

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**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. 2017 **PREVIOUS OUTLINE DATED:** DEC. 2016  
**APPROVED:** Corey Meunier Dec '16

---

**Chair** **DATE**

**TOTAL CREDITS:** 2  
**PREREQUISITE(S):**  
**HOURS (Total):** 32

**Copyright ©2017 The Sault College of Applied Arts & Technology**  
*Reproduction of this document by any means, in whole or in part, without prior written permission of Sault College of Applied Arts & Technology is prohibited.*  
*For additional information, please contact Corey Meunier, Chair*  
*Technology and Skilled Trades*  
*(705) 759-2554, Ext. 2601*

**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:

Aviation Maintenance Technician Handbook (FAA-H-8083-30)  
 Teacher Handouts  
 Power Points

### V. EVALUATION PROCESS/GRADING SYSTEM:

Two multiple-choice tests with the following weight – Test #17 ( 45% ), Test #25 (45% ), assignments (10%)

#### 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.**

**All assignments must be completed, and are recorded on file. Failure to complete assignments are used as an indicator in X GRADE policy rewrites in respect of the final grade for ASR102.**

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%	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:

### 1. 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.

### 2. 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.

### 3. 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.

4. 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. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

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

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

5. Accessibility Services:

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

6. Communication:

The College considers Desire2Learn (D2L) 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 this Learning Management System (LMS) communication tool.

7. Academic Dishonesty:

Students should refer to the definition of “academic dishonesty” in Student Code of Conduct. 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.

8. Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not

been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November (fall semester courses), first week of March (winter semester courses) or first week of June (summer semester courses) will be removed from placement and clinical activities due to liability issues. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

9. Student Portal:

The Sault College portal allows you to view all your student information in one place. mysaultcollege gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

10. Recording Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

**CELL PHONES / LAPTOPS / ELECTRONIC DEVICES MUST  
NOT BE USED IN THE SHOP OR CLASSROOM**