SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	AIRCRAFT SYSTEMS		
CODE NO. :	ASR107	**SEMESTER:**	2
PROGRAM:	AIRCRAFT STRUCTURAL REPAIR		
AUTHOR:	STEVE LACHOWSKY		
DATE:	Jan. 2005	**PREVIOUS OUTLINE DATED:**	Jan. 2004
APPROVED:	_____ **DEAN**		_____ **DATE**
TOTAL CREDITS:	3		
PREREQUISITE(S):			
HOURS/WEEK:	3		

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. Aircraft Tubing
2. Aircraft Deicing Systems
3. Hydraulic Systems
4. Pneumatic Systems
5. Fire Protection Systems
6. Propulsion Systems
7. Emergency Systems

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

A/C 65-9A

V. EVALUATION PROCESS/GRADING SYSTEM:

Two Written Tests: Test #14 (30%), Test #15 (70%)

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 in postsecondary courses:

Grade	**Definition**	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
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.

VI. SPECIAL NOTES:

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 professor and/or the Special Needs office. Visit Room E1101 or call Extension 493 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.

COURSE NOTE: All assignments must be completed. Failure to complete assignments will result in removal of 10% from the test associated with the assignment.

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.