

Minnesota State College Southeast

INDS 1641: Advanced Small Engines & Systems

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Advanced small engines & systems designed to further enhance the knowledge and understanding of engine-operated equipment. Areas of study include precision measuring equipment, overhaul techniques, electrical charging systems, and governor operations, oil pressure, filtration, and cooling systems. Hands on training in troubleshooting, failure analysis will deepen the students understanding in engine operation. (Prerequisite: INDS1640) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 03/18/2001 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Perform and describe safety and tools
2. Perform engine condition diagnostics
3. Disassemble two stroke engines
4. Inspect and measure tolerances
5. Reassemble to specification
6. Disassemble four stroke engines
7. Inspect and measure tolerances
8. Recondition valve train
9. Recondition cylinder
10. Recondition engine, lower end
11. Reassemble to specification
12. Diagnose electrical systems
13. Diagnose electric start systems
14. Diagnose fuel injections systems
15. Identify diesel engine operations
16. Diagnose emission systems
17. Identify product re-power procedure
18. Performance testing of various products

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted