Alexandria Technical and Community College

DIES 2630: Diesel Engine II

A. COURSE DESCRIPTION

Credits: 6
Lecture Hours/Week: 3
Lab Hours/Week: 3
OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
   DIES 1640 - Diesel Engine I (Number of Years Valid: 5)

Corequisites: None

MnTC Goals: None

This course covers advanced theory, operation, and repair procedures of a modern heavy-duty diesel engine. The student studies technician requirements to safely disassemble measure, rebuild, reassemble, and troubleshoot a modern heavy-duty diesel engine. Prerequisite is Diesel Engine 1 DIES1640.

B. COURSE EFFECTIVE DATES: 05/19/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Demonstrate proper shop and personal safety practices.
2. Outline service information repair access.
3. Demonstrate industry engine measuring practices.
4. Identify industry fasteners and applications.
5. Identify industry fasteners and applications.
   Research operational theory of four-stroke diesel engines.
6. Demonstrate lifting and hoisting practices.
7. Demonstrate proper engine disassembly procedures.
8. Identify major engine components
10. Demonstrate proper engine reassembly procedures.
11. Install and adjust fuel system components.
12. Demonstrate an understanding of a modern diesel engine cooling system.
13. Troubleshoot diesel engine component failures.
14. Compare diesel engine after treatment systems.
15. Identify major engine subcomponent systems.
D. LEARNING OUTCOMES (General)
   1. understand the role of a diesel technician.
   2. reassemble a diesel engine to industry standards.
   3. demonstrate knowledge of major engine subcomponents.
   4. demonstrate knowledge of diesel engine troubleshooting practices.
   5. demonstrate the proper use of hand tools/safety.
   6. demonstrate an understanding of OSHA and MSDS safety guidelines.
   7. demonstrate competence in usage of precision measuring devices
   8. demonstrate an understanding of the operational theory of a diesel engine.
   9. demonstrate diesel engine disassembly practices.
  10. demonstrate reuse/rebuilt/replacement practices on key diesel engine components.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted