 129	Electric Motors and Drives	
ELM 134	Programmable Logic Controllers I	
ENGR 100	Introduction to Engineering Design	
ENV 101	Introduction to Environmental Science	
IS 201	Computer Applications	
MATH 126	Pre-Calculus I (or higher)	
ME 151 Introduction to Mechanical Engineering II [2]		
MPT: Any remaining Manufacturing and Production Technology courses		
MTT: Any remaining Machine Tool Technology courses		
PHYS: Any transferable Physics course		
WELD: Any welding course		
CE 290	Work Experience	
OSH: Any remaining Occupational Safety and Health course		
Total Units		60

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

[2] This course is currently only offered at UNR. Students wishing to take this course can take it at UNR and transfer the credit to TMCC.

Course	Title	Units
1st semester		
Communications [3]		3
Elective [4]		3
DFT 110	Print Reading for Industry	3
ELM 110	Electrical/Electronic Circuits	4
OSH 222	General Industry Safety	1
	Semester Total	14
2nd semester		
Elective [4]		6
English [3]		3
ELM 127	Introduction to AC Controls	3
MPT 150	Solid Modeling for Manufacturing Technicians	3
MTT 150	Metallurgy I	3-4
	Semester Total	18
3rd semester		
Elective [4]		3
ELM 233	Introduction to Instrumentation	3
MPT 110	Automated Production Concepts I	3
MTT 230	Computer Numerical Control I	4

U.S. and Nevada Constitutions [3]		3
	Semester Total	16
4th semester		
Elective [4]		6
Fine Arts/Humanities/Social Sciences [3]		3
MPT 140	Quality Control	3
	Semester Total	12
	Total Units	60

[3] See approved General Education list for the AAS Degree. (http://catalog.tmcc.edu/degrees-certificates/general-education/aas)

[4] See program recommendations or requirements.