



**COWLEY COLLEGE  
& Area Vocational Technical School**

**COURSE PROCEDURE FOR**

**BRAKES II  
AMS3150 1 Credit Hour**

**Student Level:**

This course is open to students on the college level in either the freshman or sophomore year and to area high school vocational students.

**Catalog Description:**

**AMS 3150 - BRAKES II (1 hr)**

This course will enable the student to gain basic understanding and hands on experience utilizing industry standard procedures in the diagnosing and repair of anti-lock braking systems. Topics presented throughout the course cover how anti-lock brake systems affect hydraulic systems, drum and disc brakes, power brakes, and emergency stopping.

**Prerequisites:**

Student must have enrolled and successfully passed AMS 3149 Brakes I or equivalent, or instructor approval.

**Controlling Purpose:**

This course is designed to help the student increase their knowledge concerning entry-level skills contained in the sequenced competencies, for success, after graduation from the Automotive Technology Program.

**Learner Outcomes:**

Upon completion of this course, the student will be able to identify the principles and procedures of braking systems.

The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

**Units Outcomes and Criterion Based Evaluation Key for Core Content:**

The following defines the minimum core content not including the final examination period. Instructors may add other content as time allows.

**Evaluation Key:**

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the

less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.

- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.
- D = A few of the major goals have been achieved, but the student's achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

### UNIT 1: Antilock Brake and Traction Control Systems

Outcomes: The student will gain an understanding and ability to inspect, diagnose and repair antilock brake components.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Identify and inspect antilock brake system (ABS) components; determine necessary action.
						Diagnose poor stopping, wheel lock-up, abnormal pedal feel or pulsation, and noise concerns caused by antilock brake system (ABS); determine necessary action.
						Diagnose antilock brake system (ABS) electronic control(s) and components using self-diagnosis and/or recommended test equipment; determine necessary action.
						Depressurize high-pressure components of the antilock brake system (ABS).
						Bleed the antilock brake systems (ABS) front and rear hydraulic circuits.
						Remove and install antilock brake system (ABS) electrical/electronic and hydraulic components.
						Test, diagnose and service ABS speed sensors, toothed ring (tone wheel), and circuits using a graphing multi-meter (GMM)/digital storage oscilloscope (DSO) (includes output signal, shorts to voltage/ground, and frequency data).
						Diagnose antilock brake system (ABS) braking concerns caused by vehicle modifications (tire size, curb height, final drive ratio, etc.).
						Identify traction control system components.

**Projects Required:**

As assigned

**Textbook:**

Contact Bookstore for current textbook.

**Materials/Equipment Required:**

Students are required to furnish their own Personal Protection Equipment i.e. Safety Glasses.

**Attendance Policy:**

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

**Grading Policy:**

The grading policy will be outlined by the instructor in the course syllabus.

**Maximum class size:**

Based on classroom occupancy

**Course Time Frame:**

The U.S. Department of Education, Higher Learning Commission, and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching, and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

**Refer to the following policies:**

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

**Disability Services Program:**

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability, which may impact work in this class which requires accommodations, contact the Disability Services Coordinator.