



COURSE OUTLINE

ASR107

Prepared: Paul Davis Approved:

Course Code: Title	ASR107: AIRCRAFT SYSTEMS
Program Number: Name	4067: AIRCRAFT STRUCT TECH
Department:	AIRCRAFT STRUCTURAL REPAIR
Semester/Term:	18W
Course Description:	In-class presentations are used to describe the various aircraft systems, their operation and the applicable servicing and maintenance tasks. Topics include fluid lines, aircraft cable construction, ice and rain protection, hydraulic systems, landing gear systems, reamers and fire protection and propulsion systems.
Total Credits:	3
Hours/Week:	3
Total Hours:	48
Vocational Learning Outcomes (VLO's): Please refer to program web page for a complete listing of program outcomes where applicable.	<p>4067 - AIRCRAFT STRUCT TECH</p> <p>#1. Safely use the tools, equipment and identify materials needed to carry out various sheet metal repairs.</p> <p>#2. Demonstrate a working knowledge of the principles of aircraft design by applying theory and shop practice.</p> <p>#6. Carry out any repair according to specifications, stated job procedures and the requirements of the Department of Transport Regulations.</p> <p>#12. Use specialized equipment such as reamers, taps and dies to complete a detailed repair as per manufacturer's specifications.</p> <p>#16. Demonstrate honesty and integrity to match the requirements of the aircraft industry.</p>
Essential Employability Skills (EES):	<p>#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>#2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>#4. Apply a systematic approach to solve problems.</p> <p>#5. Use a variety of thinking skills to anticipate and solve problems.</p> <p>#6. Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>#7. Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>#8. Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>#9. Interact with others in groups or teams that contribute to effective working relationships and</p>

the achievement of goals.
#10. Manage the use of time and other resources to complete projects.
#11. Take responsibility for ones own actions, decisions, and consequences.

Course Evaluation: Passing Grade: 70%, B

Other Course Evaluation & Assessment Requirements: 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.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	10%
Test #14	30%
Test #15A	30%
Test #15B	30%

Books and Required Resources:

Aviation Maintenance Technician Handbook
ISBN: 978-1-56027-716-3

Aviation Maintenance Technician Handbook - Airframe
ISBN: 978-1-56027-950-1

Course Outcomes and Learning Objectives:

Course Outcome 1.

Discuss and research basic aircraft hydraulic systems

Learning Objectives 1.

Identify and explain the function of the various components that make up the hydraulic system including the different types of hydraulic fluids.

Course Outcome 2.

Discuss and research basic aircraft fluid flex lines.

Learning Objectives 2.

- 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
- discuss identification codes used to describe rubber hose construction
- identify and install marker tapes found on aircraft tubing
- 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

Course Outcome 3.

Discuss and research basic aircraft deicing and anti-icing systems. Daily maintenance and deicing boot replacement will also be discussed.

Learning Objectives 3.

- 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
- 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

Course Outcome 4.

Discuss and research basic aircraft landing gear systems.

Learning Objectives 4.

Identify and explain the various components that make up a complete landing gear system including wheels floats and skies.

Course Outcome 5.

Discuss and research basic aircraft fire protection systems.

Learning Objectives 5.

Identify and explain the various components that make up a complete fire protection system.

Course Outcome 6.

Discuss and research basic aircraft propulsion systems.

Learning Objectives 6.

Identify and explain the various components that make up a propulsion system including turbine engines, reciprocating engines and propellers.

Course Outcome 7.

Discuss and research basic aircraft cable types, care and fabrication.

Learning Objectives 7.

Identify and explain the various parts that make up a cable system.
Explain how to fabricate and test cable strength.
Explain how to inspect a cable system.

Course Outcome 8.

Discuss and proper use and care of reamers.

Learning Objectives 8.

Identify the different types of reamers and explain reamer type selection.
Explain proper reamer care and maintenance.

Date:

Monday, December 18, 2017

Please refer to the course outline addendum on the Learning Management System for further information.