



# DIESEL

## What is diesel technology?

The Diesel Technology program at City College prepares students to perform service, maintenance, and repairs on trucks, construction machinery, agricultural equipment and other types of heavy duty field applications.

## What you will learn

Below is a brief description of what the Diesel Technology program covers within the courses.

### ◆ Hydraulics & Pneumatics

Understand and use fluid power schematic symbols, assemble/disassemble linear and rotary actuators, directional valves, fixed & variable displacement pumps.

### ◆ Diesel Fuel Systems

Disassemble and reassemble assorted diesel fuel system components. Manufacturer specific systems including Detroit, Caterpillar, Cummins PT, and John Deere pumps, injectors, and governors.

### ◆ Diesel Engine Overhaul/Troubleshooting

Provides a detailed overview of the design, operation, and repair procedures for diesel engines. Diagnosis and testing of diesel engine problems using electrical test equipment and an engine dynamometer.

### ◆ Heavy Duty Powertrains/Powershifts

Diagnosis and service procedures for clutches, transmissions, and differentials in on- and off-road truck, heavy equipment, and agricultural applications.

### ◆ Heavy Duty Chassis

Studies will include heavy duty truck suspension diagnosis, repair, and alignment procedures, as well as hydraulic and pneumatic braking systems.

### ◆ Diesel Engine Controls

The course will cover engine and powertrain electronic management systems used for common high speed diesel engines. Students will also be exposed to stationary industrial engine electronic control systems.

### ◆ Additional Related Courses

Electrical Systems  
Vehicle Heating/Ventilation & A/C  
Welding

## Certifications preparing for

Students are also encouraged to study for and take the ASE Certification Tests.

## Type of college degree

Certificate of Applied Science (9 months)  
Associate of Applied Science degree (two-year)

## Career information

Diesel Technology graduates may find career opportunities with trucking companies, bus/public transit systems, construction companies, heavy equipment operators, and mining companies.

## Job Outlook and Pay

Median Wage (MT)*	\$46,500 yearly \$22.53 per hour
Median Wage (US)*	\$46,36 yearly \$22.29 per hour

\*Bureau of Labor Statistics, Office of Employment Projections; MT Dept. of Labor and Industry, Research and Analysis Bureau (projections through MT 2022 U.S. 2026)

\*\*For more information visit <http://www.careerinfonet.org/Occupations>.

City College entry-level wages of graduates: **\$43,090** (2014-2017)

# Diesel Technology

## Associate of Applied Science Degree

Required Courses	Credits
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
DST 101 Powertrains .....	2
DST 117 Introduction to Diesel Fuel Systems .....	4
DST 132 Diesel Engine Overhaul .....	6
DST 140 Introduction to Hydraulics .....	2
DST 141 Introduction to Hydraulics Lab .....	2
DST 155 Advanced Hydraulics & Pneumatics .....	4
DST 202 Advanced Powertrains .....	2
DST 250 Heavy Duty Chassis.....	6
DST 256 Applied Diesel Service Operations I or DST 298 Cooperative Education/Internship .....	2
DST 257 Applied Diesel Service Operations II or DST 298 Cooperative Education/Internship .....	2
DST 260 Diesel Engine Diagnosis & Troubleshooting.....	5
DST 277 Advanced Fuel Systems/Diesel Engine Controls.....	6
M 114 Extended Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 151 Welding .....	2
TRID 152 Vehicle Heating, Ventilation and Air Conditioning .....	3
TRID 170 Engine Theory .....	4
TRID 181 Transportation Electrical Systems Lecture .....	2
TRID 182 Transportation Electrical Systems Lab .....	2
WRIT 121 Intro to Technical Writing or WRIT 122 Intro to Business Writing .....	3
<b>Total minimum credits required for degree.....</b>	<b>70</b>

## Diesel Certificate of Applied Science

Required Courses	Credits
COMX 106 Communicating in a Dynamic Workplace.....	3
DST 101 Powertrains .....	2
DST 117 Introduction to Diesel Fuel Systems .....	4
DST 140 Introduction to Hydraulics .....	2
DST 141 Introduction to Hydraulics Lab .....	2
DST 250 Heavy Duty Chassis.....	6
M 111 Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 170 Engine Theory .....	4
TRID 181 Transportation Electrical Systems Lecture .....	2
TRID 182 Transportation Electrical Systems Lab .....	2
WRIT 104 Workplace Communication .....	3
<b>Total minimum credits required for certificate .....</b>	<b>35</b>

*Students should check course descriptions for required prerequisites*

### TOOL REQUIREMENTS

Students in the Diesel Technology program are required to buy their own tools to use in the laboratory setting. For an updated tool list contact Jacket Student Central – New Student Services or go to <http://citycollege.msubillings.edu/Programs/ProgDieselTech.htm>

*For more information on this City College gainful employment program, such as cost, financial assistance, and placement rates, please go to:*  
[http://www.msubillings.edu/citycollege/programs/gedt2018/deisel\\_tech/47.0605-Gedt.html](http://www.msubillings.edu/citycollege/programs/gedt2018/deisel_tech/47.0605-Gedt.html)

## Suggested Plan of Study Diesel Technology Associate of Applied Science Degree

First Semester	Credits
COMX 106 .....	3
DST 140 .....	2
DST 141 .....	2
TRID 150 .....	2
TRID 170 .....	4
TRID 181 .....	2
TRID 182 .....	2
<b>Total .....</b>	<b>17</b>

Second Semester	Credits
DST 101 .....	2
DST 117 .....	4
DST 250 .....	6
M 114 .....	3
WRIT 121 or 122 .....	3
<b>Total .....</b>	<b>18</b>

Third Semester	Credits
CAPP 120 .....	3
DST 132 .....	6
DST 202 .....	2
DST 256 or 298 .....	2
DST 260 .....	5
<b>Total .....</b>	<b>18</b>

Fourth Semester	Credits
DST 155 .....	4
DST 257 or 298 .....	2
DST 277 .....	6
TRID 151 .....	2
TRID 152 .....	3
<b>Total .....</b>	<b>17</b>

## Suggested Plan of Study Diesel Technology Certificate of Applied Science

First Semester	Credits
COMX 106 .....	3
DST 140 .....	2
DST 141 .....	2
TRID 150 .....	2
TRID 170 .....	4
TRID 181 .....	2
TRID 182 .....	2
<b>Total .....</b>	<b>17</b>

Second Semester	Credits
DST 101 .....	2
DST 117 .....	4
DST 250 .....	6
M 111 .....	3
WRIT 104 .....	3
<b>Total .....</b>	<b>18</b>