

# Louisiana Delta Community College

## Academic Affairs Master Syllabus

**Course Name:** ENGINE BLOCK ASSEMBLY DIAGNOSIS AND REPAIR

**Course Number:** AUTO 1120

**Credit Lecture hours:** 0      **Credit Lab Hours:** 1      **Contact Hours:** 30

**Textbook, Author, and Publisher:** To be provided by College Campus

**Instructor Information:** To be provided by College Campus

**Class Location:** To be provided by College Campus

**Course Description:** This course teaches the procedures and repair methods for diagnosing and reconditioning engine blocks.

**Prerequisites:** None

**Co-requisites:** None

### **Learning Outcomes:**

On completion of this course, the student will be able to:

1. Disassemble engine block; clean and prepare components for inspection and reassembly. (P-2)
2. Inspect engine block for visible cracks, passage condition, core and gallery plug condition, and surface warpage; determine necessary action. (P-2)
3. Inspect internal and external threads; restore as needed (includes installing thread inserts). (P-2)
4. Inspect and measure cylinder walls for damage, wear, and ridges; determine necessary action. (P-2)
5. Deglaze and clean cylinder walls. (P-2)
6. Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine necessary action. (P-3)
7. Inspect crankshaft for end play, straightness; journal damage, keyway damage, thrust flange and sealing surface condition, and visual surface cracks; crankshaft sensor reluctor ring; determine necessary action. (P-2)
8. Inspect and measure main and connecting rod bearings for damage, clearance, and end play; determine necessary action. (P-2)
9. Identify piston and bearing wear patterns that indicate connecting rod alignment and main bearing bore problems; inspect rod alignment and bearing bore condition. (P-3)

**Assessment Measures:** To be provided by the College Campus.

10. Inspect and measure pistons; determine necessary action. (P-2)
11. Remove and replace piston pin. (P-3)
12. Inspect, measure, and install piston rings. (P-1)
13. Inspect auxiliary (balance, intermediate, idler, counterbalance or silencer) shaft(s); inspect shaft(s) and support bearings for damage and wear; determine necessary action; reinstall and time. (P-2)
14. Inspect or replace crankshaft vibration damper (harmonic balancer). (P-3)
15. Assemble the engine using gaskets, seals, and formed-in-place (tube-applied) sealants, thread sealers, etc. according to manufacturer's specifications. (P-2)

**Assessment Measures:** To be provided by the College Campus.

**Library Resource Center:**

The Delta Library and Learning Resource Center is committed to providing quality information and learning resources and services, including technology, in supporting the overall mission of Delta Community College and its commitment to lifelong learning.

**Special Accommodations:**

Louisiana Delta Community College complies with Section 504 of the Rehabilitation Act, as well as the Americans with Disabilities Act. Students with disabilities who attend the Monroe campus may make a request by contacting the Director of Counseling and Disability Services (See College Directory for contact information.) at the beginning of each semester. Reasonable accommodations will be attempted for students with documented disabilities. If an impairment is identified later in the semester, a non-retroactive accommodation plan will be developed. Students at satellite campuses should contact the Coordinator of Student Affairs at their particular campus.

**Title IX:**

Louisiana Delta Community College is committed to protecting the rights of students, which includes compliance with Title IX requirements. As such, the institution and members of our community will not tolerate the offenses of dating violence, domestic violence, sexual assault, and stalking. Students with Title IX concerns should contact the College's Title IX Coordinator (See College Directory for contact information.) Students are required to complete Sexual Assault Awareness and Prevention Online Training. Access to this online course will be sent out through the Delta email account.

**Student Code of Conduct:**

Louisiana Delta Community College encourages an environment of academic integrity and mutual respect. Students should read and follow both academic and behavioral expectations identified in the Code of Student Conduct that can be found online at [www.ladelta.edu](http://www.ladelta.edu). Students are expected to act with integrity, respect the rights of others, and conduct themselves in a professional manner. The Honor Code prohibits academic misconduct such as cheating, engaging in unauthorized collaboration, and plagiarism. Violations of the Code of Student Conduct may result in disciplinary action as provided in the Code. Incidents are reported through the online Student Conduct system.