1. **COURSE TITLE\*: Aircraft Materials and Corrosion**
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*: AVIT 1103**
3. **PREREQUISITE(S)\*: None COREQUISITE(S)\*: None**
4. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
5. **CREDIT HOURS\*: 3 LECTURE HOURS\*: 2**

**LABORATORY HOURS\*: 1 (1.5 contact hours) OBSERVATION HOURS\*: 0**

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:**

This course covers aircraft corrosion and corrosive materials identification and how to protect, clean and preserve aircraft. The student will learn to use precision instruments, and torque wrenches. Inspect welds, and identify procedures for weld repairs. Materials commonly used in aircraft and their general application. Heat treatment and metal working processes. Safety wire and safety clip requirements and techniques.

1. **LEARNING OUTCOMES\*:**
2. Identify and select aircraft cleaning materials
3. Inspect, identify, remove and treat aircraft corrosion and perform aircraft cleaning
4. Safety wire and safety clip requirements and techniques
5. Materials commonly used in aircraft
6. Able to use precision instruments including a torque wrench
7. **ADOPTED TEXT(S)\*:**

FAA-H-8083-30A (General)

Aviation Maintenance Technician Handbook 43.13-1B

<https://www.faa.gov/sites/faa.gov/files/regulations_policies/handbooks_manuals/aviation/amt_general_handbook.pdf>

<https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_43.13-1B_w-chg1.pdf>

**9a: SUPPLEMENTAL TEXTS APPROVED BY FULL TIME DEPARTMENTAL FACULTY (INSTRUCTOR MUST NOTIFY THE BOOKSTORE BEFORE THE TEXTBOOK ORDERING DEADLINE DATE PRIOR TO ADOPTION) \*\*\*.**

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***
2. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

A: 90 – 100

B: 80 – 89

C: 70 – 79

D: 60 – 69

F: 0 – 59

Grades of 69 and below will not meet the requirements of the FAA for Mechanic

Certificate.

1. **GRADING PROCEDURES OR ASSESSMENTS: (*Course Syllabus – Individual Instructor Specific)***

Test count – 40% of Final Grade

Quizzes count – 10% of Final Grade

Lab Grade counts – 50% of Final Grade

Class and lab attendance will be graded, two points will be deducted from the grade for each day missed. Quizzes cannot be made up. No test can be taken late without prior approval of the instructor.

1. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

May included but not limited to lecture and problems solving, group and lab projects, in-class and home assignments, quizzes and tests. Lab project will be individual and group. Attendance to class and lab is required.

**14. COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

***(Insert sample course outline with learning outcomes tied to assignments / topics.)***

|  |  |  |
| --- | --- | --- |
| **WEEK** | **DESCRIPTION** | **LEARNING OUTCOMES #** |
| WEEK 1 | Corrosion, chemical corrosion, electro-chemical corrosion, types of corrosion, pitting corrosion, galvanic corrosion, piliform corrosion, intergranular corrosion, exfoliation, stress corrosion, fretting corrosion. | 2 |
| WEEK 2 | Corrosive agents, acids, alkalis, salts, mercury, water, air, organic growths, corrosion detection methods, corrosion prone areas. | 2 |
| WEEK 3 |  |  |
| WEEK 4 | Identify Materials commonly used in aircraft and their general application. | 1, 4 |
| WEEK 5 |  |  |
| WEEK 6 | Identify and select aircraft hardware and materials | 1, 4 |
| WEEK 7 | Identify different types of corrosion | 2 |
| WEEK 8 | Treating corrosion | 2 |
| WEEK 9 | Test 1 |  |
| WEEK 10 | Perform basic heat-treating processes | 2 |
| WEEK 11 |  |  |
| WEEK 12 | Safety wire procedures | 3 |
| WEEK 13 |  |  |
| WEEK 14 | Using measuring instruments | 5 |
| WEEK 15 | Using a torque wrench | 5 |
| WEEK 16 | Final Exam |  |

* + Corrosion, chemical corrosion, electro-chemical corrosion, types of corrosion, pitting corrosion, galvanic corrosion, piliform corrosion, intergranular corrosion, exfoliation, stress corrosion, fretting corrosion.
  + Corrosive agents, acids, alkalis, salts, mercury, water, air, organic growths, corrosion detection methods, corrosion prone areas.
  + Identify Materials commonly used in aircraft and their general application.
  + Identify and select aircraft hardware and materials
  + Identify different types of corrosion
  + Treating corrosion
  + Test 1
  + Perform basic heat-treating processes
  + Safety wire procedures
  + Using measuring instruments
  + Using a torque wrench
  + Final

**15. SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*:**

Class and lab attendance will be graded. Quizzes cannot be made up. No test can be taken late without prior approval of the instructor.

**16. FERPA:\***

Students need to understand that their work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes. Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**17. ACCOMMODATIONS: \***

Students requesting accommodations may contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431, X 2604.

Students seeking a religious accommodation for absences permitted under Ohio’s Testing Your Faith Act must provide the instructor and the Academic Affairs office with written notice of the specific dates for which the student requires an accommodation and must do so no later than fourteen (14) days after the first day of instruction or fourteen (14) days before the dates of absence, whichever comes first. For more information about Religious Accommodations, contact Ryan Hall, Accessibility Coordinator at [rhall21@sscc.edu](mailto:rhall21@sscc.edu) or 937-393-3431 X 2604.

**18. OTHER INFORMATION\*\*\*:**

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.