



Advanced Technology and Manufacturing Academy

1st Year Program of Studies 6 courses with total of 19 credit hours			2nd Year Program of Studies 5 courses with total of 15 credit hours		
Fall Semester		Credit	Fall Semester		Credit
TECM 1303	Technical Calculations <i>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).</i>	3	INMT 2303	Pumps, Compressors & Mechanical Drives 3 <i>A study of the theory and operations of various types of pumps and compressors.</i>	3
MCHN 1320	Precision Tools & Measurements* <i>*10-Hour OSHA Introduction to modern science of dimensional metrology.</i>	3	ELPT 1319	Fundamentals of Electricity I <i>Basic theory and practice of electrical circuits.</i>	3
MCHN 1270	MSSC* <i>*MSSC Safety Certification Manufacturing Skill Standards Council Certified production Technician Safety & Quality Modules.</i>	2	QCTC 1243	Quality Assurance* <i>*MSSC Quality Certification Principles & application designed to introduce quality assurance.</i>	2
Fall Semester Total		8	Fall Semester Total		8
Spring Semester		Credit	Spring Semester		Credit
MCHN 1302	Print Reading for Machine Trade <i>A review of applied math models and study of different blueprints, with emphasis on machine blueprints and the application of each.</i>	3	MCHN 1426	Introduction to Computer-Aided Manufacturing (CAM) <i>A study of Computer Assisted Manufacturing (CAM) Systems. Software is used to develop applications for manufacturing.</i>	4
MCHN 1438	Basic Machine Shop I <i>An introduction course that assists the student in understanding the machinist occupation in industry.</i>	4	RBTC 1305	Robotic Fundamentals <i>An introduction to flexible automation.</i>	3
Spring Semester Total		7	Spring Semester Total		7
Summer Semester		Credit			
MCHN 2486	Internship: Machine Tool Technology/Machinist <i>Practical, general workplace training supported by an individualized learning plan.</i>	4			
Summer Total		4			
Year 1 Program Total		19	Year 2 Program Total		15
Level I Certificate of Completion Manufacturing Skills Trade Helper			Level I Certificate of Completion Production Tool Operator/Maintenance Assistant		

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

Advanced Technology and Manufacturing Academy

Level I Certificate of Completion
Manufacturing Skills Trade Helper



Level I Certificate of Completion
Tool Operator/Maintenance Assistant

ASSOCIATE OF APPLIED SCIENCES

Manufacturing Operations Technician

Semester 1		Credit
MCHN 1438	Basic Machine Shop I	4
MCHN 1320	Precision Tools & Measurement	3
MATH 1333	Contemporary Mathematics II <i>or other*</i>	3
INMT 2303	Pumps, Compression & Mechanical Drives	3
ITSC 2303	Introduction to Computers I <i>or other*</i>	3
1st Semester Total		16
Semester 2		Credit
ENGL 1301	Composition I <i>or other*</i>	3
ELPT 1319	Fundamentals of Electricity I	3
ELMT 1305	Basic Fluid Power	3
PHYS 1305	Introductory Physics I Lecture <i>or other*</i>	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 <i>or other*</i>	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 <i>or other*</i>	3
MCHN 2266	Practicum (or field experience) Machine Tool Technology/Machinist	2
4th Semester Total		16
Program Total		60

ASSOCIATE OF APPLIED SCIENCES

CNC Manufacturing Technician

Semester 1		Credit
MCHN 1302	Print Reading for Machining Trade	3
MCHN 1438	Basic Machine Shop I	4
MATH 1332	Contemporary Math I <i>or other*</i>	3
MCHN 1320	Precision Tools & Measurement	3
ITSC 1301	Introduction to Computers <i>or other*</i>	3
1st Semester Total		16
Semester 2		Credit
ENGL 1301	Composition I <i>or other*</i>	3
MCHN 2303	Fundamentals of Computer Numerical Controlled (CNC) Machine Controls	3
QCTC 1243	Quality Assurance	2
PHYS 1305	Introductory to Physics I Lecture <i>or other*</i>	3
MCHN 1426	Intro to Computer-Aided Manufacturing (CAM)	4
2nd Semester Total		15
Semester 3		Credit
ECON 1301	Introduction to Economics <i>or other*</i>	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 <i>or other*</i>	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

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

* See St. Philip's College degree description for more information: <http://myspccatalog.alamo.edu/>