Office Hours: The instructor will make every effort to be available to the students. Formal office hours will take place Tuesday and Thursday from 2:00 to 4:00. Students should feel free to arrange conferences outside the aforementioned times or contact the instructor by phone, e-mail, or correspondence. The instructor has an office at Room 107 in the Aviation Technologies Building and an office in the Transportation Education Center (TEC) Room 0246A.

Meeting Times and Locations: The meeting times and locations are in accordance with the Aviation Technology Schedule.

Changes To Schedule: It may be necessary to make minor changes to the schedule when the instructor is out of town on university/aviation business or conducting research. To the extent possible, such changes will be organized to minimize any inconvenience that may otherwise be placed on the students.

Course Objectives: Students will have an understanding of the correct procedures and precautions to be observed while maintaining and operating transport category aircraft. They will be required to demonstrate their ability to master the Unit Objectives throughout the course.

Unit Objectives: The following provides specific objectives for each unit. The aggregate of the unit objectives is designed to fulfill the course objectives and FAA requirements.

1. Manuals: Learners will build a basic comprehension of the various forms of manufacturers’ data and how data is organized in the form of international airline standards.
2. Airborne Power Units (APUs): Learners will become familiar with APU operation procedures, starting, and system controls. Students will also study mechanical components and troubleshoot the APU using electrical and logic schematics.
3. Oxygen Systems: Learners will study system inspections, troubleshooting, servicing, and testing of oxygen systems. Students will further be acquainted with the various methods of supplying oxygen to the crew and passengers.
4. Fire and Overheat Systems: Learners will study different methods and locations of overheat and fire detection systems. The students will further study different equipment and procedures for fighting fires.
5. Flight Controls: Learners will become familiar with power and manual backup operation of flight controls and the inter-relationship between the different flight controls as typically used on transport category aircraft.
6. **Basic Pressurization and Air Conditioning**: Learners will study the atmosphere and basic equipment used to operate within different atmospheric regions.

7. **Cabin Pressurization and Air Conditioning**: Learners will study the operation of pressurization and air conditioning systems typically found on transport category aircraft, including basic maintenance and troubleshooting procedures. Students will further become familiar with flight and ground operational procedures.

8. **Combustion Heaters**: Learners will study the purpose of the components used in aircraft combustion heaters, including troubleshooting and correction of system faults. Students should be capable of operating typical aircraft combustion heaters per manufacturer’s instructions.

9. **Transport Aircraft Pressurization and Air Conditioning Systems**: Learners will study the functions of system components and understand troubleshooting techniques. Students will further study the location of the components and methods for controlling bleed air.

10. **Thermal Anti-Icing (TAI)**: Learners will study TAI systems for wings, windshield, and engines. Students will learn about flight and ground operations and study troubleshooting techniques of system faults.

11. **Fuel Systems**: Learners will study the operation of typical transport systems. Routine ground servicing and flight procedures will be studied.

12. **Ground and Flight Operation**: Learners will become acquainted with typical system operation, inspection, and monitoring responsibilities of flight crew members.

13. **Glass Systems**: Learners will become acquainted with typical components, troubleshooting, and operational procedures of glass instrumentation systems.

**Laboratory Projects:**

1. **Pressurization and Air Conditioning**: Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machines.

2. **Oxygen Systems**: Inspect, check, troubleshoot, service, and repair oxygen systems.

3. **Aircraft Ice and Rain Control**: Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.

4. **Power Plant Ice and Rain Control**: Inspect, check, troubleshoot, service, and repair engine ice and rain control systems.

5. **Fire Detection and Extinguishing Systems**: Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems.


7. **Auxiliary Power Unit**: Inspect, check, service, and troubleshoot a turbine-driven auxiliary power unit.


9. **Aircraft Fuel Systems (Part 2)**: Inspect, check, service, troubleshoot, and repair aircraft fuel systems.

**Method and Frequency of Student Performance Evaluations**: Unless otherwise altered, students will be given evaluations to determine levels of mastery for each unit. Evaluations for lecture will be given at the completion of each unit and will be predominantly multiple-choice. A comprehensive evaluation will be given near the end of the semester. The instructor may provide pop quizzes, as deemed necessary. Evaluations will include multiple-choice, short answer, and essay questions. Performance in lab will be evaluated in various ways. The instructor takes into account day-to-day operations and subjective issues
such as attitude, responsibility, teamwork, tools, and other elements deemed critical by the instructor to industry safety. This portion of the laboratory grade is a subjective evaluation by the instructor. Objective elements of the laboratory grade are determined from written evaluations and check outs. The former will be multiple choice and short answer and the latter are based on performance. The grading breakdown for the course is as follows: \( \frac{1}{3} \) of the course grade is based on the average of the lecture evaluations, \( \frac{1}{3} \) from the comprehensive evaluation, and the remaining \( \frac{1}{3} \) is based on laboratory work. The laboratory grade is further divided into halves with \( \frac{1}{2} \) calculated on objective grades and the balance determined by subjective evaluations by the instructor.

**To Receive a Passing Grade:** Students must pass (a grade of C or better) all portions of a course. This is interpreted to mean the student must have a minimum grade of “C” in lecture, in laboratory, and on the final exam to receive a passing grade of “C” or better as the course grade.

