

Course Objectives/Course Outline
Spokane Community College

Course Title: Composite Structure Assembly

Prefix and Course Number: ARCFT 131

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Understand and explain bonded assembly techniques
- Properly identify materials used in composite construction
- Perform tasks required to manufacture bonded assemblies
- Follow safe work practices
- Demonstrate competency in manufacturing of bonded assemblies

Course Outline:

- I. Preimpregnated lay up
 - A. Ply Orientation
 - B. Sandwich Panels Carbon Fiber
 - C. Fiberglass and Aramid Fiber Panels
 - D. Honeycomb and Foam Core Installation
 - E. Curing
- II. Wet Lay Up
 - A. Fiber and Matrices
 - B. Core Materials
 - C. Vacuum Bagging
 - D. Curing
- III. Vacuum Infusion Processing (VIP)
 - A. Fiber Preform Fabrication
 - B. Placing And Securing Preforms in Molds
 - C. Tool Preparations and Mold release Application
 - D. Vacuum Bagging for Infusion
 - E. Infusion Exercises
 - F. Curing
- IV. Resin Transfer Method (RTM)
 - A. Lay Up
 - B. Leak Checks
 - C. Potential Problems
 - D. Curing
- V. Simple Mold Making
 - A. Molds
 - B. Release Agents