SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: AIRCRAFT SYSTEMS

Code No.: ASR107 Semester: 2

Program: AIRCRAFT STRUCTURAL REPAIR

Author: STEVE LACHOWSKY

Date: Dec. 2000 Previous Outline Date: Dec. 1999

Approved: _____ _____
Dean Date

Total Credits: 3
Prerequisite(s):
Length of Course: 3 Hrs./Wk. Total Credit Hours: 54

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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:

(Generic Skills Learning Outcomes placement on the course outline will be determined and communicated at a later date.)

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

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II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued)

2) Discuss and research basic aircraft deicing and anti-icing systems. Everyday 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) Aircraft Tubing
2) Aircraft Deicing Systems
3) Hydraulic Systems
4) Pneumatic System
5) Fire Protection Systems
6) Emergency Systems

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

A/C 65-9A

V. EVALUATION PROCESS/GRADING SYSTEM

Two Written Tests (2) – each accounts for 50% of Final Grade

GRADING:
A+ - 94 – 100%
A - 86 - 93%
B - 78 - 85%
C - 70 - 77%
R - REPEAT

ASSIGNMENTS: See special notes

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VI. SPECIAL NOTES:

- Special Needs
  If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 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 post-secondary institutions.

- Disclaimer for Meeting the Needs of the Learners

- Substitute Course Information is available at the Registrar's Office.

- All assignments must be completed. Any assignments not completed will result in the
  removal of 10% from the final grade in ASR107.

VII. PRIOR LEARNING ASSESSMENT

Students who wish to apply for advanced credit in the course should consult the instructor.