

COMBUSTION ENGINES (412)

412-100. Preventative Maint and Inspect. (3 Credits)

Focuses on the techniques for performing preventive maintenance and DOT criteria for performing annual inspections. Discussion includes the importance of vehicle maintenance and inspections. Students learn record-keeping requirements and earn an annual inspection certificate upon successful completion of the test at the conclusion of the class. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=100>)

412-101. Fund Diesel Elec/Electron Sys. (3 Credits)

Theory and laboratory experiences in this course introduce the student to the diesel electrical/electronic systems used on today's modern trucks, trailers and construction equipment. Learn fundamental theory of electricity and electronics, terminology, troubleshooting techniques, use of digital multimeter, types of electrical circuits, wiring, components, batteries and the use of wiring diagrams. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=101>)

412-102. Diesel Brakes and Air Systems. (4 Credits)

Learn to perform maintenance, service, diagnose and repair of brake system components on heavy duty trucks. This course covers the air supply and service systems, mechanical/foundation, parking brakes, hydraulic brake systems, mechanical/foundation, power assist units, air and hydraulic antilock brake systems (ABS), and automatic traction control (ATC).

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=102>)

412-106. Diesel Elec Sys Diagnostics. (3 Credits)

Theory and laboratory experiences in this course are designed to give the student the knowledge and skills needed to diagnose, service, and repair heavy-duty electrical systems found on today's modern trucks, trailers and construction equipment.

Prerequisites: 412-101 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=106>)

412-107. Heavy Duty Drivetrains. (4 Credits)

This course prepares the student with the knowledge and skills needed to adjust, diagnose, maintain, service and repair heavy duty drivetrains found on trucks and construction equipment.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=107>)

412-108. Diesel Engine Tech. (2 Credits)

This course will break the diesel engine into its individual components and discuss the functions of each. It covers operating theory, maintenance, testing, and troubleshooting techniques for diesel engines and emission controlling devices.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=108>)

412-110. Internship-Diesel Equipment. (1 Credit)

Gain meaningful occupational experience in the diesel technician field while building interpersonal relationships, improving technical competencies and completing the pre-developed goals.

Prerequisites: (Approval of Co-op Ed Office and 890-108 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=110>)

412-112. Diesel Engine Repair. (4 Credits)

Teaches students to maintain, service and repair diesel engines, engine support systems, including emissions. The course also includes precision measuring, failure analysis and parts inspection.

Prerequisites: 412-101 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=112>)

412-113. Diesel Fuel Systems. (4 Credits)

Learn how to diagnose, service, and repair diesel fuel systems found on heavy-duty trucks and construction equipment.

Prerequisites: 412-101 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=113>)

412-114. Steering and Suspension. (4 Credits)

Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair heavy-duty steering and suspension systems. Students will also perform vehicle alignment procedures and utilize various alignment equipment.

Prerequisites: 412-102 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=114>)

412-117. Diesel Engine Diagnostics. (2 Credits)

Students use the latest in diagnostic equipment to evaluate engine performance and diagnose power complaints related to electrical, mechanical and computer-controlled systems.

Prerequisites: 412-108 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=117>)

412-118. Basic Shop Skills. (2 Credits)

The student will learn what it takes to work effectively in a service department, the costs involved in running the department and the day-to-day problems that arise in the service department. Internal and external customer service and accuracy in writing service orders will be stressed, along with preventive maintenance.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=118>)

412-119. Cab Climate and Refrig Sys. (3 Credits)

Students gain knowledge of the operating principles of heavy-duty HVAC systems and refrigeration equipment. Learn to diagnose, maintain and service air conditioning and transport refrigeration equipment found on truck trailers. Students will learn proper procedures for discharging, evacuation and recharging heavy-duty air conditioning systems.

Prerequisites: 412-101 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=119>)

412-120. Hydraulics Fundamentals. (3 Credits)

This course introduces hydraulic theory and applications as applied to heavy-duty equipment. Topics include component studies such as pumps, motors, valves, cylinders, filters, reservoirs, lines, and fittings. Upon completion, students should be able to identify, diagnose, test, and repair hydraulic systems using schematics and technical manuals.

Prerequisites: 412-101 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=120>)

412-125. Diesel Equipment Fundamentals. (2 Credits)

Gain an overview of a diesel engine's individual components and their functions. Explore operating theory, maintenance, testing and troubleshooting techniques for diesel engines and emission-controlling devices. Examine and discuss diesel engine use in various industries including construction, backup power systems and marine applications. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=412&num=125>)