Diesel Mechanics (DMT)

DMT 1000
Related Oxyacetylene and Arc Welding
3:1:7 Fall, Spring
Specially course designed for diesel mechanics, other trade areas, and interested community members. For beginning students. Covers theory and practice of oxyacetylene and arc welding of mild steel. Includes identification of basic and filler metals and melting temperatures of various metals. Emphasis is placed on root penetration and fusion of welded materials. Completers should be able to weld in their professional area. Tool room fee of $19 for equipment applies.

DMT 1110
Diesel Engine Overhaul
4:4:0 Fall, Spring
* Prerequisite(s): Minimum ACT Reading score of 16 or Accuplacer score of 60
* Corequisite(s): DMT 111L Recommended
Studies diesel engine operating principles, factors affecting performance, design variations, and identification of components. Involves theory of disassembly and reassembly of diesel engines following industry standard overhaul procedures. Covers the identification, inspection, and measuring of parts to determine condition for reuse. Uses failed components to assist in teaching troubleshooting skills. Provides theory of engine tune-up processes on various engines used by industry. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 111L
Diesel Engine Overhaul Lab
2:0:6 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 1110
Provides hands on experience in diesel engine operating principles, factors affecting performance, design variations, and identification of components. Requires disassembly and reassembly of diesel engines following industry standard overhaul procedures. Covers the identification, inspection, and measuring of parts to determine condition for reuse. Utilizes failed components to assist in teaching troubleshooting skills. Tool room fee of $19 for equipment applies. Course Lab fee of $22 for materials applies.

DMT 1120
Diesel Engine Operation Tune Up
4:4:0 Fall, Spring
* Prerequisite(s): DMT 1110
* Corequisite(s): DMT 112L Recommended
Continues the study of engine components and controls, operating systems, as well as performance factors. Provides the opportunity to study component replacement, tune-up adjustments, and preparing to run an engine under load in a dynamometer test cell. Emphasis on basic engine operating factors, and troubleshooting complaints such as low power, smoke conditions, engine faults, etc. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 112L
Diesel Engine Operation Tune up Lab
2:0:6 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 1110
Continues the study of engine components, operating systems, and performance factors. Provides opportunity to perform hands on component replacement and tune-up adjustments. Provides the opportunity to run an engine under load in a dynamometer test cell. Emphasizes basic engine operating factors and troubleshooting complaints, such as low power, smoke conditions, engine faults, etc. Tool room fee of $19 for equipment applies. Course Lab fee of $27 for materials applies.

DMT 1510
Electrical Systems Theory
4:4:0 Fall, Spring
* Prerequisite(s): AUT 1260 (or any MAT or MATH course 1000 or higher) with a C- or better
Corequisite(s): DMT 151L Recommended
Studies theory of operation, troubleshooting and adjustment of heavy duty mobile electrical systems. Uses state-of-the-art testing equipment. Includes safety and environmental awareness. Offered on the block. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 151L
Electrical Systems Lab
2:0:6 Fall, Spring
* Prerequisite(s): AUT 1260 (or any MAT or MATH course 1000 or higher) with a C- or better
* Prerequisite(s) or Corequisite(s): DMT 1510
Provides hands-on experience in basic circuitry, digital volt/ohm meter usage. Studies electrical component identification, troubleshooting and repair, charging system troubleshooting and repair, starting system troubleshooting and repair, electrical safety, and preventative maintenance. Tool room fee of $19 for equipment applies. Course Lab fee of $30 for materials applies.

DMT 1520
Engine Electronics and Diagnostics Theory
4:4:0 Fall, Spring
* Prerequisite(s): AUT 1260 (or any MAT or MATH course 1000 or higher) with a C- or better
* Corequisite(s): DMT 152L Recommended
Studies operation and troubleshooting of late model electronic controls for diesel engines. Utilizes factory methodology and approved test equipment. Discusses dynamometer testing and adjustment. Covers DOT vehicle lighting installation, troubleshooting and repair. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 152L
Engine Electronics and Diagnostics
2:0:6 Fall, Spring
* Prerequisite(s): AUT 1260 (or any MAT or MATH course 1000 or higher) with a C- or better
* Prerequisite(s) or Corequisite(s): DMT 1520

DMT 2230
Heating Ventilation Air Conditioning and Refrigeration Theory
2:2:0 Fall, Spring
* Prerequisite(s): AUT 1160 Recommended
* Corequisite(s): DMT 223L Recommended
Teaches the principles of heat transfer using refrigerant as the medium. Emphasizes the identification and operation of individual system components. Discusses the different types of refrigerants used in the mobile industry as well as recovery, recycling, storage, handling, and disposal. Also covers the theory and operation of auxiliary power units used on highway trucks. Software fee of $10 applies. Course fee of $10 for materials applies. Lab access fee of $15 for computers applies.

