

Automotive Technology

Department of Applied Technology, CIS/Electronics, and Administration of Justice

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General Description

Automotive technology is a study of the complete automobile divided into a subsystem approach. This program of study explores and instructs students in the operation of all automotive systems. Processes are emphasized including problem solving, repair procedures, service techniques, diagnostic analysis, and shop safety. All automotive system instruction meets Automotive Service Excellence (ASE) guidelines and National Automotive Technicians Education Foundation (NATEF) certification.

Career Options

Below is a sample of the career options for the automotive major. Most require a certificate or an associate in science degree. Automotive Service Excellence Certification will allow entry-level employment as: mechanic, automotive technician, service station attendant, repair shop operator, automotive engineer, automotive salesperson or dealer, vocational teacher, automotive designer, race car driver or mechanic, supplier or distributor, and positions in allied professions of business, marketing, and industry.

Degree/Certificate Options

Associate in Science Degree: Career/Technical

	Major Code
Automotive Technology	02870
Small Engine and Service Repair	02650

Certificates of Achievement

Advanced Emission Specialist	02766
Automotive Performance Systems	02765
Automotive Technology	02871
Small Engine and Service Repair	02651

Certificate of Proficiency

Automotive Brake and Suspension Systems (ABS and Four-Wheel Alignment)	02750
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Areas of Preparation for ASE Certification Exam:

ASE Brakes
ASE Suspension
ASE Engine Performance
ASE Automotive Heating, Cooling, and Air Conditioning
ASE Electrical Systems
ASE Engine Repair
ASE Automotive Manual Transmissions
ASE Manual Transmission

Consult with a counselor to develop a Student Education Plan (SEP), which lists the courses necessary to achieve your academic goal.

ASSOCIATE IN SCIENCE DEGREE

Automotive Technology

Career/Technical (Major Code: 02870)

Based on the National Institute for Automotive Service Excellence Certification Program (ASE). Courses fulfill the needs of beginning and advanced students and those in the field who require upgrading. Prepares students for the National ASE Certification exams.

First Semester

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 109	Automotive Braking Systems	3
AT 110	Automotive Suspension, Alignment, and Steering	3

Second Semester

AT 120	Engine Performance I	3
AT 130	Automotive Electrical Systems	3
AT 131	Automotive Heating, Cooling, and Air Conditioning	3
AT 140	Engine Repair	3

Third Semester

AT 220	Engine Performance II	3
AT 230	Automotive Electronics	3
AT 234	Automatic Transmissions and Transaxles	3
AT 236	Manual Transmission, Transaxles, and Final Drives	3
AT 242	Clean Air Car	3
AT 247	Automotive Emission Systems and Computerized Engine Controls	3

Total units 42

Recommended Electives: AT 290–293.

To earn an associate degree, additional general education and graduation requirements must be completed. See page 51.

Small Engine and Service Repair

Career/Technical (Major Code: 02650)

Designed for the student seeking entry-level employment in a variety of small engine service and repair shops. Provides the in-depth technical skill training standards required by industry. Includes service repair of small engines, industrial engines, chain saws, outboard/marine, and motorcycles. Intensive, hands-on courses with practical experience in simulated shop conditions.

First Semester

AT 102	Automotive Science and Basic Mechanics	3
AT 145	Small Engine Repair	2
AT 146	Industrial Engine and Repair	2
LNT 72	Horticultural Equipment: Care and Operations	2

Second Semester

AT 147	Advanced Industrial Engine and Repair	2
AT 148	Small Motorcycle Engine Repair	2
AT 149	Large Motorcycle Engine Repair	2
AT 150	Advanced Motorcycle Engine Repair	2

Third Semester

AT 151	Small Outboard Marine Engine Repair	2
AT 152	Large Outboard Marine Engine Repair	2
AT 153	Advanced Outboard Marine Engine Repair	2

Fourth Semester

Complete 9 units from electives	9
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Total units 32

Electives: AT 101, 109, 130, 140, 230, 290-293.

