

I. COURSE DESCRIPTION:

Extensive research into aircraft plumbing and manufacturing will be performed by students. Materials used to process aircraft solid tubing and flexible lines will be studied. Deicing systems under the heading "Ice and Rain Protection" will be presented. Students will research and discuss various maintenance requirements associated with deicing systems.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. *Identify, fabricate, using hand tools and pressure test aircraft aluminum tubing and rubber flex lines.***Potential Elements of the Performance:**

- identify using S.R.M., the types of material used to fabricate aircraft tubing for a specific system
- discuss the advantages of using aluminum tubing versus steel tubing
- discuss the advantage of using steel tubing
- identify where both aluminum and steel tubing would be used
- using S.R.M., identify flexible hose material construction
- identify where flexible hose would be used and install as per S.R.M.
- discuss identification codes used to describe rubber hose construction
- identify and install marker tapes found on aircraft tubing
- construct aircraft tubing using various tubing hand tools and install proper aircraft fittings
- complete using hand tools, flares found on aluminum and steel aircraft tubing, including both single and double flares
- discuss the reasons why leakage occurs during testing
- complete testing procedures of aircraft tubing after manufacture

2. ***Discuss and research basic aircraft deicing and anti-icing systems. Daily maintenance and deicing boot replacement will also be discussed.***

Potential Elements of the Performance:

- describe the types of ice build-up on aircraft systems
- discuss the result of ice build-up on aircraft
- identify methods of eliminating ice formation
- research how deicer boot operation occurs
- identify the advantages of using neoprene on deicer boots
- demonstrate methods of attaching deicer boots to the aircraft structure
 - using S.R.M.
- discuss preventative maintenance procedures used to extend the life of
 - deicer boots
- complete the procedures you would follow when removing deicer boots
- describe the procedures you would follow when installing deicer boots

III. TOPICS:

1. Fluid Line and Cable Construction
 2. Ice and Rain Protection Systems
 3. Hydraulic and Pneumatic Systems
 4. Landing Gear Systems
 5. Fire Protection Systems
 6. Propulsion Systems
- Reamers

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Aviation Maintenance Technician Handbook (FAA-H-8083-32)
Aviation Maintenance Technician Handbook (FAA-H-8083-30)

V. EVALUATION PROCESS/GRADING SYSTEM:

Two Written Tests: Test #14 (50%), Test #15 (50%)

Note: Students in the Aircraft Structural Repair Program require a minimum of seventy (70) percent in a course to obtain a passing grade. This equates to a “B” grade.

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
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.	

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

VI. SPECIAL NOTES:**Attendance**

Course attendance is mandatory. If a student is absent, he/she must have a valid reason – documentation is required.

Students having missed more than 5 percent of the program through absences, shall not qualify for experience credit from Transport Canada, and will not be granted make-up or re-write options for theory tests and shop projects.

If a student is absent for all of the in-class theory or shop demonstrations for which a test/project is assigned, he/she will not be granted permission to complete the test/project.

It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will not be granted admission to the room.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located in D2L and on the portal form part of this course outline.