DMT 223L
Climate Control Lab
1:0:3 Fall, Spring
Provides hands-on opportunity to locate, identify, test, service, and troubleshoot different types of mobile AC systems using EPA approved equipment & procedures. Students will demonstrate their proficiency using recovery recycling, evacuating, and charging equipment for both R-12 & R-134A refrigerants. Also provides hands-on experience with auxiliary power units used on highway trucks. Tool room fee of $19 for equipment applies. Course Lab fee of $19 for materials applies.
Diesel Mechanics

DMT 2310
Fluid Power Theory
4:4:0 Fall, Spring
* Corequisite(s): DMT 231L Recommended
Teaches the fundamental principles of fluid power (hydraulics). Emphasizes the relationships between pressure, force, area, and resistance as well as rpm, torque, hydraulic horsepower, and energy. Covers the application and operation of all of the essential components found in a hydraulic system. Introduces various types of circuit designs and schematic symbols. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 231L
Fluid Power Lab
2:0:6 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 2310
Provides practical lab experience related to the identification, operation, and repair of basic hydraulic system components and circuits. Utilizes various lab equipment or machinery to familiarize students with basic system designs and use of schematics. Emphasizes the use of tools and diagnostic equipment for component and system testing. Tool room fee of $19 for equipment applies. Course Lab fee of $17 for materials applies.

DMT 2320
Fluid Power Transmission Theory
2:2:0 Fall, Spring
* Corequisite(s): DMT 232L Recommended
Provides instruction in the theory and operation of hydrostatic and automatic transmissions used with heavy equipment. Emphasizes component operation, maintenance, repair, testing, and troubleshooting. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 232L
Fluid Power Transmission Lab
1:0:3 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 2320
Provides hands on experience with hydrostatic and automatic transmissions. Emphasizes disassembly, reassembly, maintenance, repair, troubleshooting, and the use of diagnostic tools and service manuals. Tool room fee of $19 for equipment applies.

DMT 2410
Chassis Theory
4:4:0 Fall, Spring
* Corequisite(s): DMT 241L Recommended
For third and fourth semester students. Provides theory on maintenance and repair of heavy duty chassis systems. Covers air brake systems, ABS, steering geometry, front end and tandem alignment, steering and load carrying suspensions, and frame maintenance. Emphasizes troubleshooting, highway safety, and preventative maintenance. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 241L
Chassis Lab
2:0:8 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 2410
For third and fourth semester students. Gives hands on experience in dealing with the operation of, and troubleshooting and repair of modern truck and equipment air brake systems, ABS brakes, foundation brakes and wheel ends, front end and tandem alignments, steering and load carrying suspensions and frame maintenance. Tool room fee of $19 for equipment applies. Course Lab fee of $22 for materials applies.

DMT 2420
Power Trains Theory
4:4:0 Fall, Spring
* Corequisite(s): DMT 242L Recommended
For third and fourth semester students. Provides theory in maintenance and repair of heavy duty power train systems. Covers clutches, single and multiple counter shaft transmission, computer controlled transmissions, drive line geometry, differentials and DOT safety requirements. Emphasizes troubleshooting, highway safety, and preventative maintenance. Software fee of $10 applies. Lab access fee of $15 for computers applies.

DMT 242L
Power Trains Lab
2:0:8 Fall, Spring
* Prerequisite(s) or Corequisite(s): DMT 2420
For third and fourth semester students. Provides hands on experience in maintenance and repair of heavy duty power train systems. Covers clutches, single and multiple counter shaft transmission, computer controlled transmissions, drive line geometry, differentials and DOT safety requirements. Emphasizes troubleshooting, highway safety, and preventative maintenance. Tool room fee of $19 for equipment applies. Course Lab fee of $22 for materials applies.

DMT 281R
Cooperative Work Experience
1 to 8:0:5 to 40 Fall, Spring
* Prerequisite(s): Advisor and Instructor Approval
For Diesel Technology students and other interested community members. Tailored to a specific topic, product, component, or vehicle related to the diesel service industry. Its purpose is to update technician training by addressing changes in products or equipment. Topics will vary. May be presented by an OEM, a dealer representative, or faculty member. Repeatable.

DMT 285R
Cooperative Correlated Class
1:1:0 Fall, Spring
* Corequisite(s): DMT 281R
Designed for Diesel Mechanics Technology majors. Identifies on-the-job problems through in-class discussion and study. Includes the study of identifying and maximizing service opportunities. Students register for this class with approval of the Cooperative Coordinator. Includes lecture, guest speakers, video tapes, role playing, case analysis, oral presentations, and written assignments. Completers should be better able to perform in their field of work or study.

DMT 291R
Special Projects
1 to 5:0:3 to 15 Fall, Spring
* Prerequisite(s): Advisor and Instructor Approval
For students majoring in diesel technology. Involves special projects. Allows independent projects that are designed to enhance beginning or advanced abilities. Repeatable for as many times as desired.

DMT 298R
Technical Workshop
1 to 4:0 to 4:0 to 12 On Sufficient Demand
Topics will vary. May be presented by an OEM, as many times as desired.

DMT 299R
VICA
1:1:0 Fall, Spring
* Prerequisite(s): Advisor and Instructor Approval
Designed for Diesel Mechanics Technology majors. Supports and facilitates the goals and objectives of Vocational Industrial Clubs of America (VICA). VICA is a pre-professional student organization that develops social awareness, civic, recreational, and social activities. Students may participate in local, state, and national contests.