

Syllabus  
**AUMT 1345**  
**Automotive Heating and Air Conditioning**

Automotive Technology

BRAZOSPORT COLLEGE

LAKE JACKSON TEXAS

PREPARED BY: Rick Underdahl  
INSTRUCTOR

DATE: September 2015

RECOMMENDED BY: \_\_\_\_\_  
DIVISION CHAIRMAN

DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_  
DEAN

DATE: \_\_\_\_\_

The Brazosport College District shall not discriminate against, or exclude from participation in any benefits or activities either on the staff or in the student body, any person on the grounds of sex, race, color, religion, national origin, age or handicap.

BRAZOSPORT COLLEGE  
500 COLLEGE DRIVE  
LAKE JACKSON, TEXAS 77566

AUMT 1345  
Automotive Heating and Air Conditioning

COURSE DESCRIPTION

Theory of automotive air conditioning and heating systems. Emphasis on the basic refrigeration cycle and diagnosis and repair of system malfunctions. Covers EPA guidelines for refrigerant handling and new refrigerant replacements. May be taught manufacturer specific. (3 SCH, 2 lecture, 4 lab)

COURSE FOCUS

This course will cover automotive HVAC operation and service.

TEXT AND REFERENCES

Automotive Technology Curriculum

**Author(s):** [CDX Automotive](#)

- ISBN-13: 9781284027327

**Details:**

- Online Course    pages    © 2015  
Access Code Subscription Length: 365  
Days

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://www.brazosport.edu/bookstore>. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.

## COURSE GOALS

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives (Addendum A). (\* designates a CRUCIAL goal)

1. list safety rules
2. practice safety rules
3. explain principles of refrigeration
4. explain air conditioning designs
5. understand types of refrigerants and equipment for service and recovery
6. diagnose repair and service ac systems
7. diagnose and repair compressors and clutches
8. diagnose and repair evaporator, and related components
9. diagnose and repair the heating and cooling system
10. diagnose and repair operating systems and related controls
11. explain ac system retrofit procedures.

## STUDENT CONTRIBUTIONS

Each student will spend at least 5 hours per week preparing for class. Attendance is important. The student will be given the opportunity to evaluate the course and the instructor at the end of the semester.

## COURSE EVALUATION

A = 90 - 100  
B = 80 - 89  
C = 70 - 79  
D = 60 - 69  
F = 59 and below

## COURSE SCHEDULE

The class meets for 2 lecture hours and 4 lab hours per week.

## ADDENDUM A

## PERFORMANCE OBJECTIVES

1. The student will not be allowed references. The student will list safety rules. Performance will be satisfactory if rules are listed and the listing is 100% correct.
2. The student will be a member of AUMT 1345. The student will practice safety rules. Performance will be satisfactory if rules are practiced.
3. The student will be allowed references. The student will explain principles of refrigeration. Performance will be satisfactory if student scores a minimum of 70 on the unit test.
4. The student will be allowed references. The student will explain ac system design. Performance will be satisfactory if student scores a minimum of 70 on the unit test.
5. The student will be allowed references. The student will identify types of refrigerant and the equipment needed to service and recover refrigerants. Performance will be satisfactory if student scores a minimum of 70 on the unit test.
6. The student will be allowed references. The student will be provided tools. The student will diagnose and service an ac system according to manufacturer's specifications. Performance will be satisfactory if the job is completed in twice the flat rate time as published.
7. The student will be allowed references. The student will be provided tools. The student will diagnose and repair compressors and clutches according to manufacturer's specifications. Performance will be satisfactory if the job is completed in twice the flat rate time as published.
8. The student will be allowed references. The student will be provided tools. The student will diagnose and service evaporators and related components according to manufacturer's specifications. Performance will be satisfactory if the job is completed in twice the flat rate time as published.
9. The student will be allowed references. The student will be provided tools. The student will diagnose and service heating and cooling systems according to manufacturer's specifications. Performance will be satisfactory if the job is completed in twice the flat rate time as published.
10. The student will be allowed references. The student will be provided tools. The student will diagnose and service operating systems and related controls according to manufacturer's specifications. Performance will be satisfactory if the job is completed in twice the flat rate time as published.
11. The student will be allowed references. The student will explain retrofit procedures. Performance will be satisfactory if student scores a minimum of 70 on the unit test

## STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979.230.3236, for further information.

#### ACADEMIC HONESTY

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://www.brazosport.edu>. Click on the CATALOGS AND SCHEDULES link under STUDENTS.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and will, at a minimum, result in an automatic zero for the assignment. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.