

**Course discipline/number/title: AMT 1730: Breaks Theory****A. CATALOG DESCRIPTION**

1. **Credits:** 4
2. **Hours/Week:** 4
3. **Prerequisites (Course discipline/number):** None
4. **Other requirements:** None
5. **MnTC Goals (if any):** NA

**B. COURSE DESCRIPTION:** This course covers the theory and application of auto safety, tools, fasteners, basic electricity and general auto service. This course also covers theory, design, operation, diagnosis and repair of hydraulic brake systems on automobiles and light trucks.

**C. DATE LAST REVISED (Month, year):** December, 2022

**D. OUTLINE OF MAJOR CONTENT AREAS:**

1. General Automotive Safety/Shop Safety
2. Automotive Tools and Usage
3. Common Automotive Fasteners, Design and Usage
4. Basic Electrical Theory
5. General Automotive Service Theory
6. Disc and Drum Brake Design and Operation
7. Power Brake Design and Operation
8. Scan Tool Usage in Braking Systems
9. ABS Brake Design and Operation
10. Traction Control
11. Stability Control Systems
12. Hydraulic Principles

**E. LEARNING OUTCOMES (GENERAL):** The student will be able to:

1. Describe automotive safety.
2. Describe common automotive tools and usage.
3. Identify common automotive fasteners.
4. Understand basic electrical theory.
5. Describe general automotive service.
6. Identify differences in disc and drum brake systems and how they apply to current vehicles.
7. Describe and identify types of brake boosters and operation.
8. List diagnosis repair and procedures of hydraulic brake systems.
9. Effectively Identify safety issues involved with Brake Systems.
10. Describe ABS Braking Systems and Operation.
11. Display understanding of ABS, Traction Control and Stability Control.
12. Identify faults related to Hydraulic Systems.

**F. LEARNING OUTCOMES (MNTC):** NA**G. METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:

1. Quizzes
2. Tests
3. Assignments
4. Worksheets

**H. RCTC CORE OUTCOME(S).** This course contributes to meeting the following RCTC Core Outcome(s):  
**Critical Thinking.** Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

**I. SPECIAL INFORMATION (if any):** None