

MCAP-180-BRAKE SYSTEMS 3 CREDITS**SYLLABUS**

CATALOG DESCRIPTION

A study of the theory and diagnostic repair procedures of Chrysler FCA disc and drum brake systems, Anti-Lock Brake System, Anti-Slip Systems and Traction control systems and include theory, diagnosis and repair procedures as outlined in factory service information. Electric power steering motors, sensors and circuitry will be included. Instruction will be given on brake machining equipment, hydraulic systems and component replacement on traditional and anti-lock brake systems. Safety will be emphasized.

Prerequisites: MCAP-120

Corequisites: MCAP-190

Semester Offered: Spring

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

COURSE LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to...

A copy of this approved syllabus is on file in the dean's office.

Updated 12/14/18

1. Complete 100% of NATEF priority 1 tasks.
2. Complete 85% of NATEF priority 2 tasks.
3. Complete 75% of NATEF priority 3 tasks.

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to...

1. Demonstrate safe manufacturers' techniques for automotive brake service.
2. Rebuild wheel cylinders.
3. Overhaul disc brake calipers.
4. Overhaul master cylinders.
5. Replace and repair brake lines and hoses.
6. Bleed a brake system.
7. Flush a brake system.
8. Balance a pressure differential switch.
9. Remove and replace brake shoes.
10. Remove and replace disc brake pads.
11. Adjust, service, and test parking brake system.
12. Machine drums and rotors to manufacturers' standards.
13. Replace parking brake cables.
14. Diagnose brake malfunctions such as squeak, low pedal, hard pedal, and spongy pedal.
15. Test and inspect brake components for leakage, wear and proper operation.
16. Perform the manufacturers' brake performance test.
17. Remove and replace master cylinders.
18. Remove and replace a hydro-boost power brake unit.
19. Test an anti-lock brake system using manufacturers' approved processes.
20. Test rotor parallelism.
21. Test rotor run-out.
22. Torque wheel lug nuts to proper specification.
23. Check and service brake fluid level utilizing the manufacturers' recommended process.
24. Test vehicle traction control systems using manufacturers' approved processes.