



AUTOMOTIVE BRAKES ADVANCED (III)

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Course Syllabus

Course Number: BR103 **Instructor:** Ron Rader
OCAS Code: **Phone Number:** 580-327-0344
Course Length: 30 hours **Email:** rrader@nwtech.edu
Career Cluster: Transportation **Campus:** Alva, OK
Career Pathway: Automotive Service **Program:** Automotive Service Technology
Career Major: Automotive Service Technician, Automotive Chassis Technician
Pre-requisite: Automotive Introduction, Automotive Brakes Introduction, Automotive Brakes Fundamentals
Course Description: This course covers how to diagnose service and repair the Anti-lock Brake System (ABS). Also covered will be the ABS braking concerns caused by vehicle modifications, such as tire size, curb weight and change of final drive ratios.

Instructional Philosophy: To provide a training program that is of merit both educationally and ethically while effectively providing the individual learner the opportunities, knowledge and skills necessary to succeed in the workplace as well as life.

Course Goals: Upon successful completion of this course, the student will be able to:

Competencies:

Anti-lock Brake System

Inspect and test anti-lock brake system (ABS) components; determine necessary action
Diagnose poor stopping, wheel lock-up, abnormal pedal feel or pulsation, and noise concerns caused by the anti-lock brake system (ABS); determine necessary action.
Diagnose anti-lock 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 anti-lock brake system (ABS).
Bleed the anti-lock brake system's (ABS) front and rear hydraulic circuits.
Remove and install anti-lock brake system (ABS) electrical/electronic and hydraulic components.
Service, test, and adjust anti-lock brake system (ABS) speed sensors.
Diagnose anti-lock brake system (ABS) braking concerns caused by vehicle modifications (tire size, curb height, final drive ratio, etc.).
Identify traction control and vehicle stability control system components.

Major Course Projects: Students will perform tasks relating to the Automotive Service Industry as per standards identified by the National Automotive Technicians Education Foundation (NATEF). Students will complete repair orders each day and will document completion of competencies on competency profiles tracking individual progress and accomplishment.
Project Outline: Projects will include performing tasks on mock ups, shop vehicles, and live work as student skills progress. These projects will reinforce classroom theory instruction and will require the student to consult industry service information during the course of task performance.

Instructional Delivery The instruction for this course will be comprised of multiple methods designed to promote and accommodate different learning styles including classroom lecture,

Plan: classroom demonstrations, shop demonstrations, hands on learning activities, classroom discussion, interactive media, textbook, computer based learning activities, research projects, guest speakers, student presentations, and interactive learning with CPS (Classroom Performance System). Students will be required to practice the skills associated with the instructional content and will be required to work independently and also in teams. Assignments will require students to use academic skills in math, science, and language arts.

Assessment Plan: Students will be assessed according to three basic kinds of learning. Knowledge: Does the student possess the required knowledge to perform a specific competency? Skills: Does the student possess the necessary coordination to perform the task/competency? Attitude: Will the student perform the task/competency on the job after learning to do it? Students will also be assessed according to the basic work skills of attendance and promptness. Soft skills will be assessed in the Academic Career Center.

50%	Daily work- Performance of technical skills on job, work habits, safety, clean-up, participation
50%	Written assignment- Repair orders, textbook assignments, etc.

Grading Scale:

A	90-100	Exceeds expectations
B	80-89	Meets industry standards and expectations
C	70-79	Passing grade, but does not meet some standards
D	60-69	Passing, but only meets the minimum standards
F	Below 60	Failing, does not meet minimum standards

Alliance Credit Offered: OSU Okmulgee

Industry Alignments: ASE Certification, ODCTE Certification,

End of Instruction Industry Assessment: ASE Certification, ODCTE Certification,

Resources: Automotive Excellence Vol. 1 and Vol. 2
Modern Automotive Technology
Introduction to Automotive Service: Fundamental Concepts
CDX Global Interactive Training
Snap On Shop Key
Alldata

Attachments: See Automotive Service Technology Task List Competency Handbook