

# AUTO 112 Articulation Competencies

## *Engine Repair (4 Credits)*

**Modular, self-paced course covering internal combustion engine mechanical systems, components and operation. Diagnosis of component systems malfunctions. Practical application in cylinder head reconditioning and repair. Leadership and human relations are an integral part of instruction.**

*Upon completion of this course, successful students will score 80% or better on the following competencies to receive WVC college credits.*

### Student Learning Outcomes:

CATEGORIES			
<b>1. Problem Solving:</b>	A. Critical Thinking	<b>3. Social Interaction:</b>	A. Collaboration
	B. Creative Thinking		B. Ethical Conduct
	C. Quantitative Reasoning		C. Professional Conduct
	D. Qualitative Reasoning		D. Cultural Diversity
<b>2. Communication:</b>	A. Oral Expression	<b>4. Inquiry:</b>	A. Information Literacy
	B. Written Expression		B. Research
	C. Artistic Expression		C. Documentation

### Course Competencies Checklist:

- Demonstrate knowledge of the fundamentals of operation of the engines systems and their components. (1A, 2B)
- Demonstrate skills and knowledge in the use of the tools used to test, remove, disassemble, install, and service the engine systems components. (1A, 2B)
- Demonstrate skill in removing, disassembling, assembling, installing and servicing the components of automotive engines systems. (1A, 2B)
- Demonstrate the ability to analyze and correct malfunctions caused by wear and other defects of the components of automotive engine systems. (1A, 2B)
- Demonstrate good safety habits and an appreciation of safety precautions and rules. (3C)

Program Outcomes:

Students who complete the ATS in Automotive Technology will be able to:

- Demonstrate skills and knowledge in:
  - the fundamentals of operation of heating and air conditioning system and their components.
  - the use of the scan tools, lab scopes and various diagnostic equipment in the automotive industry.
  - the use of the various scan tools used to test anti-lock brake systems components and sensors.
  - the use of the various automotive scan tools, lab scopes and diagnostic equipment used in the automotive industry while testing engine management systems.
  - the use of tools to test, remove, disassemble, install and service the air conditioning system components.
- Demonstrate the ability to:
  - locate, use and analyze information and technology resources to perform workplace duties.
  - think critically (analyze, synthesize, evaluate and apply, problem solve, reason quantitatively and qualitatively) in workplace environments.
  - act responsibly as an individual and as a member of a team or group in a workplace environment.
  - Acquire training and education to seek employment or advance in current employment in the automotive industry.
  - Develop a foundation to continue their studies in automotive technology or related fields.

Core Topics:

- Safety
- Fundamental Principles and Terminology of Automotive Engine Systems
- The Use of Tools and Test Equipment