



**I. COURSE DESCRIPTION:**

A study of electrical, hydraulic, fuel, oil, oxygen, and fire fighting systems and procedures in the aircraft used for multi-engine training as well as in a modern, turbine, pressurized transport aircraft.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

1. Describe the PA44 and its systems with sufficient detail to demonstrate a practical working knowledge.

Potential Elements of the Performance:

- Have a clear understanding of the terminology, abbreviations and definitions used in the flight manual.
- Have a clear understanding of the technical description of the aircraft and its systems.
- Know the operating limitations of the aircraft.

2. Apply the Normal and Emergency Procedures applicable to the PA44.

Potential Elements of the Performance:

- Practical knowledge of all checklist items including the rationale for each item.
- Memorization of necessary memory items.
- Ability to satisfactorily determine a procedure to use where there is no checklist procedure.
- Practical knowledge of good flying practices.

3. Accomplish all necessary pre-flight tasks applicable to the PA44.

Potential Elements of the Performance:

- Perform weight & balance calculations.
- Calculate performance requirements for take-off, climb, single engine flight, cruise, landing etc.
- Determine that maintenance requirements have been met and that the aircraft is certified and fit for flight.

4. Be knowledgeable about the systems of a typical pressurized multi-engine turbine aircraft (the Beech King Air)

Potential Elements of the Performance:

- Engine & propeller operation.
- Systems operation.
- Normal & emergency procedures
- Performance calculations
- Servicing requirements

### III. TOPICS:

- PA44
1. Introduction – Airport visit
  2. General Information
  3. Limitations
  4. Description and Operations of the Airplane and Its Systems
  5. Normal Procedures
  6. Emergency Procedures
  7. Performance
  8. Weight and Balance
  9. Airplane Handling, Servicing and Maintenance
  10. Supplements
- King  
Air
11. Self Paced Computer Study Program

### IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Piper Seminole (PA44) Information Manual (manual part number 761-873 applicable to aircraft SN 4496001 and up)
2. Sault College Aviation Technology Maintenance Schedule – PA44
3. Access to Computer Program for King Air.

### V. EVALUATION PROCESS/GRADING SYSTEM:

The student will be assessed by a combination of attendance and deportment, quizzes, tests and a final exam. Weighting of each will be as follows: 30% for quizzes, 30% for all tests prior to the final exam and 40% for the final exam. A minimum mark of 70% overall, as well as a minimum of 70% on the Piper Seminole exam is required to pass the course. Make-up tests are not permitted except in accordance with section VI of this outline.

- Unexcused absences will result in 2% deduction of the final mark for each occurrence, arriving for class late will result in a 1% deduction of the final mark for each occurrence, and violations of the dress code will result in a 1% deduction of the final mark for each occurrence. Refer to the SOP GEN 1.3 for dress code policies and SOP GEN 1.6.7 for policy regarding absence from classes
- Quizzes will be given without prior notice.
- If it is necessary to write a second final exam in order to pass the course, the highest grade achievable will be a "C". (See make-up policy in section VI)
- Students may request a deferment of a test for compassionate reasons. Compassionate Grounds for deferment will include but not be limited to death of an immediate family member, personal illness, or recent diagnosis of a serious illness of a family member. **Make-ups will not be permitted after the fact for compassionate reasons.**

- **"F" grades in any subject at the end of a semester will result in termination from the Aviation program.**
- Although attitude, co-operation, etc., are not graded, students may be terminated based on their performance in this area (see section VI). These attributes are also considered in the selection of the Air Canada Award and other scholarships.
- Dates of tests will be announced at least 1 week in advance.
- A classroom code of conduct can be found in the SOP General section, and will be adhered to.
- **"R" grades in any subject at the end of a semester will result in termination from the Aviation program. Re-writes in aviation subjects are not permitted except as provided in the re-write policy below.**
- Attendance is mandatory for all Aviation classes unless approval is granted in advance. In the case of illness, a phone call , voice mail or e-mail message is expected.
- If a student expects to be late or will be delayed for any reason, every attempt should be made to contact the professor, or leave a message on voice mail or e-mail.
- Although attitude, co-operation, etc., are not graded, students may be terminated based on their performance in this area (see section VI). These attributes are also considered in the selection of the Air Canada Award and other scholarships.
- Dates of tests will be announced at least 1 week in advance.
- Note: a pass mark of 70% on the Piper Seminole exam is necessary to indicate that the student has sufficient knowledge to safely operate the aircraft systems and is a necessary part of the qualifications which allow the student to fly the aircraft.

The following semester grades will be assigned to students in this course:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 -100%	4.00
A	80 - 89%	3.00
B	70 - 79%	2.00
C	assigned if a make-up exam was required to complete the course	0.00
F (Fail)	below 70%	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

## **VI. SPECIAL NOTES:**

### **Attitude and Conduct**

Attitude plays an important role in your ability to exercise good judgement. Although attitude is not being graded, it affects your ability to learn as well as your safety as a

student and future as a professional pilot. Students who display a strong tendency towards any of the five hazardous attitudes pose a grave risk to themselves and others. For this reason, students exhibiting one or several hazardous attitudes will be counselled and if necessary, will be put on a behavioural contract. If this is ineffective in modifying unacceptable behaviour, then the student will be withdrawn from the program.

The five hazardous attitudes are identified as Anti-authority, Impulsivity, Invulnerability, Machismo, and Resignation. These hazardous attitudes are described in “Human Factors for Aviation – Basic Handbook” on pages 151 and 152.

### **Make-up Policy**

- No make-ups on tests occurring prior to final exams, except for the Piper Seminole exam.
- No make-ups on quizzes.
- Make-up exams will only be done under a learning plan.
- If the mark on the Piper Seminole exam is less than 70%, a second Piper Seminole exam may be written at the discretion of the professor for this course. The second exam will be averaged with the first exam to determine the resulting exam mark which must not be less than 70%. This averaged Piper Seminole exam mark will then be used when determining the final overall mark.
- If the overall mark achieved for this course is less than 70% a second final exam may be written at the discretion of the professor for this course. The second exam will be averaged with the first exam to determine the resulting exam mark, and this will be used to determine the final overall mark.
- In the event that a make-up exam is required, the highest achievable overall grade for this course will be a C
- Any student that requires 100% or greater on a make-up exam to pass the course will not be allowed to write a make-up exam.

### **Special Needs:**

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1101 or call Extension 2493, 2703, or 2491 so that support services can be arranged for you.

### **Retention of course outlines:**

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

**Plagiarism:**

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

**Course outline amendments:**

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.