

# Automotive Service Management Technologies (ASM & ASTCT)

## Automotive Service Management (ASM)

The Automotive Service Management program includes co-op education at local automotive service companies as well as classroom instruction. These experiences help students develop the knowledge and technical skills that are essential for success in any avenue of the automotive work force.

Graduates of the program earn an Associate of Applied Business degree, and are prepared to take certification exams offered by the National Institute for Automotive Service Excellence (ASE).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Automotive Service Technician Certificate (ASTCT)

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.

Graduates of the certificate program are prepared to take certification exams offered by the National Institute for Automotive Service Excellence (ASE).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Automotive Service Management (ASM)

Semester 1		Lec	Lat	Credits
AUTO 100	Introduction to Automotive Technology ( <b>B</b> )	2	3	3
IM 111	Computer Applications ( <b>B</b> )	2	3	3
AUTO 111	Engine Repair ( <b>T</b> )	2	3	3
AUTO 161	Electrical/Electronic Systems 1 ( <b>T</b> )	2	3	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1

<b>Semester 2</b>				
AUTO 150	Brakes ( <b>T</b> )	2	3	3
AUTO 162	Electrical/Electronic Systems 2 ( <b>T</b> )	2	3	3
AUTO 181	Engine Performance 1 ( <b>T</b> )	2	3	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
BUS 190	Professional Practices ( <b>B</b> )	1	0	1
MAT 1XX	Mathematics Elective ( <b>G</b> )	3	0	3
<b>Semester 3</b>				
AUTO X9X	Cooperative Education Elective 1: Automotive ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
LAW 101	Business Law ( <b>B</b> )	3	0	3
AUTO 140	Suspension and Steering ( <b>T</b> )	2	3	3
AUTO 175	Powertrain Systems and Service ( <b>T</b> )	2	3	3
MGT 101	Principles of Management ( <b>B</b> )	3	0	3
ACC 101	Financial Accounting ( <b>B</b> )	3	0	3
<b>Semester 5</b>				
AUTO X9X	Cooperative Education Elective 2: Automotive ( <b>T</b> )	1	40	2
<b>Semester 6</b>				
AUTO 170	Heating and Air Conditioning ( <b>T</b> )	2	3	3
AUTO 182	Engine Performance 2 ( <b>T</b> )	2	3	3
XXX XXX	Arts/ Humanities Elective ( <b>G</b> )	3	0	3
XXX XXX	Social/ Behavioral Science Elective ( <b>G</b> )	3	0	3
Total Credits:		50	113	63

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3

ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Mathematics Elective**

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3

**Arts/Humanities Elective**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

**Social/Behavioral Science Elective**

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC

**Cooperative Education Electives (4 credit hours required)**

AUTO 191	Part-Time Cooperative Education 1: Automotive	1
AUTO 192	Part-Time Cooperative Education 2: Automotive	1
AUTO 193	Part-Time Cooperative Education 3: Automotive	1
AUTO 194	Part-Time Cooperative Education 4: Automotive	1
AUTO 195	Part-Time Cooperative Education 5: Automotive	1
AUTO 196	Part-Time Cooperative Education 6: Automotive	1
AUTO 291	Full-Time Cooperative Education 1: Automotive	2
AUTO 292	Full-Time Cooperative Education 2: Automotive	2
AUTO 293	Full-Time Cooperative Education 3: Automotive	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Automotive Service Technician Certificate (ASTC)

### Automotive Service Technician Certificate

Semester 1		Lec	Lat	Credits
AUTO 100	Introduction to Automotive Technology	2	3	3
AUTO 111	Engine Repair	2	3	3
AUTO 150	Brakes	2	3	3
AUTO 161	Electrical/Electronic Systems 1	2	3	3
AUTO 181	Engine Performance 1	2	3	3
Semester 2				
AUTO 140	Suspension and Steering	2	3	3
AUTO 162	Electrical/Electronic Systems 2	2	3	3
AUTO 170	Heating and Air Conditioning	2	3	3

AUTO 175	Powertrain Systems and Service	2	3	3
AUTO 182	Engine Performance 2	2	3	3
Total Credits:		20	30	30

## Automotive Service Management (ASM)

- Diagnose mechanical malfunctions and electrical problems and make necessary repair.
- Effectively locate and utilize technical information required for vehicle repair.
- Function collaboratively as a member of a team to achieve specified and measurable results.
- Operate precision automotive diagnostic and repair equipment.
- Use tools and equipment found in an automotive repair shop.
- Follow established procedures for safety and accident prevention in the automotive service facility.
- Demonstrate comprehensive knowledge of employer expectations and ethical work practice.
- Diagnose a variety of automotive systems including electrical, brakes, engines, transmissions and steering, and suspension.
- Prepare students to be entry-level technicians in a variety of automotive careers.

## Faculty

### Program Chair

Charles Butler, BA, ASE-MCT  
charles.butler@cincinnatiastate.edu

### Co-op Coordinator

Brian Hooten, MAOL  
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## 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: ENG 085 or appropriate placement

Corequisites: AUTO 161

### AUTO 111 Engine Repair 3 Credits. 2 Lecture Hours. 3 Lab Hours.

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

Prerequisites: AUTO 100

### 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

**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

**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: ENG 085 or appropriate placement

Corequisites: AUTO 100

**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

**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

**AUTO 175 Powertrain Systems and Service****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on assessment and replacement of major powertrain components. Topics include: procedures for replacing and servicing engines, drivetrain components, automatic transmissions, manual transmissions, and differentials.

Prerequisites: AUTO 100 and AUTO 111 and AUTO 161

**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

**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

**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 (minimum grade C)

**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

**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

**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

**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

**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

**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 (minimum grade C)

**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

**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