To earn an associate degree, additional general education and graduation requirements must be completed. See page 51.

CERTIFICATES

Advanced Emission Specialist

Certificate of Achievement

Career/Technical (Major Code: 02766)

Designed to prepare students for the Advanced Emission Specialist Technician license that allows an individual to inspect, diagnose, adjust, repair, and certify emission control systems on vehicles subject to the smog check program at licensed stations in all areas of the state.

First Semester

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 120	Engine Performance I	3
AT 130	Automotive Electrical Systems	3

Second Semester

AT 140	Engine Repair	3
AT 220	Engine Performance II	3
AT 230	Automotive Electronics	3
AT 247	Advanced Emission Systems and Computerized Engine Controls	3

Third Semester

AT 242	Clean Air Car	3
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Total units 27

Automotive Brake and Suspension Systems (ABS and Four-Wheel Alignment)

Certificate of Proficiency

Career/Technical (Major Code: 02750)

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 109	Automotive Braking Systems	3
AT 110	Automotive Suspension, Alignment, and Steering	3

Total units 12

Automotive Performance Systems

Certificate of Achievement

Career/Technical (Major Code: 02765)

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 120	Engine Performance I	3
AT 220	Engine Performance II	3
AT 242	Clean Air Car	3
AT 247	Advanced Emission Systems and Computerized Engine Controls	3

Total units 18



Some courses within this program may require additional coursework that must be completed prior to enrollment in those courses. Please consult the individual course listings for prerequisites and any other limitations on enrollment.

Automotive Technology

Certificate of Achievement

Career/Technical (Major Code: 02871)

First Semester

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 109	Automotive Braking Systems	3
AT 110	Automotive Suspension, Alignment, and Steering	3

Second Semester

AT 120	Engine Performance I	3
AT 130	Automotive Electrical Systems	3
AT 131	Automotive Heating, Cooling, and Air Conditioning	3
AT 140	Engine Repair	3

Third Semester

AT 220	Engine Performance II	3
AT 230	Automotive Electronics	3
AT 234	Automatic Transmissions and Transaxles	3
AT 236	Manual Transmission, Transaxles, and Final Drives	3
AT 242	Clean Air Car	3
AT 247	Advanced Emission Systems and Computerized Engine Controls	3

Total units 42

Recommended Electives: AT 290–293.

ASE Certification Areas:

ASE Brakes Certification	AT 109
ASE Suspension Certification	AT 110
ASE Engine Performance Certification	AT 120/AT 220
ASE Automotive Heating, Cooling, and Air Conditioning Certification	AT 131
ASE Electrical Systems Certification	AT 130/AT 230
ASE Engine Repair Certification	AT 140
ASE Automotive Transmissions Certification	AT 234
ASE Manual Transmissions Certification	AT 236

Certificates of Course Achievement are offered in the following areas: Clean Air Car—AT 242 and Automotive Emission Systems and Computerized Engine Controls—AT 247.

Small Engine and Service Repair

Certificate of Achievement

Career/Technical (Major Code: 02651)

First Semester

AT 102	Automotive Science and Basic Mechanics	3
AT 145	Small Engine Repair	2
AT 146	Industrial Engine and Repair	2
LNT 72	Horticultural Equipment: Care and Operations	2

Second Semester

AT 147	Advanced Industrial Engine and Repair	2
AT 148	Small Motorcycle Engine Repair	2
AT 149	Large Motorcycle Engine Repair	2
AT 150	Advanced Motorcycle Engine Repair	2

Third Semester

AT 151	Small Outboard Marine Engine Repair	2
AT 152	Large Outboard Marine Engine Repair	2
AT 153	Advanced Outboard Marine Engine Repair	2

Fourth Semester

Complete 9 units from electives	9
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Total units 32

Electives: AT 101, 109, 130, 140, 230, 290–293.