

**SAULT STE. MARIE, ONTARIO**

Sault College

**COURSE OUTLINE**

**COURSE TITLE:** PLASTICS AND SEALANTS

**CODE NO. :** ASR109 **SEMESTER:** 2

**PROGRAM:** AIRCRAFT STRUCTURAL REPAIR

**AUTHOR:** PAUL DAVIS

**DATE:** JAN. 2013 **PREVIOUS OUTLINE DATED:** Jan. 2012

**APPROVED:** "C.Kirkwood"

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Dean

\_\_\_\_\_  
DATE

**TOTAL CREDITS:** 2

**PREREQUISITE(S):**

**HOURS (Total):** 32

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*For additional information, please contact Colin Kirkwood, Dean,*  
 Environment \ Technology \ Business, extension 2688.

**COURSE DESCRIPTION:**

- I. Students will research and study the various types of plastics used in aircraft and screen installation. Basic plexiglass repairs will be discussed and repairs completed. Aircraft structural sealants will be researched and in-class presentations on application of sealant and personal safety emphasized.

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

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

1. Select and describe plastic groups, form drill and saw plastics and complete permanent or temporary repairs.

**Potential Elements of the Performance:**

- identify and describe the common groups of plastics
- demonstrate general handling and storage procedures for plastics
- demonstrate approved cleaning and maintenance procedures dealing with plastics
- discuss the various methods of forming plastics
- describe single and compound curve forming of plastic sheets
- perform drilling and sawing practices when maintaining or fabricating plastic items
- identify the various methods of cementing plastics
- perform both permanent and temporary repair of plastics
- discuss the types of transparent plastics found on aircraft
- explain the difference between thermo plastics and thermo setting plastics
- identify the advantages and disadvantages of plexiglass Vs glass wind screens
- identify transparent plastics and laminated plastics
- discuss safety precautions associated with mixing glues and repair chemicals used to repair plastics

2. Select proper sealants for repairs by reading charts, remove old sealants, mix and apply sealants to various repairs, discuss pressure sealing and understand the personal safety requirements.

**Potential Elements of the Performance:**

- describe the term structural sealing and how it applies to various sections of an aircraft structure
- identify the various sealants required for a repair by referring to charts
- remove sealants as per assignments

- complete various types of sealant repairs
- discuss various terms associated with sealants
- discuss “pressure sealing” of aircraft structures
- identify and operate the equipment used to apply sealants to aircraft structures
- identify one part sealants and two part sealants
- describe when sealants should be replaced
- discuss personal safety precautions when mixing or applying aircraft sealants

### III. TOPICS:

1. Plastics
2. Sealants

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

A/C 65-15A Textbook  
Teacher Handouts

### V. EVALUATION PROCESS/GRADING SYSTEM:

Two multiple-choice tests with the following weight – Test #17 ( 50% ) Test #25 ( 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 in postsecondary courses:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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 2703 so that support services can be arranged for you.

### Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

### 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 advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.