

2011 - 2012 Career and Technical Programs

Advanced Technology Division 541.463.5380

lanecc.edu

# **Diesel Technology**

Two-Year Associate of Applied Science Degree Lift Truck/Material Handling Equipment Technician Option

**Two-Year Certificate of Completion** 

**Purpose** To prepare the graduate for employment in occupations such as heavy equipment technician, highway truck technician, and lift truck and material handling technician. Possible job opportunities are available with truck fleets, logging fleets, heavy construction companies, OEM dealerships, road construction contractors, parts sales and service, and general heavy equipment repair shops.

Learning Outcomes The graduate will:

- be able to explain and identify various technologies used in the repair of on- and off-highway vehicles.
- use lab station simulators to diagnose and troubleshoot system components.
- demonstrate checks and adjustments on heavy equipment chassis and power trains, including on highway automatic transmissions.
- demonstrate diesel engine overhaul procedures using industry standard tooling and equipment including disassembly, failure analysis, assembly, and operation of engine on a dynamometer.
- demonstrate industry troubleshooting procedures to diagnose electrical systems including starting, charging, air conditioning, electronic control systems and lighting.
- demonstrate industry troubleshooting procedures to diagnose hydraulic systems used on off- and on-highway vehicles including forklifts, crawlers, excavators, backhoes, skidsteers, and powershift transmissions.
- · demonstrate and use industry safety standards.
- access library, computing, and communications services and obtain information and data from regional and national networks.
- demonstrate basic math skills using formulas to find force, pressure, area, and volume.

The lift-truck material handling option graduate will also:

 demonstrate general maintenance, diagnosis, and testing of hydraulic systems on forklifts, loaders, and equipment with hydraulic assist transmissions.

**Employment Trends** Statewide,164 annual openings for diesel technicians are projected in Oregon and 17 openings are projected annually in Lane County.

**Wages** Statewide average, \$20 hourly, \$42,000 annually (\$50,000+ with experience). Lane County average, \$21 hourly, \$43,000 annually.

### Costs in Addition to Tuition and Registration Fees (estimates)\*

Books	\$1,300
Tools	\$400
Class Fees	\$756
Differential Fees*	\$ <u>2,352</u>
Total	\$4,808

\*This is the total of all the differential fees attached to Diesel Technology courses. These and other course fees may change during the year - see the online credit class schedule for fees assigned to courses.

**Program Accreditation** Association of Equipment Distributors Foundation (AEDF). Membership: Northwest Diesel Industry Council (NDIC) and Oregon Trucking Association (OTA)

**Prerequisites** Minimum placement score- of 68 in Reading OR completion of RD 080 OR prior college. A high school diploma or equivalent is recommended for all applicants to this program. Note: See counselor or advisor to learn what entry-level skills are suggested for successful completion of this program.

Admission Information Contact the Advanced Technology Division or see *lanecc.edu/advtech/DS/index.htm* 

**Cooperative Education (Co-op)** Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Diesel Technology Co-op Coordinator and with instructor consent, a maximum of 18 Coop credits in DS 280 may be earned in lieu of required Diesel Technology course credits. Contact Marv Clemons, Diesel Technology Co-op Coordinator, Bldg. 8, Rm. 111, 541.463.3158, *clemonsm@lanecc.edu*.

#### **Two-Year Associate of Applied Science Degree**

<b>First Year</b> DS 155 Heavy Equipment Hydraulics <sup>*,D,G</sup> MTH 060 Beginning Algebra <sup>*,D,G</sup>	Fall 12
or higher mathematics	4
Total Credits	16
	Winter
DS 154 Heavy Duty Braking Systems *,D,G	12
WLD 121 Shielded Metal Arc Welding 1 *	4
PE/Health requirement D,R	3
Total Credits	19
	Spring
DS 158 Heavy Equipment Chassis and	
Power Trains <sup>*,D,G</sup>	12
Human Relations requirement <sup>R</sup>	3
WR 115W Introduction to College Writing: Workplace	
Emphasis <sup>D</sup> or higher writing	3
Total Credits	18

## **Diesel Technology**

Second Year DS 256 Diesel and Auxiliary Fuel Systems <sup>*,D,G</sup>	Fall
MTH 076 Applied Geometry for Technicians *	12
or higher mathematics	4
Choice of:	3-4
MFG 197 Manufacturing Technology <sup>*,D,G</sup>	
WLD 122 Shielded Metal Arc Welding <sup>2</sup> *	

