

Gateway Community College
Small Engine Repair & Technology
SYLLABUS

TEXTBOOK: Small Gas Engines, 10th Edition
Author(s): Roth, Alfred C.; Fisher, Blake J.; Gauthier, W. Scott
Publisher: G-W Online Textbooks: www.g-wonlinetextbooks.com/

Hands-on practical work is integrated throughout the course.

Week 1:

1. Ch. 1, Safety – students will complete SP2 (Sp2.org) Students are not allowed in the lab until completed.
2. Ch. 2, Tools and measuring instruments – Lab 1, on micrometers and dial indicators
3. Ch. 3, Fasteners, Sealants, and Gaskets
4. Ch. 24, Career Opportunities and Certification

Week 2 & 3:

5. Ch. 5, Principles of Engine Operation, Two- and Four-Stroke Engines
 6. Ch. 6, Engine Components
 7. Ch. 11, Lubrication Systems
 8. Ch. 12, Cooling Systems
- Instructor disassembles engine and completes engine lab sheet as a demo

Week 4 & 5:

9. Ch. 7, Measuring Performance
10. Ch. 16, Engine Disassembly and Inspection (demonstration by instructor)
11. Ch. 17, Cylinder, Crankshaft, and Piston Service
12. Ch. 18, Camshaft and Valve Train Service (demonstration by instructor)
13. Ch. 19, Engine Reassembly and Break-In
 - Students' disassemble engines and complete engine lab sheet

Week 6

14. Ch. 8, Fuel Supply, Air Induction, and Emissions
15. Ch. 9, Carburetion
16. Ch. 14, Fuel System Service
 - Instructor demonstrates various carburetors, including disassembly and reassembly
 - Students disassemble and reassemble various types of carburetors
 - Students will be able to identify different components and describe their principle of operation

Week 7

17. Ch. 4, Fundamentals of Electricity, Magnetism , and Electrons
18. Ch. 10, Ignition Systems
19. Ch. 15, Ignition and Electrical System Service
 - Instructor demonstrates various ignition systems
 - Students disassemble and reassemble various types of ignition systems
 - Students will be able to identify different components and describe their principle of operation

Week 8 thru 12

20. Ch. 13, Prevention Maintenance and Troubleshooting
 - Students will be working on a variety of equipment, practicing the diagnostic strategies presented by instructor

Week 13 & 14

21. Ch. 20, Lawn and Brush Equipment
22. Ch. 21, Lawn and Garden Tractors
23. Ch. 22, Snow Throwers
24. Ch. 23, Personal Watercraft

Course developed by:

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Gateway Community College, 2014

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This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.