

# Automotive Service Management Technologies

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## Automotive Service Management (ASM)

Automotive Service Management is an Associate of Applied Business program including on-site co-op education as well as classroom instruction. The combined classroom and work experience develop cognitive and technical skills essential for the success of the student entering any avenue of the automotive work force.

## Automotive Service Management (ASM)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 18 credit hours taken at Cincinnati State.

Semester 1		Lec	Lab	Credits
AUTO 100	Introduction to Automotive Technology			3
MGT 10X Management Elective				2
IM 111	Computer Applications 1			3
AUTO 111	Engine Repair 1			3
AUTO 161	Electrical/Electronic Systems 1			3
ENG 101	English Composition 1			3
<b>Semester 2</b>				
ACC 101	Financial Accounting			3
MKT 10X Marketing Elective				3
AUTO 150	Brakes			3
AUTO 162	Electrical/Electronic Systems 2			3
AUTO 181	Engine Performance 1			3
ENG 1XX English Composition Elective				3
BUS 190	Professional Practices			2
<b>Semester 3</b>				
AUTO 291	Full-Time Cooperative Education 1: Automotive			2
<b>Semester 4</b>				
LAW 101	Business Law			3
AUTO 120	Automatic Transmission and Transaxle			3
AUTO 140	Suspension and Steering			3
COMM 1XX Communication Elective				3
AUTO 112	Engine Repair 2			3
<b>Semester 5</b>				
AUTO 292	Full-Time Cooperative Education 2: Automotive			2
<b>Semester 6</b>				
AUTO 130	Manual Drive Train and Axles			3
AUTO 170	Heating and Air Conditioning			3
AUTO 182	Engine Performance 2			3
XXX XXX Arts/Humanities Elective				3
ECO 105	Principles of Microeconomics			3
Total Credits:		0	0	71

## Electives

### Management Elective

MGT 100	Introduction to Management	2
MGT 101	Principles of Management	3

### Marketing Elective

MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Topics in Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Communication Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

### Arts/Humanities Elective

Any Transfer Module course from ART, COMM, LIT, MUS, PHI, REL, THE

## Automotive Service Technician Certificate (ASTC)

The Automotive Service Technician Certificate at Cincinnati State prepares students for entry-level jobs in the technical areas of the automotive service field. Hands-on diagnosis and repair of "live" vehicles enhance students' diagnostic skills and build a solid foundation for a successful and rewarding career.

## Automotive Service Technician Certificate

Semester 1		Lec	Lab	Credits
AUTO 100	Introduction to Automotive Technology			3
AUTO 111	Engine Repair 1			3
AUTO 150	Brakes			3
AUTO 161	Electrical/Electronic Systems 1			3
AUTO 181	Engine Performance 1			3
<b>Semester 2</b>				
AUTO 140	Suspension and Steering			3
AUTO 162	Electrical/Electronic Systems 2			3
AUTO 170	Heating and Air Conditioning			3
AUTO 182	Engine Performance 2			3
Total Credits:		0	0	27

## Courses

### AUTO 100 Introduction to Automotive Technology 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on foundation concepts of the automotive industry. Topics include: safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance.

Prerequisites: None

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=100subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=AUTO))

**AUTO 111 Engine Repair 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internal combustion engines. Topics include: engine classification, disassembly, inspection, measurement and identification of parts, failure analyses, reassembly, and tools and procedures used in the engine rebuilding process.

Prerequisites: AUTO 100

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=111subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=111subject_code=AUTO))

**AUTO 112 Engine Repair 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 111, emphasizing replacing a complete engine and replacing an engine with short or long blocks. Topics include: engine cooling systems, timing chain and belt replacement, valve adjustment, internal and external leak repair, and engine noise diagnosis.

