Alexandria Technical and Community College

MGEM 2634: Marine Engine Systems

A. COURSE DESCRIPTION

   Credits: 4
   Lecture Hours/Week: 2
   Lab Hours/Week: 4
   OJT Hours/Week: *

   Prerequisites:
   This course requires the following prerequisite
   MGEM 2632 - Marine Fuel System (Number of Years Valid: 5)

   Corequisites: None

   MnTC Goals: None

   Learners study engine designs and theory of operation. Overhaul, repair, and service are included. All
   engine components are covered in the instruction. The focus is on engine designs and factory methods
   used to overhaul, measure, and recondition all the internal parts of a modern marine power plant. Mercury,
   Johnson/Evinrude, Honda, Yamaha, Mercruiser, and Volvo Penta are covered. Personal and shop safety
   are emphasized. This course provides hands-on experience.

B. COURSE EFFECTIVE DATES: 03/06/2020 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Review 2-stroke engine theory.
   2. Review 4-stroke engine theory.
   3. Identify engine components.
   4. Perform precision measurements.
   5. Identify and test 2-stroke lubrication systems.
   6. Identify and test 4-stroke lubrication systems.
   7. Demonstrate the safe use of tooling and equipment.
   8. Identify and test tooling system components.

D. LEARNING OUTCOMES (General)

   1. The learner will identify engine designs and service tools.
   2. The learner will demonstrate understanding and rebuilding procedures.
   3. The learner will demonstrate understanding and servicing procedures of inboard/outboard power
      plants.
   4. The learner will demonstrate proper running parameters of marine motors.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

   None

F. LEARNER OUTCOMES ASSESSMENT

   As noted on course syllabus
G. SPECIAL INFORMATION

None noted