

Automotive Systems Technology

A60160 (Associate Degree) D60160 (Diploma) C60160A (Certificate) C60160B (Certificate)

Curriculums in the Mobile Equipment Maintenance and Repair pathway prepare individuals for employment as entry-level transportation service technicians. The program provides an introduction to transportation industry careers and increases student awareness of the diverse technologies associated with this dynamic and challenging field.

Course work may include transportation systems theory, braking systems, climate control, design parameters, drive trains, electrical/electronic systems, engine repair, engine performance, environmental regulations, materials, product finish, safety, steering/suspension, transmission/transaxles, and sustainable transportation, depending on the program major area chosen.

Graduates of this pathway should be prepared to take professional licensure exams, which correspond to certain programs of study, and to enter careers as entry-level technicians in the transportation industry.

Automotive Systems Technology: A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

In addition to the courses listed below, students may be required to take transition/co-requisite classes based on RISE criteria. These classes do not count toward hours required for graduation.

Title Class/Lab/Credit

I. General Education Courses

| | | | | | |
|-----|-----|------------------------------|---|---|---|
| COM | 120 | Interpersonal Communications | 3 | 0 | 3 |
| or | | | | | |
| COM | 231 | Public Speaking | 3 | 0 | 3 |
| ENG | 111 | Writing and Inquiry | 3 | 0 | 3 |
| MAT | 143 | Quantitative Literacy | 2 | 2 | 3 |

Select one course each from Humanities/Fine Arts and Social/Behavioral Sciences on page 79.

II. Major Courses

| | | | | | |
|-----|-----|---|---|---|---|
| TRN | 120 | 2013FA Basic Transportation Electricity | 4 | 3 | 5 |
| TRN | 140 | Transportation Climate Control | 1 | 2 | 2 |
| TRN | 170 | 2013FA PC Skills for Transportation | 1 | 2 | 2 |

III. Concentration

| | | | | | |
|-----|-----|---------------------------------|---|---|---|
| AUT | 116 | Engine Repair | 2 | 3 | 3 |
| AUT | 141 | Suspension and Steering Systems | 2 | 3 | 3 |
| AUT | 151 | Brake Systems | 2 | 3 | 3 |
| AUT | 181 | Engine Performance-1 | 2 | 3 | 3 |

IV. Other Major Courses

Take 8 credits:

| | | | | | |
|-----|-----|--------------------------------|---|----|---|
| AUT | 183 | Engine Performance-2 | 2 | 6 | 4 |
| TRN | 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |
| WBL | 111 | Work-Based Learning I | 0 | 10 | 1 |

| | | | | | |
|-----|-----|-------------------------|---|----|---|
| WBL | 112 | Work-Based Learning I | 0 | 20 | 2 |
| WBL | 113 | Work-Based Learning I | 0 | 30 | 3 |
| WBL | 114 | Work-Based Learning I | 0 | 40 | 4 |
| WBL | 121 | Work-Based Learning II | 0 | 10 | 1 |
| WBL | 122 | Work-Based Learning II | 0 | 20 | 2 |
| WBL | 123 | Work-Based Learning II | 0 | 30 | 3 |
| WBL | 124 | Work-Based Learning II | 0 | 40 | 4 |
| WBL | 131 | Work-Based Learning III | 0 | 10 | 1 |
| WBL | 132 | Work-Based Learning III | 0 | 20 | 2 |
| WBL | 133 | Work-Based Learning III | 0 | 30 | 3 |
| WBL | 134 | Work-Based Learning III | 0 | 40 | 4 |
| WBL | 211 | Work-Based Learning IV | 0 | 10 | 1 |
| WBL | 212 | Work-Based Learning IV | 0 | 20 | 2 |
| WBL | 213 | Work-Based Learning IV | 0 | 30 | 3 |
| WBL | 214 | Work-Based Learning IV | 0 | 40 | 4 |

