

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title:** Basic Engine Applications

**Prefix and Course Number:** HEQ 122

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**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

- diagnose various system malfunctions
- disassemble, repair, and reassemble carburetors
- disassemble, repair, and reassemble the engine components of two-cycle, four-cycle, and diesel engines
- maintain electronic fuel injectors
- adjust engine idle and load speeds
- repair and maintain lubrication and cooling system components

**Course Outline**

I. Basic Engine Applications

A. Disassembly

1. gasoline engines
2. diesel engines (two-cycle and four-cycle)

B. Parts Inspection

1. gasoline engines
2. diesel engines (two-cycle and four-cycle)
3. measurement inspection

- a. micrometers
- b. dial gauges

C. Diagnosis

1. gasoline engines
2. diesel engines (two-cycle and four-cycle)

D. Repair Techniques

1. gasoline engines
2. diesel engines (two-cycle and four-cycle)

E. Reassembly

1. gasoline engines
2. diesel engines (two-cycle and four-cycle)

II. Carburetors

A. Disassembly

B. Parts Inspection

C. Common Malfunctions

D. Diagnosis

E. Repair Techniques

F. Reassembly

G. Adjustments

III. Diesel Fuel Systems

A. Common Malfunctions

B. Diagnosis

C. Repair Techniques

D. Adjustments

IV. Air Intake and Exhaust Systems

- A. Disassembly
- B. Parts Inspection
- C. Common Malfunctions
- D. Diagnosis
- E. Repair Techniques
- F. Reassembly

V. Lubrication and Cooling Systems

- A. Disassembly
- B. Parts Inspection
- C. Common Malfunctions
- D. Diagnosis
- E. Repair Techniques
- F. Reassembly
- G. Adjustments

VI. Engine Governors/Speed Control Devices

- A. Disassembly
- B. Parts Inspection
- C. Common Malfunctions
- D. Diagnosis
- E. Repair Techniques
- F. Reassembly
- G. Adjustments

VII. Liquefied Petroleum Gas Fuel Systems

- A. Repair
- B. Maintenance
- C. Adjustments