

Typical Automotive Manufacturing Technology Degree Requirements

Actual Classes vary by Institution

Course Number	GENERAL EDUCATION Requirements for AAS Degree	Hours
ENG 101	English Composition I	3
	Speech, English Composition II, Technical Report Writing	3
	Ethics in the Workplace or Other Humanities Elective	3
MTH 100	Intermediate College Algebra or higher numerically	3
CIS 146	Microcomputer Applications	3
	Math or Science Elective	3
ORT 110/111	Orientation to College	1
	History, Social or Behavioral Science	3
	Subtotal	22

Course Number	REQUIRED COURSES for AUT Degree	Hours
AUT 100	Introduction to Automotive Concepts	3
AUT 102	Manufacturing Fundamentals	3-4
AUT 104	Blueprint Reading for Manufacturing	3
AUT 110	DC Fundamentals	3
AUT 112*	Principles of Industrial Electricity	3
AUT 114	Programmable Logic Controllers	3
AUT 116	Introduction to Robotics	3-4
AUT 120*	Industrial Controls	4
AUT 164*	Mechanical Tools I	4
AUT 150*	Introduction to Machine Shop	3
AUT 151*	Introduction to Machine Shop Lab	3
	Subtotal	24-28

ELECTIVES (Choose 14-30 hours - with advisor's approval)
Total

64-76

* Classes not required at all CARCAM institutions

Certificate for Automotive Manufacturing Technology

Short Certificates range from 24 to 30 hours of AUT classes and vary depending on institution

Long certificates range from 43 to 60 hours of classes including 12 to 13 hours of general education classes.

Automotive Manufacturing Technology Electives

Elective courses are available in Computer Numerical Control, Cooperative Education, Computer Aided Drawing, Electronics, Hydraulic and Pneumatics, Industrial Controls, Injection Molding, Machining, Maintenance, Metallurgy, Metrology, Quality Control, Refrigeration, Robotics, Stamping, Tool and Die, and Welding.

Course Number	Course Title	Hours
AUT 106	Quality Control and Inspection Techniques	3
AUT 111	AC Fundamentals	3
AUT 118	Introduction to Engineering Technology	3
AUT 121	Elements of Industrial Control	3
AUT 122	Elements of Industrial Control Lab	2
AUT 125	Circuits II	3

AUT 127	Electronics I	3
AUT 130	Hydraulics and Pneumatics	3
AUT 131	Fluid Power I	3
AUT 132	Principles of Technology	3
AUT 134	Industrial Motors I	3
AUT 136	Principles of Refrigeration	3
AUT 145	Introduction to Injection Molding	3
AUT 146	Introduction to Injection Molding Lab	3
AUT 152	Machining Technology I	6
AUT 154	Metallurgy	3
AUT 155	Metrology	3
AUT 158	Stamping Fundamentals	3
AUT 159	Basic Formability	3
AUT 160	Basic Tool and Die Making	4
AUT 161	Die Maintenance	3
AUT 162	Die Tryout	3
AUT 163	Die Repair	3
AUT 166	Blueprint Reading for Machinists	3
AUT 167	Geometric Dimensioning and Tolerancing	2
AUT 169	Basic CAD	3
AUT 171	Basic Solid Modeling	3
AUT 178	Gas Tungsten Arc Welding Theory	3
AUT 180	Gas Tungsten Arc Welding Lab	3
AUT 182	Welding Inspection and Testing Theory	3
AUT 190-198	Special Topics (Welding)	1-3
AUT 210	Industrial Robotics	3
AUT 211	Industrial Robotics Lab	2
AUT 213	Robotics Project	3
AUT 217	Programmable Logic Controllers II	3
AUT 218	Advanced Programmable Logic Controller Lab	2
AUT 222	Instrumentation	3
AUT 223	Instrumentation Lab	2
AUT 224	Digital Circuits I	3
AUT 226	Network Cabling: Fiber Optics	2
AUT 227	Digital Communications	3
AUT 230	Preventive & Predictive Maintenance	3
AUT 234	Motor Control	3
AUT 235	Motor Controls II	3
AUT 236	Variable Speed Motor Drives	3
AUT 238	Advanced Motor Drives	3
AUT 245	Injection Mold Design	3
AUT 246	Injection Mold Design Lab	3
AUT 247	Advanced Injection Molding	3
AUT 248	Advanced Injection Molding Lab	3
AUT 253	Computer Numerical Control	2
AUT 254	CNC Programming	3
AUT 255	CNC Milling Lab 1	3
AUT 256	CNC Milling Lab 1	3
AUT 257	Basic CNC Turning I	3
AUT 258	Lathe Operations	6
AUT 259	Milling Operations	6
AUT 260	Computer Numerical Control Graphics: Milling	3
AUT 262	Computer Integrated Manufacturing	3
AUT 265	Materials	3
AUT 267	Quality Auditing	3
AUT 270	Advanced CAD	3
AUT 272	Advanced Solid Modeling	3
AUT 274	Machine Maintenance and Repair	3

AUT 276	Electrical Discharge Machining I	3
AUT 278	Robotic Programming and Welding	3
AUT 280	Consumable Welding Process Theory	3
AUT 282	Consumable Welding Process Lab	3
AUT 291-293	Cooperative Education	1-3