MECHANICS-DIESEL/HEAVY EQUIPMENT (MECN)

MECN F103  Starting and Charging Systems  3 Credits
Starting and charging systems, diagnostic methods and specifications that are standard in the industry. Volt, amperage and load tests on a battery.
**Lecture + Lab + Other:** 1 + 4 + 0

MECN F104  Mobile Equipment Maintenance  1 Credit
Technical, financial and legal aspects of mobile equipment maintenance. Students will work in groups to perform a maintenance operation and create maintenance records on a variety of vehicle types.
**Lecture + Lab + Other:** 0.5 + 1 + 0

MECN F112  Basic Auto Maintenance  1 Credit
Covers basic automobile system functions, owner maintenance of electrical, cooling and fuel systems, auto lubricants and fluids, tires and wheels, tune-ups, and cold weather maintenance and operation. For the person without mechanical experience.
**Lecture + Lab + Other:** 1 + 0 + 0

MECN F154  Diesel Fuel Injection  2 Credits
Troubleshooting and repairing a wide range of electronic systems found in both light and heavy equipment including, but not limited to, load moment limiting, motor speed control, electronic control of hydraulic systems and electronic governors for power generation.
**Prerequisites:** DSLT F101; DSLT F103; DSLT F105.
**Lecture + Lab + Other:** 1 + 4 + 0

MECN F159  Manual Transmissions and Clutches  2 Credits
Two major areas of automotive maintenance and repair: inspection and replacement of common clutch types; and maintenance, inspection and overhaul of automotive manual transmissions.
**Lecture + Lab + Other:** 1 + 2 + 0

MECN F201  Advanced Automobile Equipment Electronics  2 Credits
In-depth study of batteries: design, construction, testing and charging, currents and maintenance. Knowledge applied to DC motors, electronic controls and electronic traction motor controls. The in-shop training discusses environmental impacts of electric drive vehicles.
**Lecture + Lab + Other:** 2 + 0 + 0

MECN F202  Principles of Electric Drive Vehicles  2 Credits
History of fuels with emphasis on the known alternative fuels: natural gas, methanol, ethanol and propane. A research project is required.
**Lecture + Lab + Other:** 1 + 2 + 0

MECN F204  Basic Alternating Current Electrician Skills  2 Credits
Basic residential and commercial electrician skills; current theory and applications; electrical measurement and circuitry.
**Lecture + Lab + Other:** 1 + 2 + 0

MECN F205  Uninterruptible Power Supplies  1 Credit
Residential and commercial power supplies; troubleshooting batteries; electronic components; reading UPS schematics.
**Lecture + Lab + Other:** 0.5 + 1 + 0

MECN F206  Emergency Backup Power Generation  1 Credit
Language and fundamentals of electricity; circuitry; conductor types and sizes; writing methods; system requirements of power generation.
**Lecture + Lab + Other:** 0.5 + 1 + 0

MECN F207  Power Generation Governors  2 Credits
Mechanically and electrically controlled engines with emphasis on what is a governor and what is its function in power generation will be covered in the hands-on diagnostic training.
**Lecture + Lab + Other:** 1 + 2 + 0

MECN F208  Alternative Fuels  2 Credits
History of fuels with emphasis on the known alternative fuels: natural gas, methanol, ethanol and propane. A research project is required.
**Lecture + Lab + Other:** 1 + 2 + 0

MECN F210  Hydraulics  3 Credits
Offered Spring
Theory of fluid power and the components that make up a hydraulic system found on heavy equipment. Identification and description of hydraulic cylinders, motors, directional valves commonly found on heavy equipment. Includes testing of equipment and performing hydraulic pressure and flow tests.
**Prerequisites:** DSLT F101; DSLT F103; DSLT F105.
**Lecture + Lab + Other:** 1 + 4 + 0

MECN F230  Basic Power Generations  3 Credits
Portable and stationary electric power generators and the relationship of magnetism, AC/DC currents, motors, generators, transformers and electrical distribution.
**Recommended:** AUTO F110.
**Lecture + Lab + Other:** 2 + 2 + 0