# General Service I Course No. 40150 Credit: 1.0

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| --- | --- | --- | --- |
| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes:Business Management & Entrepreneurship (52.0799); **Mobile Equipment Maintenance (47.9999) - Technology Strand I**

Course Description: A **technical level** course designed to provide students with basic theories and information needed to develop an understanding of automotive and light truck vehicles.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Shop Operations & Safety

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Identify sources of service information. |  |
| 1.2 | Identify and demonstrate safe shop procedures. |  |
| 1.3 | Operate tools and equipment safely. |  |
| 1.4 | Explain and use chemical safety procedures. |  |
| 1.5 | Demonstrate proper use of PPE (personal protective equipment). |  |

## Benchmark 2: Engine Repair

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Demonstrate knowledge of engine fundamentals. |  |
| 2.2 | Demonstrate knowledge of fluid maintenance. |  |
| 2.3 | Inspect engine assembly for fluid leaks and recommend repair needs. |  |

## Benchmark 3: Drive Train

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Perform inspection of fluid levels on transmissions and axles. |  |
| 3.2 | Lubricate u-joints. |  |
| 3.3 | Inspect CV joints and boots. |  |
| 3.4 | Explain basic transmission operation. |  |

## Benchmark 4: Suspension & Steering

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Inspect steering fluid levels. |  |
| 4.2 | Demonstrate knowledge of steering systems. |  |
| 4.3 | Inspect system for leaks. |  |
| 4.4 | Inspect tires for wear and proper pressures. |  |
| 4.5 | Demonstrate knowledge of TPM systems. |  |

## Benchmark 5: Brakes

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 5.1 | Demonstrate knowledge of brake principles. |  |
| 5.2 | Inspect brake fluid levels. |  |
| 5.3 | Demonstrate knowledge of brake fluids. |  |
| 5.4 | Inspect hoses, fittings and lines for damage. |  |
| 5.5 | Inspect brake pads and shoes for wear and thickness. |  |
| 5.6 | Inspect rotors, drums and related hardware. |  |

## Benchmark 6: Electrical Systems

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 6.1 | Demonstrate knowledge of electrical principles. |  |
| 6.2 | Solder/repair electrical wiring and connections. |  |
| 6.3 | Identify components of electrical schematics. |  |
| 6.4 | Understand basic diagnostic and troubleshooting processes. |  |
| 6.5 | Perform battery maintenance and testing. |  |
| 6.6 | Inspect vehicle lighting and basic electrical systems. |  |

## Benchmark 7: HVAC

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 7.1 | Demonstrate knowledge of HVAC fundamentals. |  |
| 7.2 | Identify refrigerants used in Mobile HVAC. |  |
| 7.3 | Identify and visually inspect HVAC components. |  |

## Benchmark 8: Engine Performance

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 8.1 | Perform engine scan tests. |  |
| 8.2 | Interpret scan data and trouble codes. |  |
| 8.3 | Identify and explain fuel delivery systems. |  |
| 8.4 | Identify and explain exhaust and emission systems. |  |
| 8.5 | Identify and explain ignition systems. |  |
| 8.6 | Inspect vehicle filters. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

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[pathwayshelpdesk@ksde.org](mailto:pathwayshelpdesk@ksde.org)



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