Take 29 credits

| | | | | | |
|---------|------|---|---|---|---|
| ATT | 115 | Green Trans. Safety & Service | 1 | 4 | 3 |
| ATT | 125 | Hybrid-Electric Trans | 2 | 4 | 4 |
| ATT | 140 | Emerging Transp Tech | 2 | 3 | 3 |
| AUT | 113 | Automotive Servicing I | 0 | 6 | 2 |
| AUT | 116A | Engine Repair Lab | 0 | 3 | 1 |
| AUT141A | | Suspension and Steering Lab | 0 | 3 | 1 |
| AUT | 151A | Brake Systems Lab | 0 | 3 | 1 |
| AUT | 181A | Engine Performance I Lab | 0 | 3 | 1 |
| AUT221 | | Auto Transmissions/Transaxles | 2 | 3 | 3 |
| AUT | 221A | Auto Transmissions/Transaxles Lab | 0 | 3 | 1 |
| AUT | 231 | Manual Transmissions/Transaxles/Drivetrains | 2 | 3 | 3 |
| AUT | 231A | Manual Transmissions/Transaxles/Drivetrains Lab | 0 | 3 | 1 |
| LDD | 112 | Intro Light-Duty Diesel | 2 | 2 | 3 |
| LDD | 181 | LDD Fuel Systems | 2 | 6 | 4 |
| TRN | 111 | Chasis Maint/Light Repair | 2 | 6 | 4 |
| TRN | 130 | Introduction to Sustainable Transportation | 2 | 2 | 3 |
| TRN | 140A | Transportation Climate Control Lab | 1 | 2 | 2 |
| TRN | 145 | Advanced Transportation Electronics | 2 | 3 | 3 |
| TRN | 180 | Basic Welding for Transportation | 1 | 4 | 3 |

III. Other Required Courses

| | | | | | |
|-----|-----|--------------------------|---|---|---|
| ACA | 115 | Success and Study Skills | 0 | 2 | 1 |
| ACA | 220 | Professional Transition | 1 | 0 | 1 |

Total Credits: 75

Recommended Semester Schedule

First Year-Fall

| | | | | | |
|-----|-----|--------------------------|---|---|---|
| ACA | 115 | Success and Study Skills | 0 | 2 | 1 |
| AUT | 116 | Engine Repair | 2 | 3 | 3 |

| | | | | | |
|-----|------|----------------------------------|---|---|---|
| AUT | 116A | Engine Repair Lab | 0 | 3 | 1 |
| TRN | 120 | Basic Transportation Electricity | 4 | 3 | 5 |
| TRN | 170 | PC Skills for Transportation | 1 | 2 | 2 |

First Year-Spring

| | | | | | |
|-----|------|---------------------------------|---|---|---|
| AUT | 181 | Engine Performance I | 2 | 3 | 3 |
| AUT | 181A | Engine Performance I Lab | 0 | 3 | 1 |
| MAT | 143 | Quantitative Literacy | 2 | 2 | 3 |
| TRN | 111 | Chassis Maint./Light Repair | 2 | 6 | 4 |
| TRN | 145 | Adv. Transportation Electronics | 2 | 3 | 3 |

First Year-Summer

| | | | | | |
|-----|------|------------------------------------|---|---|---|
| AUT | 183 | Engine Performance II | 2 | 6 | 4 |
| TRN | 140 | Transportation Climate Control | 1 | 2 | 2 |
| TRN | 140A | Transportation Climate Control Lab | 1 | 2 | 2 |
| | | Humanities Elective-see page 79 | 3 | 0 | 3 |

Second Year-Fall

| | | | | | |
|-----|------|---|---|---|---|
| AUT | 221 | Auto Transmissions/Transaxles | 2 | 3 | 3 |
| AUT | 221A | Auto Transmissions/Transaxles Lab | 0 | 3 | 1 |
| AUT | 231 | Manual Transmissions/Transaxles/Drivetrains | 2 | 3 | 3 |
| AUT | 231A | Manual Transmissions/Transaxles/Drivetrains Lab | 0 | 3 | 1 |
| TRN | 180 | Basic Welding for Transportation | 1 | 4 | 3 |
| | | Social/Behavioral Science Elective- See page 76 | 3 | 0 | 3 |

Second Year-Spring

| | | | | | |
|-----|-----|--------------------------------------|---|---|---|
| ACA | 220 | Professional Transition | 1 | 0 | 1 |
| AUT | 113 | Automotive Servicing I | 0 | 6 | 2 |
| COM | 120 | Interpersonal Communication | 3 | 0 | 3 |
| ENG | 111 | Writing and Inquiry | 3 | 0 | 3 |
| TRN | 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |
| TRN | 130 | Intro. to Sustainable Transportation | 2 | 2 | 3 |

