Pressurization/Climate Control
Course Syllabus

Course Number: TRAM-2101
OHLAP Credit: No
OCAS Code: None
Course Length: 49 Hours
Career Cluster: Transportation, Distribution & Logistics
Career Pathway: Aviation Maintenance Technology
Career Major(s): Airframe Mechanic

Pre-requisite(s):

Course Description:
Aircraft pressurization systems, air-conditioning systems, heating systems, and oxygen system components and operation will be discussed. Inspection, checks, troubleshooting and servicing of systems will be accomplished in the course.

Textbooks:
Dale Crane, Dictionary of Aviation Terms, Aviation Supplies and Academics, 1997
DOT, Aircraft Inspection and Repair, Jeppesen, Sanders, Inc., 1998

Course Objectives:
A. Lesson: Atmospheric Conditions and Requirements
1. Discuss characteristics of the atmosphere.
2. Describe the purpose and requirements of a pressurization system. (Level 1) (App. C,II,C,33,34) (AF-M16)
4. Discuss the operation and control of a typical pressurization system. (Level 1) (App. C,II,C,33,34)
5. Give aircraft structural requirements for pressurization.

B. Lesson: Air Conditioning Systems
1. Describe the construction and operation of an air cycle machine - (AMC); including components. (Level 1) (App. C,II,C,33)
2. Discuss the operation of a cabin temperature control system.
5. Inspect, check, troubleshoot, and service a vapor cycle system. (Level 1) (App. C,II,C,33,34) (AF-M2,M3,M6,M9,M10)

C. Lesson: Heating Systems
1. Discuss the operating principles of a surface combustion heater. (Level 1) (App. C,II,C,33,34)
2. List the protective control circuits of combustion heaters. (Level 1) (App. C,II,C,33,34)
5. Inspect and operate a combustion heater. (Level 1) (App. C,II,C,33,34) (AF-M1,M4,M7)

D. Lesson: OXYGEN SYSTEMS
1. Discuss the operating principles of an oxygen system.
2. Give characteristics of oxygen stored under pressure.
3. List components of an oxygen system and their functions.
4. Discuss inspection requirements of oxygen systems.
5. Describe a liquid oxygen system.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, F=0-69%.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/ College Credit: The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 2.0 or better.