**Grading Scale:**

- 100 – 90 = A
- 89 – 80 = B
- 79 – 70 = C
- 69 – 60 = D
- 59 – 00 = F

**Multitasking:** Do not use your cell phones, iPads, MP3 players, and other similar devices during class for other than academic work, including lab. Likewise, do not spend class time reading newspapers, completing crossword puzzles, and solving Sudoku challenges. Students need to stay focused on course material and tasks. Too many people have perished from aviation accidents that stem from aviators being distracted. You wouldn’t want your surgeons to be working a Sudoku, texting, listening to music while they are operating on you. In a similar fashion, people who fly on airplanes want their technicians to focus on their work.

**Incompletes:** Refer to SIU Syllabus Attachment, Spring 2016

**Attendance is mandatory:** As an FAA certified Airframe and Powerplant Mechanic Training Program, we must abide by the FAA’s attendance policy. Instructors are required to take roll each class period. It is the student’s responsibility to contact the instructor in advance of absences whenever possible or immediately thereafter to arrange make-up time where appropriate and to obtain hand-outs or other material from classes missed.

**Students are expected to be in class and lab on time:** Three late arrivals will be counted against the student as one unexcused absence. Unexcused absences or habitual tardiness will result in a cumulative reduction of the student's final grade point average: First unexcused absence results in a one-point reduction of the final grade (0-100 scale). Second absence results in a two-point reduction. Third absence results in a four-point reduction. Fourth absence results in an eight-point reduction. Fifth absence results in a sixteen-point reduction. After the fifth unexcused absence the cumulative grade reduction would be 31 points, making it impossible to receive a passing grade for the course.

**Make up time:** May be granted at the discretion of the instructor. Final determination as to whether or not an absence is "excused" rests with the instructor. Performance of make-up time does not reinstate points lost due to unexcused absences. Normally, make-up time for lab will be scheduled for 6 am on
Saturday or Sunday. Lecture make-up typically requires the student to complete a writing assignment over the material covered during the absence.

**Tardiness:** Definition--When the student is not on time as determined by the instructional staff.

**Suggested Text:**


**Other Recommended Material:**

*FAA AC 43.13-1B*

*FAA Federal Aviation Regulations*

*FAA Technical Publications* (e.g., Current ADs, TCDS, etc.)

*Manufacturers’ Manuals and Technical Publications*

**Activities:** Students will experience traditional collegiate activities (e.g., written evaluations, lab work, assignments, etc.). Beyond the traditional experiences, students are expected to perform work to airworthy standards. Although mistakes and problems are normal during this phase of instruction, students must reach a level of mastery that meets airworthy standards. To acquire this level of mastery and complete the required activities, students may have to devote time outside the scheduled periods to fulfill course objectives.

**Emergency Procedures:** Refer to SIU Syllabus Attachment, Spring 2016
IMPORTANT DATES *
Semester Class Replay ............................................. 01/19/2016
Last day to add a class (without instructor permission) ............... 01/24/2016
Last day to withdraw completely and receive a 100% refund ........ ....... 01/31/2016
Last day to drop a course using SalukiNet ..................................... 04/03/2016
Last day to file diploma application (for name to appear in Commencement program) : 02/12/2016
Final examinations: ............................................. 05/09-05/13/2016
Note: For outreach, internet, and short course drop/add dates, visit Registrar’s Academic calendar at http://pavca.siu.edu/

SPRING SEMESTER HOLIDAYS
Martin Luther King, Jr.’s Birthday Holiday 01/18/2016
Spring Break 03/13—03/20/2016

WITHDRAWAL POLICY – Undergraduate only
Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://registrar.siu.edu/catalog/undergraduatecatalog.html

INCOMPLETE POLICY – Undergraduate only
An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student’s grade point average. For more information please visit: http://registrar.siu.edu/grades/incomplete.html

REPEAT POLICY
An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy or http://registrar.siu.edu/catalog/undergraduatecatalog.html

GRADUATE POLICIES
Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit http://gradschool.siu.edu/about-us/grad-catalog/index.html

DISABILITY POLICY
Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.
http://disabilityservices.siu.edu/

PLAGIARISM
Student Conduct Code http://sr.siu.edu/student_conduct_code/
Guidelines for Faculty http://pavca.siu.edu_common/documents/Plagiarism_Guide%20for%20Faculty%202014.pdf

MORRIS LIBRARY HOURS
http://www.lib.siu.edu/about

SAFETY AWARENESS FACTS AND EDUCATION
Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://safe.siu.edu

SALUKI CARES
The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For information on Saluki Cares: (618) 453-5714, or salukicares@siu.edu, http://salukicares.siu.edu/index.html

EMERGENCY PROCEDURES
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the SIU Emergency Response Plan and the Building Emergency Response Team (BERT) programs. Emergency response information is available on posters in buildings on campus, available on BERT’s website at www.bert.siu.edu, Department of Safety’s website at www.dps.siu.edu (disaster drop down) and the Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.

INCLUSIVE EXCELLENCE
SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: http://www.inclusiveness.excellence.siu.edu

LEARNING AND SUPPORT SERVICES
Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:

Tutoring: http://tutoring.siu.edu/
Math Labs http://math.siu.edu/courses/course-help.php

WRITING CENTER
The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit http://write.siu.edu/

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY
Our office’s main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit: http://diversity.siu.edu/

Additional Resources Available:

SALUKINET: http://salukinet.siu.edu/cp/home/displaylogin

ADVISEMENT: http://advisement.siu.edu/

PROVOST & VICE CHANCELLOR: http://pavca.siu.edu/

SIU ONLINE: http://online.siu.edu/