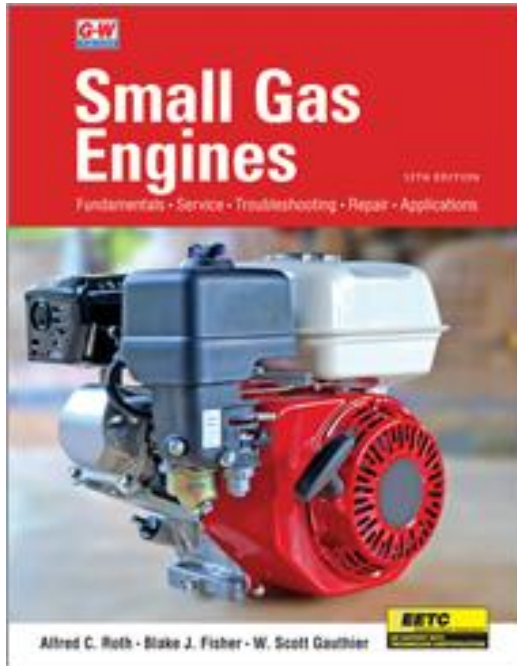


The Internal Combustion Engine

(Grades 8-12)



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"The development of the internal combustion engine helped to free men from the hardest manual labor, made possible the airplane and other forms of transportation, and helped to revolutionize power generation."
Encyclopedia.com

In this course we will focus our attention on small gas engines due to their simplicity and ability to lend themselves well to learning about the internal combustion engine. We will use the text **Small Gas Engines** 12th edition by Goodheart-Wilcox Publisher ISBN13: 9781637760727 (\$130.56 from the publisher at www.g-w.com or cheaper elsewhere or used). This text *"is a student-focused approach to learning that starts with the basics—safety, tools, fasteners, and electrical fundamentals—and progresses logically through the design, operation, troubleshooting, and repair of small engines. It applies to a wide range of engine designs from different manufacturers and covers all areas of engine theory and service, with extensive information on L-head, overhead valve, and*

overhead cam engine designs. The book provides a sound understanding of the science involved in four-stroke and two-stroke internal combustion cycles and clear explanations of the role of basic engine components, the benefits and operation of various engine designs, and up-to-date emission control information. The Applications Unit includes information about a wide range of small engine applications, such as lawn equipment, lawn tractors, snow throwers, and more."

Homework will be minimal at 0 – 30 minutes per week.

Grades will be based on; participation, effort, weekly quizzes, and involvement in the group project.

Group Project:

Students will tear down a one-cylinder engine to its nuts and bolts. They will identify all the parts and reassemble it using their own documentation. The materials fee covers the cost of the engine, tools required for the project, cleaning supplies, and all personal protective equipment necessary.

Tuition:

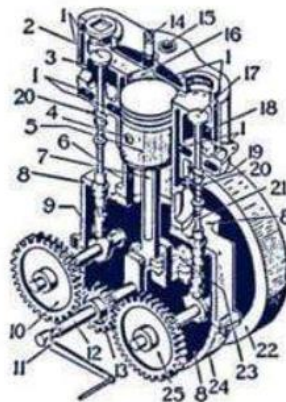
At Registration: Materials Fee of \$125 (nonrefundable)

Day 1 of First Semester: \$185

Day 1 of Second Semester \$185

Tuition is 75% refundable until 2nd week of class.

THE INTERNAL COMBUSTION ENGINE



The internal combustion engine revolutionized human life. It made the commonplace possible: the car, the bus, the motorbike. We took to the skies in aircraft and spread our wings across the world. It even mobilized war with tanks, ships and submarines. Agricultural productivity soared with the development of the tractor and other farm machinery. It gave oil-producing countries unimaginable wealth.