# **Automotive Systems Technology**

Career Technologies













# **ABOUT THIS FIELD**

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.



# WHAT YOU'LL STUDY

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.



### WHAT YOU CAN DO

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. The Automotive Systems Technology program prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. The program 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.



## **PROGRAM START DATES:**

Fall or Spring Semester

### FOR MORE INFORMATION CONTACT:

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### **CLASSES YOU'LL NEED TO TAKE**

### **ASSOCIATE IN APPLIED SCIENCE DEGREE (AAS) A60160**

Total Semester Hour Credits: 71

| EALL CEN                     | 4FCTFD 4         |  |                   |     |          |        |  |
|------------------------------|------------------|--|-------------------|-----|----------|--------|--|
| Prefix                       | MESTER 1  Number |  | Class             | Lab | Clinical | Credit |  |
| ACA                          | 111              | College Student Success                | <u>Class</u><br>1 | 0   | 0        | 1      |  |
| AUT                          | 151              | Brake Systems                          | 2                 | 3   | 0        | 3      |  |
| AUT                          | 151A             | Brake Systems Lab                      | 0                 | 3   | 0        | 1      |  |
| TRN                          | 110              | Introduction to Automotive             | 1                 | 2   | 0        | 2      |  |
| TRN                          | 120              | Basic Transportation Electricity       | 4                 | 3   | 0        | 5      |  |
| TRN                          | 120A             | Basic Transportation Electricity La    |                   | 3   | 0        | 1      |  |
|                              | .2071            | Totals                                 | 8                 | 14  | 0        | 13     |  |
| SPRING                       | SEMESTI          | ER 1                                   |                   |     |          |        |  |
| AUT                          | 141              | Suspension & Steering Systems          | 2                 | 3   | 0        | 3      |  |
| AUT                          | 141A             | Suspension & Steering Lab              | 0                 | 3   | 0        | 1      |  |
| TRN                          | 130              | Intro to Sustainable Transportation    | n 2               | 2   | 0        | 3      |  |
| TRN                          | 145              | Advanced Transportation Electron       | nics 2            | 3   | 0        | 3      |  |
| Choose o                     | one of the       | following:                             |                   |     |          |        |  |
| ENG                          | 110              | Freshman Composition                   | 3                 | 0   | 0        | 3      |  |
| ENG                          | 111              | Writing and Inquiry                    | 3                 | 0   | 0        | 3      |  |
|                              | one of the       | following:                             |                   |     |          |        |  |
| PSY                          | 118              | Interpersonal Psychology               | 2                 | 3   | 0        | 3      |  |
| PSY                          | 150              | General Psychology                     | 3                 | 0   | 0        | 3      |  |
| SOC                          | 210              | Introduction to Sociology              | 3                 | 0   | 0        | 3      |  |
|                              |                  | Totals                                 | 12                | 11  | 0        | 16     |  |
| SUMME                        | R SEMEST         | ΓER                                    |                   |     |          |        |  |
| AUT                          | 181              | Engine Performance I                   | 2                 | 3   | 0        | 3      |  |
| CIS                          | 110              | Introduction to Computers              | 2                 | 2   | 0        | 3      |  |
| TRN                          | 140              | Transportation Climate Control         | 1                 | 2   | 0        | 2      |  |
| TRN                          | 140A             | Transportation Climate Control La      |                   | 2   | 0        | 2      |  |
|                              |                  | Totals                                 | 6                 | 9   | 0        | 10     |  |
| FALL SE                      | MESTER 2         | 1                                      |                   |     |          |        |  |
| ATT                          | 140              | <b>Emerging Transportation Technol</b> | ogy 2             | 3   | 0        | 3      |  |
| AUT                          | 116              | Engine Repair                          | 2                 | 3   | 0        | 3      |  |
| AUT                          | 183              | Engine Performance II                  | 2                 | 6   | 0        | 4      |  |
| LDD                          | 112              | Introduction to Light-Duty Diesel      | . 2               | 2   | 0        | 3      |  |
|                              |                  | following:                             | _                 |     |          | _      |  |
| HUM                          | 110              | Technology and Society                 | 3                 | 0   | 0        | 3      |  |
| HUM                          | 115              | Critical Thinking                      | 3                 | 0   | 0        | 3      |  |
|                              |                  | Totals                                 | 11                | 14  | 0        | 16     |  |
| SPRING SEMESTER 2            |                  |  |                   |     |          |        |  |
| AUT                          | 212              | Auto Shop Management                   | 3                 | 0   | 0        | 3      |  |
| AUT                          | 221              | Automatic Transmissions/Transax        |                   | 3   | 0        | 3      |  |
| AUT                          | 221A             | Automatic Transmissions/Transaxle La   |                   | 3   | 0        | 1      |  |
| AUT                          | 231              | Manual Transmissions/Axles/Drtr        |                   | 3   | 0        | 3      |  |
| ENG                          | 114              | Professional Research & Reportin       | g 3               | 0   | 0        | 3      |  |
| Choose one of the following: |                  |  |                   |     |          |        |  |
| MAT                          | 110              | Mathematical Measurements              | 2                 | 2   | 0        | 3      |  |
| MAT                          | 143              | Quantitative Literacy                  | 2                 | 2   | 0        | 3      |  |
|                              |                  | Totals                                 | 12                | 11  | 0        | 16     |  |