Prerequisites: AUTO 111

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=112subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=112subject_code=AUTO))

**AUTO 120 Automatic Transmission and Transaxle****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of automatic transmissions and transaxles. Topics include: transmission pressure testing; scan tool testing; transmission replacement, disassembly, and reassembly; inspection of parts; and troubleshooting various systems.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=120subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=120subject_code=AUTO))

**AUTO 130 Manual Drive Train and Axles****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of manual transmissions, transaxles, and drivelines. Topics include: clutch, driveshaft, universal joint, constant velocity joint, final drive, transfer case, and locking hub assemblies.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=130subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=130subject_code=AUTO))

**AUTO 140 Suspension and Steering****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of steering and suspension systems. Topics include: wheels and tires, front and rear suspension systems for front-wheel drive and rear-wheel drive vehicles, and wheel alignment angles.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=140subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=140subject_code=AUTO))

**AUTO 150 Brakes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of automotive braking systems. Topics include: hydraulic, mechanical, and anti-lock braking systems; power assist units; and machine operations of drums and rotors.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=150subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=150subject_code=AUTO))

**AUTO 161 Electrical/Electronic Systems 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on systematic diagnosis and repair of basic automotive electrical circuits. Topics include: Ohm's law, interpreting wiring schematics, step-by-step testing procedures, starting and charging systems, and automotive component testing.

Prerequisites: None

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=161subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=161subject_code=AUTO))

**AUTO 162 Electrical/Electronic Systems 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 161. Topics include: wiring schematic interpretation, diagnosis, and repair of driver information systems, cruise control systems, motor driven accessories, heated glass, and electronic body control systems.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=162subject\\_code=AUTO](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=162subject_code=AUTO))

**AUTO 170 Heating and Air Conditioning**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on diagnosis, service, and repair of automotive air conditioning and heating systems. Topics include: performance testing, pressure and leak testing, electrical and mechanical controls, compressors, clutches, safety devices, and ozone-safe service.

Prerequisites: AUTO 100 and AUTO 161

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=170subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=170subject_code=AUTO))

**AUTO 181 Engine Performance 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on engine performance diagnostics and fuel injection and ignition systems. Topics include: evaluation of basic engine mechanical system through vacuum, cylinder power balance, compression, and cylinder leakage testing.

Prerequisites: AUTO 111 and AUTO 161

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=181subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=181subject_code=AUTO))

**AUTO 182 Engine Performance 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 181. Topics include: On-Board Diagnostics systems, scan tools that retrieve diagnostic codes and data, diagnostic flow charts, and testing and replacing computer sensor inputs and computer-controlled output components.

Prerequisites: AUTO 181

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=182subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=182subject_code=AUTO))

**AUTO 191 Part-Time Cooperative Education 1: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=191subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=191subject_code=AUTO))

**AUTO 192 Part-Time Cooperative Education 2: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 191

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=192subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=192subject_code=AUTO))

**AUTO 193 Part-Time Cooperative Education 3: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 192

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=193subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=193subject_code=AUTO))

**AUTO 194 Part-Time Cooperative Education 4: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 193

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=194subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=194subject_code=AUTO))

**AUTO 195 Part-Time Cooperative Education 5: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 194

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=195subject\\_code=AUTO](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=195subject_code=AUTO))

**AUTO 196 Part-Time Cooperative Education 6: Automotive****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 195

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=196subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=196subject_code=AUTO))

**AUTO 198 First Year Special Topics in Automotive****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Automotive, which gives students opportunities to study information not currently covered in other courses.

Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=198subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=AUTO))

**AUTO 199 First Year Independent Project in Automotive****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Automotive that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Automotive faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=199subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=AUTO))

**AUTO 291 Full-Time Cooperative Education 1: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=291subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=291subject_code=AUTO))

**AUTO 292 Full-Time Cooperative Education 2: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 291

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=292subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=292subject_code=AUTO))

**AUTO 293 Full-Time Cooperative Education 3: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 292

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=293subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=293subject_code=AUTO))

**AUTO 298 Second Year Special Topics in Automotive****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Automotive, which gives students opportunities to study information not currently covered in other courses.

Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=298subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=AUTO))

**AUTO 299 Second Year Independent Project in Automotive****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Automotive that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Automotive faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=299subject\\_code=AUTO](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=AUTO))