**Small Gas Engines 1**

**Instructor**

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**Course description**

This introductory course is designed to provide basic operation of small internal combustion gas engines. Units of study will include safety, principles of operation, maintenance, engines, cooling systems, lubrication, fuel system, electrical system, diagnostics and careers in the repair, recreation and transportation industry. Upon completion, students will have a general concept of engine operation, maintenance and fundamental knowledge to pursue a career in the industry. The course will consist of lab time, lecture and demonstrations.

**Standards**

STL 18 Transportation technologies, State and National Common Core Standards 1, 2, 3, 4, 9, 11, 12, 19, 20

Benchmarks

* relationships of transportation and other technologies
* transportation processes and efficiency
* positive and negative impacts of transportation systems

**Grade Levels:**

* 9-12

**Course Level:**

* Introductory

**Course Length:**

* 20 weeks

**Pathways:**

* Manufacturing

**Course Type:**

* Career-Technical Preparation

**Topics**

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| Identify and demonstrate safety practices  | Describe flywheel magneto/solid state ignition systems  | Describe small two- or four-cycle engine lubrication system |  |  |
| Identify four-stroke cycle operating principles | Describe carburetion theory | Identify environmental practices (oil, anti-freeze, etc.) |  |
| Identify two-stroke cycle operating principles | Describe governing theory | Systematic troubleshooting |  |
| Identify and demonstrate special tools and operating equipment | Explain fuel systems | Describe manufacturers’ engine identification system |  |
| Identify small engine parts  | Disassemble/reassemble small four-cycle engine | Run/adjust engine |  |
| Use parts/service information | Measure internal components |  |  |