Second Year-Summer

| | | | | | |
|-----|------|---------------------------------|---|---|---|
| AUT | 141 | Suspension and Steering Systems | 2 | 3 | 3 |
| AUT | 141A | Suspension and Steering Lab | 0 | 3 | 1 |
| AUT | 151 | Brake Systems | 2 | 3 | 3 |
| AUT | 151A | Brake Systems Lab | 0 | 3 | 1 |

Note: WBL 111, 112, 113, 114, 121, 122, 123, 124, 131, 132, 133, 134, 211, 212, 213, 214 may count for any of the following: AUT 116, AUT 116A, TRN 120, TRN 111, TRN 145, AUT 183, AUT 221, AUT 221A, AUT 231, AUT 231A, AUT 113, TRN 112

Automotive Systems Technology Diploma Program (D60160)

Title Class/Lab/Credit

I. General Education Courses

| | | | | | |
|-----|-----|--------------------------|---|---|---|
| ENG | 101 | Applied Communications I | 3 | 0 | 3 |
|-----|-----|--------------------------|---|---|---|

| | | | | | |
|-----|-----|---------------------------------------|---|---|---|
| MAT | 110 | Mathematical Measurement and Literacy | 2 | 2 | 3 |
|-----|-----|---------------------------------------|---|---|---|

II. Major Courses

| | | | | | |
|-----|-----|---|---|---|---|
| AUT | 116 | Engine Repair | 2 | 3 | 3 |
| TRN | 120 | 2013FA Basic Transportation Electricity | 4 | 3 | 5 |
| TRN | 170 | 2013FA PC Skills for Transportation | 1 | 2 | 2 |

III. Concentration

| | | | | | |
|-----|-----|---------------------------------|---|---|---|
| AUT | 141 | Suspension and Steering Systems | 2 | 3 | 3 |
| AUT | 151 | Brake Systems | 2 | 3 | 3 |
| AUT | 181 | Engine Performance-1 | 2 | 3 | 3 |

IV. Other Major Courses

Take 18 hours

| | | | | | |
|-----|------|---------------------------------|---|----|---|
| AUT | 113 | Automotive Servicing I | 0 | 6 | 2 |
| AUT | 116A | Engine Repair Lab | 0 | 3 | 1 |
| AUT | 141A | Suspension and Steering Lab | 0 | 3 | 1 |
| AUT | 151A | Brake Systems Lab | 0 | 3 | 1 |
| AUT | 181A | Engine Performance I Lab | 0 | 3 | 1 |
| AUT | 183 | Engine Performance-2 | 2 | 6 | 4 |
| TRN | 111 | Chasis Light Maint/Light Repair | 2 | 6 | 4 |
| TRN | 112 | Intro to Sustainable Transp | 2 | 6 | 4 |
| WBL | 111 | Work-Based Learning I | 0 | 10 | 1 |
| WBL | 112 | Work-Based Learning I | 0 | 20 | 2 |
| WBL | 121 | Work-Based Learning II | 0 | 10 | 1 |
| WBL | 122 | Work-Based Learning II | 0 | 20 | 2 |
| WBL | 131 | Work-Based Learning III | 0 | 10 | 1 |
| WBL | 132 | Work-Based Learning III | 0 | 20 | 2 |
| WBL | 211 | Work-Based Learning IV | 0 | 10 | 1 |
| WBL | 212 | Work-Based Learning IV | 0 | 20 | 2 |

III. Other Required Courses

| | | | | | |
|-----|-----|--------------------------|---|---|---|
| ACA | 115 | Success and Study Skills | 0 | 2 | 1 |
| ACA | 220 | Professional Transition | 1 | 0 | 1 |

Total Credits: 45

Recommended Semester Schedule

First Year-Fall

| | | | | | |
|-----|------|----------------------------------|---|---|---|
| ACA | 115 | Success and Study Skills | 0 | 2 | 1 |
| AUT | 116 | Engine Repair | 2 | 3 | 3 |
| AUT | 116A | Engine Repair Lab | 0 | 3 | 1 |
| TRN | 120 | Basic Transportation Electricity | 4 | 3 | 5 |
| TRN | 170 | PC Skills for Transportation | 1 | 2 | 2 |

