COMPOSITE FITTER MECHANIC
O*NET/SOC CODE: 51-2091.00 RAIS CODE: 1118
Competencies list:
(Function in which apprentices must demonstrate proficiency.)

COMPETENCIES

(1) Interpret and apply Apprentice Rules and Regulations _____
(2) Understand and use Basic Math _____
(3) Understand the principles of Algebra _____
(4) Understand the principles of Plain Geometry _____
(5) Understand the concept of Right Triangle trigonometry _____
(6) Interpret and use various mathematical processes on the job _____
(7) Understand the principles of the Standard Measuring System _____
(8) Understand the principles of the Metric Measuring System _____
(9) Understand the principles of Square Area Measurements _____
(10) Understand the principles of Circular Measurements _____
(11) Understand the principles of Cubic Volume Measurements _____
(12) Complete the competency profile on their understanding of Math and Measurement _____

COMPETENCIES

(1) Interpret and use a blueprint on the job.
(2) Identify the main parts of a composite drawing. _____
(3) Identify the three views of an object. _____
(4) Sketch the three views of an object. _____
(5) Sketch a Section View of a composite panel showing the main parts. _____
(6) Sketch cylindrical objects. _____
(7) Sketch curved edges. _____
(8) Identify and interpret the different parts of a Work Package. _____
(9) Locate Lamination schedule and explain Ply No. and Orientation _____
(10) Interpret and use Standard and Metric rule of measure. _____
(11) Identify and explain composite Quality Control List (QCL). _____
(12) Locate composite blueprints by drawing number. _____
(13) Identify and interpret the Infusion Data Sheet. _____
(14) Identify and explain General Notes of a composite blueprint. _____
(15) Identify and interpret the list of material on a composite blueprint. _____
(16) Have a general knowledge of Isometric Drawings. _____

(17) Complete a competency profile on their understanding of Blueprints. _____

COMPETENCIES

(1) Understand the different types of Composites _____
(1) Understand the different types of Composite Materials _____
(1) Understand the different types of Composite Manufacturing Processes _____
(1) Understand the concepts of the VARTM Infusion Process _____
(2) Understand and use the Production Procedures for the VARTM process _____
(3) Understand and use the Quality Control Standards for the VARTM process _____
(4) Understand and use Mold Repair, Clean Up and Preparations _____
(5) Understand the use of Infusion Tools and Materials _____
(6) Understand the principles of Part Lay-Out on the Mold _____
(7) Understand the use of Lamination Schedules and Materials _____
(8) Understand and use Core Materials, Shapes and Placement on Part _____
(9) Understand Vacuum, Pressure and Fluid Flow Dynamics _____
(10) Understand and use Resin, Epoxies and Promotion Chemicals _____
(11) Understand and use the principles of Flat Mold Infusion _____
(12) Complete the competency profile on their understanding of the VARTM process_____

COMPETENCIES

(1) Understand the concepts of the VARTM Infusion Process _____
(2) Understand and use the Production Procedures for the VARTM process _____
(3) Understand and use the Quality Control Standards for the VARTM process _____
(4) Understand and use the principles of Shaped Mold Infusion _____
(5) Understand and use Part Clean Up and Preparations for Vertical Joint Infusion _____
(6) Understand the principles Part Lay-Out on the Vertical Joint Infusion _____
(7) Understand and use the principles of Vertical Joint Infusion _____
(8) Understand and use Mold Clean Up and Preparations for Vertical Hull Infusion _____
(9) Understand the principles Part Lay-Out on the Vertical Hull Mold _____
(10) Understand and use the principles of Vertical Hull Infusion _____
(11) Understand the use of Infusion Tools and Materials _____
(12) Understand the use of Lamination Schedules and Materials _____
(13) Understand and use Core Materials, Shapes and Placement on Part _____
(14) Understand and use Resin, Epoxies and Promotion Chemicals _____

(15) Complete the competency profile on their understanding of the VARTM process _____

COMPETENCIES

(1) Understand the concepts of Hand Lay-up Laminations. _____

(2) Understand and use the Production Procedures for Hand Lay-up Laminations _____

(3) Understand and use the Quality Control Standards for Hand Lay-up Laminations _____

(4) Understand and use Mold Preparation & Part Layout _____

(5) Understand and use Resin Mixing for Hand Lay-up _____

(6) Understand the principles of Layout on a part for Hand Lay-up _____

(7) Understand the use of Lamination Schedules and Materials for Hand Lay-up _____

(8) Understand and use Tools and Safety used in Hand Lay-up _____

(9) Understand and apply Hand Lay-up of Composite Part Cutouts _____

(10) Understand and apply Horizontal Hand Lay-up _____

(11) Understand and apply Vertical and Corner Joint Hand Lay-up _____

(12) Understand and apply Overhead Hand Lay-up _____

(13) Complete the competency profile on Hand Lay-up Lamination _____

COMPETENCIES

(1) Understand the concepts of Core Cutting, Assembly and Defect Repair. _____

(2) Understand and use the Production Procedures for Core Cutting, Assembly and Defect Repair. _____

(3) Understand and use the Quality Control Standards for Core Cutting, Assembly and Defect Repair. _____

(4) Understand and use Tools and Safety Core Cutting, Assembly and Defect Repair. _____

(5) Understand the principles of Layout on a part for Core Cutting & Assembly. _____

(6) Understand the principles of Layout on a part for Defect Repair. _____

(7) Understand and use Lamination Schedules and Materials Defect Repair. _____

(8) Understand the principles of Layout, Arrangement and Cutting of FSS Cores _____

(9) Understand the principles of Assembly of FSS Cores _____

(10) Understand the principles of Resin Putty mixing for Core Cutting & Assembly _____

(11) Understand the principles of Resin Putty and Epoxy mixing for FSS Core Assembly _____

(12) Understand the principles of Resin mixing for Defect Repair _____

(13) Understand the principles of Step Back Grinding for Defect Repair _____

(14) Understand the principles of VARTM for Defect Repair _____

(15) Understand the principles of Hand Lay-up for Defect Repair _____

(16) Complete the competency profile on Core Cutting, Assembly and Defect Repair _____

COMPETENCIES

(1) Understand the concepts of Assembling Composite Parts and Preparing Joints for Infusion _____
(2) Understand the Tools and Safety associated with Assembling
(3) Understand the principles of Resin Mixing _____
(4) Understand the Tools and Safety associated with Resin Mixing _____
(5) Understand the principles of the CNC Saws _____
(6) Understand the Tools and Safety associated with CNC Saws _____
(7) Understand the principles of Module Outfitting _____
(8) Understand the Tools and Safety associated with Module Outfitting _____
(9) Understand the principles of Carpentry _____
(10) Understand the Tools and Safety associated with Carpentry _____
(11) Understand the principles of Part Lifting, Transportation and Storage _____
(12) Understand the Tools and Safety associated with Part Lifting, Transportation and Storage _____
(13) Understand the principles of 5S and Lean _____
(14) Understand the principles of Total Quality Management _____
(14) Complete the competency profile on Hand Lay-up Lamination _____

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(1) Understand the concepts of Assembling Composite Parts and Preparing Joints for Infusion _____
(2) Understand the Tools and Safety associated with Assembling
(3) Understand the principles of Resin Mixing _____
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(13) Understand the principles of 5S and Lean _____

(14) Understand the principles of Total Quality Management _____

(14) Complete the competency profile on Hand Lay-up Lamination _____