## **DIPLOMA/CERTIFICATE OPTIONS**

# **DIPLOMA - D60160**

| Total Semester Hour Credits: 42 |                                |  |       |       |          |        |  |  |  |
|---------------------------------|--------------------------------|--|-------|-------|----------|--------|--|--|--|
| FALL SEMESTER 1                 |                                |  |       |       |          |        |  |  |  |
| Prefix                          | #                              |  | Class |       | Clinical | Credit |  |  |  |
| AUT                             | 151                            | Brake Systems                                    | 2     | 3     | 0        | 3      |  |  |  |
| TUA                             | 151A                           | Brake Systems Lab                                | 0     | 3     | 0        | 1      |  |  |  |
| TRN                             | 110                            | Introduction to Automotive                       | 1     | 2     | 0        | 2      |  |  |  |
| TRN                             | 120                            | Basic Transportation Electricity                 |       | 3     | 0        | 5      |  |  |  |
| TRN                             | 120A                           |  | 0     | 3     | 0        | 1      |  |  |  |
| ACA                             | e one c                        | of the following:                                | 1     | 0     | 0        | 1      |  |  |  |
| ACA                             | 122                            | College Student Success College Transfer Success | 0     | 2     | 0        | 1      |  |  |  |
| ACA                             | 122                            | Totals   | 7-8   | 14-16 | 0        | 13     |  |  |  |
|                                 |                                | Totals   | , 0   | 14 10 | O        | 15     |  |  |  |
| SPRING SEMESTER 1               |                                |  |       |       |          |        |  |  |  |
| AUT                             | 141                            | Suspension & Steering System                     |       | 3     | 0        | 3      |  |  |  |
| AUT                             | 141A                           | Suspension & Steering Lab                        | 0     | 3     | 0        | 1      |  |  |  |
| CIS                             | 110                            | Introduction to Computers                        | 2     | 2     | 0        | 3      |  |  |  |
| TRN                             | 145                            | Advanced Transp. Electronics                     | 2     | 3     | 0        | 3      |  |  |  |
| Choose one of the following:    |                                |  |       |       |          |        |  |  |  |
| ENG                             | 110                            | Freshman Composition                             | 3     | 0     | 0        | 3      |  |  |  |
| ENG                             | 111                            | Writing and Inquiry                              | 3     | 0     | 0        | 3      |  |  |  |
|                                 |                                | Totals   | 9     | 11    | 0        | 13     |  |  |  |
| SUMI                            | MER S                          | EMESTER  |       |       |          |        |  |  |  |
| AUT                             | 181                            | Engine Performance I                             | 2     | 3     | 0        | 3      |  |  |  |
| TRN                             | 140                            | Transportation Climate Contro                    | ol 1  | 2     | 0        | 2      |  |  |  |
| TRN                             | 140A                           | •  | 1     | 2     | 0        | 2      |  |  |  |
|                                 |                                | Totals   | 4     | 7     | 0        | 7      |  |  |  |
| <b>5</b> 411                    | CEN45                          | CTED 2   |       |       |          |        |  |  |  |
|                                 |                                | STER 2   | 2     | 2     | 0        | 2      |  |  |  |
| AUT                             | 116                            | Engine Repair                                    | 2     | 3     | 0        | 3<br>3 |  |  |  |