First Year-Spring

| | | | | | |
|-----|-----|----------------------|---|---|---|
| AUT | 181 | Engine Performance I | 2 | 3 | 3 |
|-----|-----|----------------------|---|---|---|

| | | | | | |
|-----|------|---------------------------------|---|---|---|
| AUT | 181A | Engine Performance I Lab | 0 | 3 | 1 |
| TRN | 111 | Chasis Light Maint/Light Repair | 2 | 6 | 4 |

First Year-Summer

| | | | | | |
|-----|-----|-----------------------|---|---|---|
| AUT | 183 | Engine Performance II | 2 | 6 | 4 |
|-----|-----|-----------------------|---|---|---|

Second Year-Fall

| | | | | | |
|-----|-----|---------------------------------------|---|---|---|
| ENG | 101 | Applied Communications I | 3 | 0 | 3 |
| MAT | 110 | Mathematical Measurement and Literacy | 2 | 2 | 3 |

Second Year-Spring

| | | | | | |
|-----|-----|-----------------------------|---|---|---|
| ACA | 220 | Professional Transition | 1 | 0 | 1 |
| AUT | 113 | Automotive Servicing I | 0 | 6 | 2 |
| TRN | 112 | Intro to Sustainable Transp | 2 | 6 | 4 |

Second Year-Summer

| | | | | | |
|-----|------|-------------------------------------|---|---|---|
| AUT | 141 | Suspension and Steering Systems | 2 | 3 | 3 |
| AUT | 141A | Suspension and Steering Systems Lab | 0 | 3 | 1 |
| AUT | 151 | Brake Systems | 2 | 3 | 3 |
| AUT | 151A | Brake Systems Lab | 0 | 3 | 1 |

Automotive Systems Technology Certificate Program (C60160A) Level I

Title Class/Lab/Credit

I. Major Courses

| | | | | |
|---------|--------------------------------|---|---|---|
| AUT 113 | Automotive Servicing I | 0 | 6 | 2 |
| TRN 111 | Chasis Maint/Light Repair | 2 | 6 | 4 |
| TRN 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |
| TRN 170 | PC Skills for Transportation | 1 | 2 | 2 |

Total Credits: 12

High School Ariculation: Automotive Service I= TRN 111, Automotive Service II= TRN 112, Automotive Service III= AUT 113.

Recommended Semester Schedule

First Year-Fall

| | | | | | |
|-----|-----|------------------------------|---|---|---|
| TRN | 170 | PC Skills for Transportation | 1 | 2 | 2 |
|-----|-----|------------------------------|---|---|---|

First Year-Spring

| | | | | |
|---------|--------------------------------|---|---|---|
| AUT 113 | Automotive Servicing I | 0 | 6 | 2 |
| TRN 111 | Chasis Maint/Light Repair | 2 | 6 | 4 |
| TRN 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |

Automotive Systems Technology Certificate Program (C60160B) Level II

| <u>Title</u> | <u>Class/Lab/Credit</u> | | |
|--------------|-------------------------|--|--|
|--------------|-------------------------|--|--|

I. Major Courses

| | | | | |
|----------|--------------------------------|---|---|---|
| AUT 113 | Automotive Servicing I | 0 | 6 | 2 |
| AUT 116 | Engine Repair | 2 | 3 | 3 |
| AUT 116A | Engine Repair Lab | 0 | 3 | 1 |
| TRN 111 | Chasis Maint/Light Repair | 2 | 6 | 4 |
| TRN 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |
| TRN 170 | PC Skills for Transportation | 1 | 2 | 2 |

Total Credits: 16

Recommended Semester Schedule

First Year-Fall

| | | | | |
|----------|------------------------------|---|---|---|
| AUT 116 | Engine Repair | 2 | 3 | 3 |
| AUT 116A | Engine Repair Lab | 0 | 3 | 1 |
| TRN 170 | PC Skills for Transportation | 1 | 2 | 2 |

First Year-Spring

| | | | | |
|---------|--------------------------------|---|---|---|
| AUT 113 | Automotive Servicing I | 0 | 6 | 2 |
| TRN 111 | Chasis Maint/Light Repair | 2 | 6 | 4 |
| TRN 112 | Powertrain Maint./Light Repair | 2 | 6 | 4 |

