

DIET 1000 - Introduction to Diesel Technology, Tools, and Safety (version 201003L)

Course Title Course Development Learning Support

Introduction to Diesel Technology, Tools, and Safety Standard No

Course Description

This course introduces basic knowledge and skills the student must have to succeed in the Diesel Equipment Technology field. Topics include an overview of diesel powered vehicles, diesel technology safety skills, basic tools and equipment, reference materials, measuring instruments, shop operation, mechanical fasteners, welding safety, and basic welding skills. Classroom and lab experiences on safety, precision measuring, and basic shop practices are highly emphasized.

Pre-requisites

Pre-requisites: None

Regstr. Co-requisites

Regstr. Co-requisites: None

True Co-requisites

True Co-requisites: None

Course Length

	Lecture Contact Time	Regular Lab Type	Reg. Lab Contact Time	Other Lab Type	Oth. Lab Contact Time	Total Contact Hrs
Contact Hours Per Week	1.373 hrs	Lab	1.887 hrs	Practicum	2.04 hrs	5.3 hrs
Contact Min/Hrs Per Semester	1030 min		1415 min		1530 min	80 hrs
	Lecture Credit Hours		Lab Credit Hours	Total Credit hours		WLU
Semester Credit Hours	1.373		1.623	3		119.98

Competencies & Outcomes

Order Description

1 Overview of Diesel Powered Vehicles

Order	Description	Learning Domain	Level of Learning
1	Understand terms and definitions	Cognitive	Comprehension
2	Identify common diesel powered vehicles	Cognitive	Knowledge
3	Identify major functional areas of vehicles	Cognitive	Knowledge
4	Explain gross vehicle weight ranges for on-road truck weight classifications	Cognitive	Comprehension
5	Identify axle and drive wheel configurations	Cognitive	Knowledge
6	Explain basic truck cab designs	Cognitive	Comprehension
7	Identify common types of trailers and parts of a trailer	Cognitive	Knowledge

8	Identify types of tractor trailer combinations	Cognitive	Knowledge
9	Explain features for assigned on-road vehicles	Cognitive	Comprehension

2 Diesel Technology Safety Skills

Order	Description	Learning Domain	Level of Learning
1	Identify general shop safety rules and procedures	Cognitive	Knowledge
2	Identify and use personal protective equipment	Cognitive	Knowledge
3	Identify how to lift and move items safely	Cognitive	Knowledge
4	Identify fire types, fire safety, fire extinguishers and their operation	Cognitive	Knowledge
5	Identify OSHA's role in workplace health and safety	Cognitive	Knowledge
6	Identify the hazardous materials and hazardous waste issues related to shop operation	Cognitive	Knowledge
7	Identify information on material safety data sheets (MSDS)	Cognitive	Knowledge
8	Identify hazardous waste products associated with the diesel technology shop	Cognitive	Knowledge
9	Explain electrical safety guidelines	Cognitive	Comprehension
10	Complete an individual student shop safety inspection	Cognitive	Application

3 Basic Tools and Equipment

Order	Description	Learning Domain	Level of Learning
1	Utilize safe procedures for handling of tools and equipment	Cognitive	Application
2	Identify hand tools required for diesel repair	Cognitive	Knowledge
3	Identify shop tools required for diesel repair	Cognitive	Knowledge
4	Identify specialty tools required for diesel repair	Cognitive	Knowledge
5	Demonstrate correct methods of using and maintaining basic hand tools	Psychomotor	Guided Response
6	Demonstrate correct methods of using and maintaining basic power tools	Psychomotor	Guided Response
7	Understand and demonstrate use of metric and standard hand tools	Psychomotor	Guided Response

4 Reference Materials

Order	Description	Learning Domain	Level of Learning
1	Identify types of reference materials	Cognitive	Knowledge
2	Interpret drawings, graphs, tables, and diagrams used in diesel reference materials	Cognitive	Evaluation
3	Demonstrate the use of paper and on line based diesel reference materials to answer specific questions concerning diesel repair	Psychomotor	Guided Response

5 Measuring Instruments

Order	Description	Learning Domain	Level of Learning
1	Understand terms and definitions	Cognitive	Comprehension
2	Identify basic units of measurement found on rules	Cognitive	Knowledge
3	Identify, explain and demonstrate use of non precision measuring devices used in diesel repair	Psychomotor	Guided Response
4	Identify rules for use and care of precision and non precision measuring devices	Cognitive	Knowledge

6 Shop Operation

Order	Description	Learning Domain	Level of Learning
1	Identify basic categories of shop operation	Cognitive	Knowledge
2	Explain guidelines for maintaining good inventory control	Cognitive	Comprehension
3	Use publications and/or on line resources used for identifying parts and part numbers	Psychomotor	Mechanism
4	Perform inspection, installation, or repair of frame hangers, brackets, and cross members in accordance with manufacturers' recommended procedures	Psychomotor	Guided Response
5	Identify parts of a job ticket	Cognitive	Knowledge
6	Complete a job ticket	Cognitive	Application
7	Use a computer system to obtain parts information	Psychomotor	Mechanism

7 Mechanical Fasteners

Order	Description	Learning Domain	Level of Learning
1	Explain characteristics of fasteners used in diesel industries	Cognitive	Comprehension
2	Use anti-sieze compounds	Psychomotor	Mechanism
3	Use proper tools to remove siezed threaded fasteners	Psychomotor	Mechanism
4	Identify and use parts of a tap and die set	Cognitive	Knowledge
5	Perform installation of a thread insert	Psychomotor	Guided Response
6	Perform repair of damaged threads	Psychomotor	Guided Response
7	Understand metric and SAE standard fasteners	Cognitive	Comprehension

8 Welding Safety and Basic Skills

Order	Description	Learning Domain	Level of Learning
1	List welding personal safety procedures to include the wearing of gloves, body protection, eye protection, foot protection, and ventilation procedures	Cognitive	Knowledge

2	Demonstrate knowledge of safe handling of gas cylinders	Psychomotor	Guided Response
3	Demonstrate knowledge of safe and proper use and operation of electric and gas welding equipment	Psychomotor	Guided Response