| LDD                             | 112                            | Introduction to Light-Duty Die                   | selZ  | 2     | 0        | 3      |  |  |  |
| MAT                             | 110                            | of the following:  Mathematical Measurements     | 2     | 2     | 0        | 3      |  |  |  |
| MAT                             | 143                            | Quantitative Literacy                            | 2     | 2     | 0        | 3      |  |  |  |
| PIA                             | כדו                            | Totals   | 6     | 7     | 0        | 9      |  |  |  |
|                                 |                                | Totals   |       |       |          |        |  |  |  |
|                                 |                                | RTIFICATE - C601601                              | 3     |       |          |        |  |  |  |
|                                 |                                | ter Hour Credits: 15                             |       |       |          |        |  |  |  |
|                                 | STER                           | =  |       |       |          |        |  |  |  |
| AUT                             | 151                            | Brake Systems                                    | 2     | 3     | 0        | 3      |  |  |  |
| AUT                             | 151A                           | ,  | 0     | 3     | 0        | 1      |  |  |  |
| TRN                             | 110                            | Introduction to Automotive                       | 1     | 2     | 0        | 2      |  |  |  |
| TRN                             | 120                            | Basic Transportation Electricity                 |       | 3     | 0        | 5      |  |  |  |
|                                 |                                | Totals   | 7     | 11    | 0        | 11     |  |  |  |
| SEME                            | SEMESTER 2                     |  |       |       |          |        |  |  |  |
| AUT                             | 141                            | Suspension & Steering System                     | s 2   | 3     | 0        | 3      |  |  |  |
| AUT                             | 141A                           | Suspension & Steering Sys. Lab                   | 0 0   | 3     | 0        | 1      |  |  |  |
|                                 |                                | Totals   | 2     | 6     | 0        | 4      |  |  |  |
| A DV                            | ADVANCED CERTIFICATE - C60160A |  |       |       |          |        |  |  |  |
|                                 |                                | ter Hour Credits: 17                             | U 10  | JA    |          |        |  |  |  |
|                                 | STER                           |  |       |       |          |        |  |  |  |
| AUT                             | 181                            | Engine Performance I                             | 2     | 3     | 0        | 3      |  |  |  |
| TRN                             | 140                            | Transportation Climate Contro                    |       | 2     | 0        | 2      |  |  |  |
| TDNI                            | 1/10/                          | Transp Climate Control Lab                       | 1     | 2     | 0        | 2      |  |  |  |

|     |      | •                              |   |   |   |   |  |
|-----|------|--------------------------------|---|---|---|---|--|
| AUT | 181  | Engine Performance I           | 2 | 3 | 0 | 3 |  |
| TRN | 140  | Transportation Climate Control | 1 | 2 | 0 | 2 |  |
| TRN | 140A | Transp. Climate Control Lab    | 1 | 2 | 0 | 2 |  |
|     |      | Totals                         | 4 | 7 | 0 | 7 |  |
|     |      |                                |   |   |   |   |  |
|     |      |                                |   |   |   |   |  |

### **SEMESTER 2**

| AUT | 183 | Engine Performance II        | 2 | 6  | 0 | 2  |
|-----|-----|------------------------------|---|----|---|----|
| LDD | 112 | Intro to Light-Duty Diesel   | 2 | 2  | 0 | 3  |
| TRN | 145 | Advanced Transp. Electronics | 2 | 3  | 0 | 3  |
|     |     | Totals                       | 6 | 11 | 0 | 10 |