

# AUTOMOTIVE ENGINEERING TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in automotive engineering technology is structured to provide the technical knowledge and mechanical abilities necessary to work in today's growing automotive research and development industry. Automotive engineering technicians assist engineers in design and development work. They help determine the practicality of a proposed product design change and plan and carry out tests on experimental test devices and equipment for performance, durability and efficiency. As part of the testing procedure, they record data, make computations, plot graphs, analyze results, write reports and often make recommendations for improvements to meet performance requirements. The automotive engineering technician makes use of various mechanical and electrical test instruments and gauges, including engine and chassis dynamometers, road simulators, flow benches and computer-controlled data gathering devices. The curriculum is planned to prepare the graduate to perform duties concerned with design, testing and development activities in direct support of the automotive engineer.

### Career Opportunities

Graduates of this program will be prepared for entry-level employment in the following areas:

- Automotive engineering technician
- Dynamometer Technician
- Engineering technician
- Factory technical representative
- Research and development technician
- Research technician
- Sales engineer
- Test Engineer, Automotive

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

### Required General Education Courses

**Credits  
21**

C1	PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5	Expressions of the Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits  
34**

### Required Core Courses

#### 1<sup>st</sup> Semester

MATH 119* (Elementary Technical Mathematics) . . . . .	2
ELEC 125 (Fundamentals of Electricity and Electronics) . . . . .	3
AUTO 101 (Internal Combustion Engines) . . . . .	4

#### 2<sup>nd</sup> Semester

AUTO 102 (Automotive Electricity and Electronics) . . . . .	4
AUTO 107 (Automotive Chassis Units) . . . . .	4
MATH 124* (Technical Mathematics II) . . . . .	C2

#### Winter or Summer Semester

AUTO 201 (Automotive Digital Electronics) . . . . .	3
MDTC 160** (Mechanical Drafting and CAD I) . . . . .	C4

#### 3<sup>rd</sup> Semester

AUTO 104 (Automotive Ignition Systems) . . . . .	3
AUTO 105 (Automotive Transmissions) . . . . .	3

#### 4<sup>th</sup> Semester

AUTO 103 (Fuel and Emission Control Systems) . . . . .	4
AUTO 114 (Automotive Instrumentation and Testing) . . . . .	4

### Additional Technology Electives

**6-7**

(All recommended for better employment opportunities.)

AUTO 109 (Welding for Automotive Technicians) . . . . .	3
MATL 101 (Industrial Materials) . . . . .	3
MECH 102 (Manufacturing Processes) . . . . .	4
MECH 103 (Machining Basics and CNC) . . . . .	4
MECH 111 (Introduction to Fluid Power) . . . . .	3

### Total Degree Requirements

**61-62 credits**

### Total Degree Cost

**80 minimum billable  
contact hours**

\* MATH 119 (Elementary Technical Mathematics) and MATH 124 (Technical Mathematics II) are required for students whose goal is to complete the associate of applied science degree and seek employment. MATH 157 (College Algebra) and MATH 159 (Trigonometry and Analytical Geometry) are recommended for students interested in transferring to a four-year institution. Other math courses may be selected for transfer depending on the student's choice of transfer institution. Students interested in transfer are encouraged to seek the assistance of a faculty advisor or admissions counselor.

\*\* MDTC 160 (Mechanical Drafting and CAD I) can be replaced by CIS 130 (Introduction to Computer Information Systems).

## Certificate Program: Automotive Engineering Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in automotive engineering technology. We recognize that many employers place value on a certificate which authenticates specialized educational preparation. The program concentrates upon basic core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate program are applicable toward the associate of applied science degree.

### Credits

ELEC 125 (Fundamentals of Electricity) . . . . .	3
AUTO 101 (Internal Combustion Engines) . . . . .	4
AUTO 102 (Automotive Electricity and Electronics) . . . . .	4
AUTO 103 (Fuel and Emission Control Systems) . . . . .	4
AUTO 104 (Automotive Ignition Systems) . . . . .	3
AUTO 105 (Automotive Transmissions) . . . . .	3
AUTO 107 (Automotive Chassis Units) . . . . .	4
AUTO 114 (Automotive Instrumentation and Testing) . . . . .	4
AUTO 201 (Automotive Digital Electronics) . . . . .	3
MATH 119 (Elementary Technical Mathematics) . . . . .	2

<b>Total Certificate Requirements</b>	<b>34 credits</b>
<b>Total Certificate Cost</b>	<b>50 minimum billable contact hours</b>