**Total Credits** 19-20

DS 257 Diesel Electrical Systems <sup>*,D,G</sup> CS 120 Concepts of Computing: Information Processing or higher computer science WLD 143 Wire Drive Welding 1 <sup>*</sup>	Winter 12 4 4
Total Credits	20
DS 259 Diesel Engines and Engine Overhaul <sup>*,D,G</sup> Arts and Letters requirement <sup>R</sup>	Spring 12 3
Total Credits	15

Elective DS 280 Co-op Ed: Diesel (optional)

### **Two-Year Certificate of Completion**

First Year DS 155 Heavy Equipment Hydraulics *, <sup>D,G</sup>	Fall
MTH 060 Beginning Algebra or MTH 076 Applied Geomet Technicians *,D,G or higher mathematics	ry for 4
Total Credits	16
	Winter
DS 154 Heavy Duty Braking Systems *,D,G	12
WLD 121 Shielded Metal Arc Welding <sup>1 *</sup>	4
Total Credits	16
	Spring
DS 158 Heavy Equipment Chassis and	10
Human Belations requirement	3
WR 115W Introduction to College Writing: Workplace	-
Emphasis <sup>D</sup> or higher writing	3
Total Credits	18
Second Year	Fall
DS 256 Diesel and Auxiliary Fuel Systems *,D,G	12
MEC 197 Manufacturing Technology * D.G	3-4
WLD 122 Shielded Metal Arc Welding 2 *	
Total Credits	15-16
	Winter
DS 257 Diesel Electrical Systems *,D,G	12
VVLD 143 wire Drive Welding 1 "	4
Total Credits	16

	Spring
DS 259 Diesel Engines and Engine Overhaul *,D,G	12
PE/Health elective <sup>D</sup>	3

Total Credits 15

### **Diesel Technology: Lift Truck/Material Handling Equipment Technician Option**

### **Two-Year Associate of Applied Science Degree**

· · · · · · · · · · · · · · · · · · ·	
First Year DS 155 Heavy Equipment Hydraulics <sup>*,D,G</sup> MTH 060 Beginning Algebra <sup>*,D,G</sup>	Fall 12
or higher mathematics	4
Total Credits	16
	Winter
DS 257 Diesel Electrical Systems *, <sup>D,G</sup>	12
PE/Health requirement <sup>D,R</sup>	3
Total Credits	19
DS 259 Diesel Engines and Engine Overhaul <sup>*,D,G</sup> DS 260 LiftTruck/Material Handling Equipment	Spring 8
(Electric) <sup>D,G</sup>	4
WR 115W Introduction to College Writing: Workplace Emphasis <sup>D</sup> or higher writing	3
Total Credits	18
DS 260 Lift Truck/Material Handling Equipment	Fall
(Mast/Upright) D.G DS 256 Diesel and Auxiliary Fuel Systems *,D,G	6 6
higher mathematics	4
Choice of: WLD 122 Shielded Metal Arc Welding 2 * MFG 197 Manufacturing Technology <sup>*,D,G</sup>	3-4
Total Credits	19-20
	Winter
AM 244 Engine Performance <sup>*,D,G</sup> CS 120 Concepts of Computing: Information Processing . DS 260 Lift Truck/Material Handling Equipment	4 4
(Electric) <sup>D,G</sup>	5
WLD 143 Wire Drive Welding 1 *	4
Total Credits	20
	Spring
DS 260 Lift Truck/Material Handling Equipment (Electric/ Maintenance/Schematics) D.G	q
DS 158 Heavy Equipment Chassis and Power	5
Trains *,D,G	3
Elective DS 280 Co-op Ed: Diesel (optional)	3
Total Credits	16

an equal opportunity/affirmative action institution committed to cultural diversity and compliance with the Americans with Disabilities Act

Standard footnotes:

Prerequisite required

B Must be passed with grade of "B" or better to use as a prerequisite

D Degree or certificate requirement; must be passed with grade of "C-" or better
G Must be taken for a grade, not P/NP; major requirement
R Required for AAS degree

<sup>6/11</sup>