# 9/19/2022

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 6 October 2022

Term and Year of Implementation: Fall 2022

**Course Title:** Aircraft Finishes

**BRCC Course Rubric:** AMTA 1224

**Previous Course Rubric**:

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 1-9-4

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 15-135-150

**Louisiana Common Course Number:**

**CIP Code:** 47.0607

**Course Description:** Introduces students to Environmental Systems and Ice and Rain Control Systems. This course covers Airframe Curriculum Subjects from the Federal Aviation Administration’s 2021 Airman Certification Standards.This course requires a lab fee and a student fee.

**Prerequisites:**  AMTG 1016 and AMTG 1026

**Co-requisites:** AMTA 1216

**Suggested Enrollment Cap:** 25

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Demonstrate required knowledge, risk management, and skills competencies for Environmental Systems, Airframe Curriculum Subject G in the Federal Aviation Administration’s 2021 Airman Certification Standards.

2. Demonstrate required knowledge, risk management, and skills competencies for Ice and Rain Control Systems, Airframe Curriculum Subject L in the Federal Aviation Administration’s 2021 Airman Certification Standards.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Department-designed quizzes and tests.

2. Projects that must be completed with a grade of 70% or better.

3. Students must complete a minimum of 150 contact hours

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Environmental Systems

A. Knowledge

AM.II.G.K1, Pressurization systems.

AM.II.G.K2, Bleed air heating.

AM.II.G.K3, Aircraft instrument cooling.

AM.II.G.K4, Exhaust heat exchanger and system component(s) function, operation, and inspection procedures.

AM.II.G.K5, Combustion heater and system component(s) function, operation, and inspection procedures.

AM.II.G.K6, Vapor-cycle system and system component(s) operation, servicing, and inspection procedures.

AM.II.G.K7, Air-cycle system and system component(s) operation and inspection procedures.

AM.II.G.K8, Cabin pressurization and system component(s) operation and inspection procedures.

AM.II.G.K9, Types of oxygen systems and oxygen system component(s) operation (e.g., chemical generator, pressure cylinder).

AM.II.G.K10, Oxygen system maintenance and inspection procedures.

B. Risk Management

AM.II.G.R1, Oxygen system maintenance.

AM.II.G.R2, Recovery of vapor-cycle refrigerant.

AM.II.G.R3, Handling or performing maintenance on, chemical oxygen generating systems.

AM.II.G.R4, Storage, handling, and use of compressed gas cylinder and high-pressure systems.

AM.II.G.R5, Manufacturer’s recommended servicing procedures, including refrigerant types.

AM.II.G.R6, Maintenance of combustion heaters.

C. Skills

AM.II.G.S1, Inspect an oxygen system.

AM.II.G.S2, Purge an oxygen system prior to servicing.

AM.II.G.S3, Service an oxygen system.

AM.II.G.S4, Clean and inspect a pilot emergency oxygen mask and supply hoses.

AM.II.G.S5, Inspect an oxygen system pressure regulator.

AM.II.G.S6, Inspect an oxygen system cylinder for serviceability.

AM.II.G.S7, Inspect a chemical oxygen generator for serviceability and safe handling.

AM.II.G.S8, Locate the procedures to troubleshoot a combustion heater.

AM.II.G.S9, Locate the procedures for servicing a refrigerant (vapor-cycle) system.

AM.II.G.S10, Inspect a combustion heater fuel system for leaks.

AM.II.G.S11, Locate the troubleshooting procedures for an air-cycle system.

AM.II.G.S12, Troubleshoot an air-cycle air conditioning system.

AM.II.G.S13, Inspect a cabin heater system equipped with an exhaust heat exchanger for cracks.

AM.II.G.S14, Clean and inspect an outflow valve for a pressurization system.

AM.II.G.S15, Locate troubleshooting procedures for a pressurization system.

II. Ice and Rain Control Systems

A. Knowledge

AM.II.L.K1, Aircraft icing causes/effects.

AM.II.L.K2, Ice detection systems.

AM.II.L.K3, Aircraft and powerplant anti-ice systems and components.

AM.II.L.K4, De-ice systems and components.

AM.II.L.K5, Wiper blade, chemical, and pneumatic bleed air rain control systems.

AM.II.L.K6, Anti-icing and de-icing system maintenance.

AM.II.L.K7, Environmental conditions that degrade vision.

B. Risk Management

AM.II.L.R1, System testing or maintenance.

AM.II.L.R2, Storage and handling of deicing fluids.

AM.II.L.R3, Selection and use of cleaning materials for heated windshields.

C. Skills

AM.II.L.S1, Inspect and operationally check pitot-static anti-ice system.

AM.II.L.S2, Inspect and operationally check deicer boot.

AM.II.L.S3, Clean a pneumatic deicer boot.

AM.II.L.S4, Troubleshoot an electrically-heated pitot system.

AM.II.L.S5, Inspect thermal anti-ice systems.

AM.II.L.S6, Inspect and operationally check an electrically-heated windshield.

AM.II.L.S7, Locate and explain the procedures for inspecting an electrically-operated windshield wiper system.

AM.II.L.S8, Locate and explain the procedures for replacing blades on a windshield wiper system.

AM.II.L.S9, Locate and explain the procedures for inspecting a pneumatic rain removal system.