Alexandria Technical and Community College

DIES 2633: Brake Systems

A. COURSE DESCRIPTION
   Credits: 4
   Lecture Hours/Week: 3
   Lab Hours/Week: 2
   OJT Hours/Week: *
   Prerequisites:
   DIES 2632 - Electronic Engines/Controls
   Corequisites: None
   MnTC Goals: None

   Students study theory and design of heavy duty braking systems used on motor trucks and heavy equipment. This course includes application, service, and repair of all brake components. Students become familiar with hydraulic and air braking system components and their operation.

B. COURSE EFFECTIVE DATES: 06/08/2022 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. Understand hydraulic and air braking principles.
   2. Demonstrate ability to keep work area safe.
   3. Display knowledge of using hazardous chemicals.
   4. Demonstrate ability to use special tooling.
   5. Demonstrate ability to repair braking system.
   6. Demonstrate the ability to read brake schematics.
   7. Demonstrate ability to locate hydraulic and air brake components.
   8. Demonstrate ability to troubleshoot hydraulic and air brake failure.
   9. Demonstrate ability to perform wheel end repair.
   10. Demonstrate ability for adjusting brakes.
   11. Demonstrate ability to perform pressure tests.
   12. Demonstrate ability to test and repair trailer brakes.

D. LEARNING OUTCOMES (General)
   1. The learner will explain hydraulic and pneumatic braking system principles and designs.
   2. The learner will demonstrate the ability to properly repair hydraulic and air brakes.
   3. The learner will explain and demonstrate disassembly and assembly of braking systems.
   4. The learner will need to abide by the Technical Maintenance Council standards.

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus
G. SPECIAL INFORMATION

None noted