

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY  
AUT 111 - AUTOMOTIVE ENGINES I (4 CR.)**

**Course Description**

Presents analysis of power, cylinder condition, valves and bearings in the automotive engine to establish the present condition, repairs or adjustments. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

**General Course Purpose**

This is the first course in a two course study of automotive engines. The course will also introduce the student to the operation, diagnosis and repair of the internal combustion engine and supporting systems including maintenance and inspection.

**Course Prerequisites/Corequisites**

The ability to read, write, and speak the English language.

**Course Objectives**

Upon completion of this course, the student should be able to:

- Explain the principles of construction and operation of the automotive engine
- Identify component parts and terminology of the automotive engine and supporting systems
- Use various test equipment to diagnose and repair defects in the automotive engine and support systems
- Use available service manuals in locating specifications related to the inspection, repair, and adjustment to automotive engines and support systems
- Demonstrate skills in inspection procedures, trouble-shooting, and making corrective repairs

**Major Topics to be Included**

- The conventional engine concept
- Service manuals, parts and labor pricing guide usage including diagnostic tools and equipment and their usage in engine testing
- Principles of operation of engines
- Types of engines and their practical application
- Basic engine construction and operation
- Basic valves operation and valve timing
- Introduction of tools and equipment
- Engine support systems including electrical, fuel, ignition, cooling, lubricating and emission controls