



## COURSE OUTLINE: ASR115 - INTRO TO COMPOSITES

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Approved: Corey Meunier, Chair, Technology and Skilled Trades

<b>Course Code: Title</b>	ASR115: INTRODUCTION TO COMPOSITES
<b>Program Number: Name</b>	4067: AIRCRAFT STRUCT TECH
<b>Department:</b>	AIRCRAFT STRUCTURAL REPAIR
<b>Semesters/Terms:</b>	19F
<b>Course Description:</b>	This course is comprised of 32 hours of theory/practical work designed to introduce the student to the manufacturing and repair of advanced composites for modern aircraft.
<b>Total Credits:</b>	2
<b>Hours/Week:</b>	2
<b>Total Hours:</b>	32
<b>Prerequisites:</b>	There are no pre-requisites for this course.
<b>Corequisites:</b>	There are no co-requisites for this course.
<b>This course is a pre-requisite for:</b>	ASR126
<b>Vocational Learning Outcomes (VLO's) addressed in this course:</b>	<b>4067 - AIRCRAFT STRUCT TECH</b>
Please refer to program web page for a complete listing of program outcomes where applicable.	VLO 2 Demonstrate a working knowledge of the principles of aircraft design by applying theory and shop practice.
	VLO 4 Read and follow blueprint, shop drawings and manufacturer`s manuals necessary in all manufacturing and overhaul facilities.
	VLO 6 Carry out any repair according to specifications, stated job procedures and the requirements of the Department of Transport Regulations.
<b>Essential Employability Skills (EES) addressed in this course:</b>	EES 3 Execute mathematical operations accurately.
	EES 4 Apply a systematic approach to solve problems.
	EES 5 Use a variety of thinking skills to anticipate and solve problems.
	EES 6 Locate, select, organize, and document information using appropriate technology and information systems.
	EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.
	EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.
	EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
	EES 11 Take responsibility for ones own actions, decisions, and consequences.
<b>Course Evaluation:</b>	Passing Grade: 70%, B
<b>Books and Required Resources:</b>	ADVANCED COMPOSITES by JEPPESEN ISBN: 9780884873167



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**Course Outcomes and Learning Objectives:**

<b>Course Outcome 1</b>	<b>Learning Objectives for Course Outcome 1</b>
(1.) Identify the types of composite materials being used in aircraft structures.	1.1 Define modern composites 1.2 Give examples of composite materials 1.3 Describe the composite materials being used in aircraft structures 1.4 Explain the advantages and disadvantages of composites for aircraft use
<b>Course Outcome 2</b>	<b>Learning Objectives for Course Outcome 2</b>
(2.) Identify and describe laminated structural materials.	2.1 Describe glass fiber and other fiber reinforcement products 2.2 Explain polyester and epoxy resin systems 2.3 Understand how thixotropic agents are used
<b>Course Outcome 3</b>	<b>Learning Objectives for Course Outcome 3</b>
(3.) Explain the types of laminated construction.	3.1 Lay up, molds and parting agents 3.2 Laminated stack-ups 3.3 Sandwich panel construction
<b>Course Outcome 4</b>	<b>Learning Objectives for Course Outcome 4</b>
(4.) Describe general manufacturing and repair techniques.	4.1 Assessment of damage 4.2 Criteria of a good manufactured part or a good repair 4.3 Equipment required 4.4 Safety equipment and precautions
<b>Course Outcome 5</b>	<b>Learning Objectives for Course Outcome 5</b>
(5.) Describe the general repair procedures.	5.1 Surface scratches 5.2 Step cut repair 5.3 Dents in sandwich structure 5.4 Potted repairs 5.5 Skin penetrated and core damage

**Evaluation Process and Grading System:**

<b>Evaluation Type</b>	<b>Evaluation Weight</b>
TEST 28A	50%
TEST 28B	50%

**Date:**

August 29, 2019

**Addendum:**

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

