# HEAVY/MEDIUM DUTY TRUCK (HMDT) COURSES

**HMDT 021 4 Units**
**Heavy-Duty Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This course covers theory and practical shop work in the repair, operation, and maintenance of heavy-duty industrial truck engines and fuel injection systems including general troubleshooting and diagnostic testing. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test.
**Associate Degree Applicable**

**HMDT 022 4 Units**
**Heavy-Duty Truck Brakes**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This course covers theory and practical shop work in the construction, operation, and repair of heavy-duty truck brake systems and components including principles of hydraulic and pneumatic brake systems, anti-lock, and computer controlled braking systems used in today's modern heavy-duty trucks and busses.
**Associate Degree Applicable**

**HMDT 023 4 Units**
**Heavy-Duty Truck Suspension and Steering**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This course covers theory and practical shop work in the construction, operation, and repair of heavy-duty truck suspension and steering components including principles of hydraulic and pneumatic steering and suspension systems.
**Associate Degree Applicable**

**HMDT 024 4 Units**
**Advanced Heavy-Duty Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 021
This course is an advanced engine rebuilds class that covers theory and practical shop work in the repair, operation, and maintenance of various heavy-duty truck engines. Topics include general troubleshooting and diagnostic testing of engine components and systems found in most engines from a variety of engine manufacturers. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test.
**Associate Degree Applicable**

**HMDT 026 4 Units**
**Computer Controlled Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 064 or AUTO 064
This course covers theory and practical shop work in the repair, operation, and maintenance of computer controlled truck engines. Topics include general troubleshooting and diagnostics using assorted electronic and computerized test equipment on operable computer controlled diesel engines.
**Associate Degree Applicable**

**HMDT 028 4 Units**
**Heavy-Duty Truck Systems**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 064 or AUTO 064
This course covers theory and practical shop work in maintenance, air conditioning, Antilock Brake System (ABS), computers, and operations of the heavy-duty truck and bus systems. Course is designed to provide students the needed skills and knowledge to perform advanced level labor tasks in the heavy-duty truck and bus service industry.
**Associate Degree Applicable**

**HMDT 034 4 Units**
**Heavy/Medium Duty Truck Alternative Fuels**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This course provides theory and hands-on experience in the operation, service, inspection, and maintenance of compressed natural gas (CNG) vehicle systems. This course prepares students for the ASE Alternate Fuels Test (F-1).
**Associate Degree Applicable**

**HMDT 035 2 Units**
**Heavy-Duty Vehicle Automatic Transmissions**
**Lecture:** 27 contact hours
**Lab:** 27 contact hours
This course provides theory and hands-on experience with heavy- and medium-duty automatic transmission operation, construction, service and overhaul procedures.
**Associate Degree Applicable**

**HMDT 040 3 Units**
**Commercial Driver's License (CDL) DMV Exam Preparation**
**Lecture:** 54 contact hours
**Corequisite:** HMDT 041
**Departmental Recommendation:** HMDT 026 and HMDT 028 and HMDT 035
This class trains student on the fundamentals of driving a Class 8 trucks. Successful completion of this course prepares students to take the written portion of the Commercial Driver's License Class A or B Department of Motor Vehicles (DMV) exam. Topics include diversity and inclusion in trucking, required training on basic vehicle instruments and controls, basic operation of a vehicle, vehicle inspection, hours of service, handling cargo, fatigue awareness, vehicle maintenance and violations, and trip planning.
**Associate Degree Applicable**

**HMDT 041 1 Unit**
**Commercial Driver's License (CDL) Training Lab**
**Lab:** 54 contact hours
**Prerequisite/Corequisite:** HMDT 040
**Departmental Recommendation:** HMDT 026 and HMDT 028 and HMDT 035
This class prepares students to take the DMV exam. Using a truck simulator, students receive training in truck and trailer backing, parking, docking, and road training needed to drive a Class 8 truck.
**Associate Degree Applicable**

**HMDT 042 2 Units**
**Zero Emission Heavy Duty Truck**
**Lecture:** 18 contact hours
**Lab:** 54 contact hours
The Zero Emission Heavy-Duty Truck course is to provide students with training in servicing and maintaining battery-electric and hydrogen-fueled vehicles.
**Associate Degree Applicable**

**HMDT 064 4 Units**
**Auto/Truck Electrical Systems**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This course covers basic electrical theory, use of meters, test equipment, wiring diagrams, diagnosis and repair/replacement of major electrical components of automobiles and trucks. Emphasis is placed on diagnosis of starting systems, charging systems, and electrical circuits such as lights and batteries. (This course is also offered as AUTO 064)
**Associate Degree Applicable**

**HMDT 098 0.5-4 Units**
**Heavy/Medium Duty Truck Work Experience**
**WRKEX:** 216 contact hours
This course involves supervised training, in the form of on the job employment that will enhance the student's knowledge in the selected field of study. The student's major and job must match. See department for specific guidelines.
**Associate Degree Applicable**

**HMDT 621 Noncredit**
**Heavy-Duty Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This noncredit course covers theory and practical shop work in the repair, operation, and maintenance of heavy-duty industrial truck engines and fuel injection systems including general troubleshooting and diagnostic testing. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test.

