

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY**  
**AUT 112 - AUTOMOTIVE ENGINES II (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 II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

**General Course Purpose**

This is the second course in a two course study of automotive engines. The course is designed to provide the student with an understanding of tools and equipment used in testing, measuring and repairing major defects in the internal combustion engine to include cylinder head, valve train, and short block assemblies. Also, it is designed to provide the student with logical and methods of analyzing defects and necessary preventative or corrective maintenance requirements.

**Course Prerequisites/Corequisites**

Prerequisite: AUT 111. 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 construction of the internal combustion engine to include cylinder head, valve train, and short-block assemblies
- Analyze possible defects affecting mechanical operation of the automobile engine
- Inspect, test, and determine the location of upper and lower engine mechanical failure
- Determine the logical cause of the failure through complete and accurate analysis and discuss their findings
- Use measuring tools to include micrometers, telescoping gauges, small gauges, dial indicators, depth gauges, and Vernier calipers, skillfully and accurately
- Repair defects in the internal combustion engine pertaining to cylinder head, valve train, and short block assemblies
- Use available service information to locate specifications related to the inspection, repair and adjustments of automotive engines
- Demonstrate skills using inspection procedures, troubleshooting and making corrective repairs

**Major Topics to be Included**

- Automobile engine cylinder head and valve train
- Automobile engine short-block assemblies
- Measuring instruments
- Engine rebuilding, testing and repairing equipment
- Upper engine repair service including complete head service
- Lower engine service
- Final assembly and start-up
- Repair cost estimation