

ADVANCED TECHNOLOGY AND MANUFACTURING ACADEMY

1st Year Program of Studies

Courses in blue articulate into associates.

Fall Semester	Credit	Spring Semester	Credit
TECM 1303 Technical Calculations Specific mathematical calculations required by business and industry. Includes whole numbers, fractions, mixed numbers, decimals, %, ratios, and proportions. Also, covers converting to different units of measure (standard and/or metric).	3	MCHN 1302 Print Reading for Machine Trade A review of applied math models and study of different blueprints, with emphasis on machine blueprints and the application of each.	3
MCHN 1320 Precision Tools & Measurements* <i>*10hr OSHA</i> Introduction to modern science of dimensional metrology.	3	MCHN 1438 Basic Machine Shop I An introduction course that assists the student in understanding the machinist occupation in industry.	4
MCHN 1270 MSSC* <i>*MSSC Safety Certification</i> Manufacturing Skill Standards Council Certified production Technician Safety & Quality Modules.	2		
Fall Semester Total	8	Spring Semester Total	7
Year 1 Total	Level I Certificate of Completion <i>Manufacturing Skills Trade Helper</i>		15

Summer Semester	Credit
MCHN 2486 Internship: Machine Tool Technology/Machinist Practical, general workplace training supported by an individualized learning plan.	4
Summer Semester Total	4

2nd Year Program of Studies

Courses in blue articulate into associates.

Fall Semester	Credit	Spring Semester	Credit
INMT 2303 Pumps, Compressors & Mechanical Drives A study of the theory and operations of various types of pumps and compressors.	3	MCHN 1426 Introduction to Computer-Aided Manufacturing (CAM) A study of Computer Assisted Manufacturing (CAM) Systems. Software is used to develop applications for manufacturing.	4
ELPT 1319 Fundamentals of Electricity I A study of the inspection & repair of composite, Fiberglass, honeycomb, and laminated structural materials.	3	RBTC 1305 Robotic Fundamentals An introduction to flexible automation.	3
QCTC 1243 Quality Assurance* <i>*MSSC Quality Certification</i> Principles & application designed to introduce quality assurance.	2		
Fall Semester Total	8	Spring Semester Total	7
Year 2 Total	Level I Certificate of Completion <i>Production Tool Operator/Maintenance Assistant</i>		15

Two Year Program of Studies: 11 Courses totaling 34 credit hours

The Alamo Colleges do not discriminate on the basis of race, religion, color, national origin, sex, age, or disability with respect to access, employment programs, or services. Inquiries or complaints concerning these matters should be brought to the attention of: Director of Employee Services, Title IX Coordinator, (210) 485-0200.

ADVANCED TECHNOLOGY AND MANUFACTURING ACADEMY

Level I Certificate of Completion
Manufacturing Skills Trade Helper

ASSOCIATE OF APPLIED SCIENCES

Manufacturing Operations Technician

Courses in blue articulate into associates.

Semester 1		Credit	
MCHN 1438	Basic Machine Shop I	4	
MCHN 1320	Precision Tools & Measurement	3	
MATH 1333	Contemporary Mathematics II or other*	3	
INMT 2303	Pumps, Compression & Mechanical Drives	3	
ITSC 2303	Introduction to Computers I or other*	3	
1st Semester Total		16	
Semester 2		Credit	
ENGL 1301	Composition I or other*	3	
ELPT 1319	Fundamentals of Electricity I	3	
ELMT 1305	Basic Fluid Power	3	
PHYS 1305	Introductory Physics I Lecture or other*	3	
RBTC 1305	Robotic Fundamentals	3	
2nd Semester Total		15	
Semester 3		Credit	
RBTC 2347	Computer Integrated Manufacturing	3	
WLDG 1425	Intro to Oxy-Fuel Welding & Cutting	4	
RBTC 1347	Electromechanical Devices	3	
ECON 1301	Introduction to Economics or other*	3	
3rd Semester Total		13	
Semester 4		Credit	
MCHN 1302	Print Reading for Machining Trade	3	
ELPT 2419	Programmable Logic Controllers I	4	
ELPT 1441	Motor Control	4	
MUSI 1306	Music Appreciation or other*	3	
MCHN 2266	Practicum (or field experience) Machine Tool Technology/Machinist	2	
4th Semester Total		19	
Program Total		60	

DC/ATMA: 21	Total AAS Hours: 60
Hours needed Post DC/ATMA: 39	General Academics: 18
	Specific Hours: 21

Level I Certificate of Completion
Tool Operator/Maintenance Assistant

ASSOCIATE OF APPLIED SCIENCES

CNC Manufacturing Technician

Courses in blue articulate into associates.

Semester 1		Credit	
MCHN 1302	Print Reading for Machining Trade	3	
MCHN 1438	Basic Machine Shop I	4	
MATH 1332	Contemporary Math I or other*	3	
MCHN1320	Precision Tools & Measurement	3	
ITSC 1301	Introduction to Computers or other*	3	
1st Semester Total		16	
Semester 2		Credit	
ENGL 1301	Composition I or other*	3	
MCHN 2303	Fundamentals of Computer Numerical Controlled (CNC) Machine Controls	3	
QCTC 1243	Quality Assurance	2	
PHYS 1305	Introductory to Physics I Lecture or other*	3	
MCHN 1426	Intro to Computer-Aided Manufacturing (CAM)	4	
2nd Semester Total		15	
Semester 3		Credit	
ECON 1301	Introduction to Economics or other*	3	
MCHN 2431	Operation of CNC Turning Centers	4	
MCHN 2434	Operation of CNC Machining Centers	4	
MCHN 1330	Statistical Process Control for Machinist	3	
MUSI 1306	Music Appreciation or other*	3	
3rd Semester Total		17	
Semester 4		Credit	
MCHN 2435	Advanced CNC Machining	4	
MCHN 1352	Intermediate Machining I	3	
RBTC 1305	Robotic Fundamentals	3	
MCHN 2266	Practicum (or field experience) Machine Tool Technology/Machinist	2	
4th Semester Total		12	
Program Total		60	

DC/ATMA: 21	Total AAS Hours: 60
Hours needed Post DC/ATMA: 39	General Academics: 18
	Specific Hours: 21