**HMDT 622 Noncredit**
**Heavy-Duty Truck Brakes**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This noncredit course covers theory and practical shop work in the construction, operation, and repair of heavy-duty truck brake systems and components including principles of hydraulic and pneumatic brake systems, anti-lock, and computer controlled braking systems used in today's modern heavy-duty diesel trucks and busses.

**HMDT 623 Noncredit**
**Heavy-Duty Truck Suspension and Steering**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This noncredit course covers theory and practical shop work in the construction, operation, and repair of heavy-duty truck suspension and steering components including principles of hydraulic and pneumatic steering and suspension systems.

**HMDT 624 Noncredit**
**Advanced Heavy-Duty Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 621
This noncredit course is an advanced engine rebuilds class that covers theory and practical shop work in the repair, operation, and maintenance of various heavy-duty truck engines. Topics include general troubleshooting and diagnostic testing of engine components and systems found in most engines from a variety of engine manufacturers. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test.

**HMDT 626 Noncredit**
**Computer Controlled Truck Engines**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 664
This noncredit course covers theory and practical shop work in the repair, operation, and maintenance of computer controlled truck engines. Topics include general troubleshooting and diagnostics using assorted electronic and computerized test equipment on operable computer controlled diesel engines.

**HMDT 628 Noncredit**
**Heavy-Duty Truck Systems**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
**Prerequisite:** HMDT 664
This noncredit course covers theory and practical shop work in maintenance, air conditioning, Antilock Brake System (ABS), computers, and operations of the heavy-duty truck and bus systems. Course is designed to provide students the needed skills and knowledge to perform advanced level labor tasks in the heavy-duty truck and bus service industry.

**HMDT 634 Noncredit**
**Heavy/Medium Duty Truck Alternative Fuels**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This noncredit course provides theory and hands-on experience in the operation, service, inspection, and maintenance of compressed natural gas (CNG) vehicle systems. This course prepares students for the ASE Alternate Fuels Test (F-1).

**HMDT 635 Noncredit**
**Heavy-Duty Vehicle Automatic Transmissions**
**Lecture:** 27 contact hours
**Lab:** 27 contact hours
This noncredit course provides theory and hands-on experience with heavy - and medium - duty automatic transmission operation, construction, service and overhaul procedures.

**HMDT 640 Noncredit**
**Commercial Driver's License (CDL) DMV Exam Preparation**
**Lecture:** 54 contact hours
**Departmental Recommendation:** HMDT 626 and HMDT 628 and HMDT 635
This noncredit class trains students on the fundamentals of driving a Class 8 truck. Successful completion of this course prepares students to take the written portion of the Commercial Driver's License Class A or B Department of Motor Vehicles (DMV) exam. Topics include diversity and inclusion in trucking, required training on basic vehicle instruments and controls, basic operation of a vehicle, vehicle inspection, hours of service, handling cargo, fatigue awareness, vehicle maintenance and violations, and trip planning. This course may also be offered for credit as HMDT 040.

**HMDT 641 Noncredit**
**Commercial Driver's License (CDL) Training Lab**
**Lab:** 54 contact hours
**Prerequisite/Corequisite:** HMDT 640
**Departmental Recommendation:** HMDT 626 and HMDT 628 and HMDT 635
This noncredit class prepares students to take the DMV exam. Using a truck simulator, students receive training in truck and trailer backing, parking, docking, and road training needed to drive a Class 8 truck. This course may also be offered for credit as HMDT 041.

**HMDT 664 Noncredit**
**Auto/Truck Electrical Systems**
**Lecture:** 54 contact hours
**Lab:** 54 contact hours
This noncredit course covers basic electrical theory, use of meters, test equipment, wiring diagrams, diagnosis and repair/replacement of major electrical components of automobiles and trucks. Emphasis is placed on diagnosis of starting systems, charging systems, and electrical circuits such as lights and batteries.