HEAVY/MEDIUM DUTY TRUCK TECHNOLOGY

The Heavy/Medium Duty Truck Technology program offers students high technology training and skills that may be utilized for immediate employment after certificate completion. Students will receive training in various subjects including brake and suspension, computer-controlled engines, emphasis in electrical and heavy-duty maintenance. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

Contact Information

Division: Applied Technology, Transportation, and Culinary Arts (T - 108)

Division Phone Number: (909) 384-4451

Faculty Chair: Mark Williams (mwilliam@sbccd.edu), A.S.

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- Commercial Driver's License (CDL) Orientation and Training Certificate of Achievement
- Heavy/Medium Duty Clean Vehicle Technology Associate of Science Degree
- Heavy/Medium Duty Clean Vehicle Technology Certificate of Achievement
- Heavy/Medium Duty Truck Engine and Fuel Injection Technology Certificate of Achievement
- Heavy/Medium Duty Truck Engine and Fuel Injection Technology Certificate of Completion
- Heavy/Medium Duty Truck Technology Associate of Science Degree
- Heavy/Medium Duty Truck Technology Certificate of Achievement

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
Advisory: 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
Advisory: 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 1-4 Units
Heavy/Medium Duty Truck Work Experience
WRKEX: 300 contact hours
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. For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 098 courses. 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
Advisory: 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
Advisory: 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.