

TECHNICAL TRAINING & DEVELOPMENT

COURSE CATALOG



stiles university

Course Path

Bookmark your career path with Stiles University

CAREER DEVELOPMENT	Electrical	Pneumatic	Materials
		TD100	PN102

MACHINE TYPE	Programming	Operation	Maintenance
CNC HEIAN	CR105	CR105	CR503
CNC HOMAG BOF & BMG	MC056 (Introductory) MC300 (Advanced)	CR056	CR550
CNC WEEKE BHX (through-feed)	MC066		MC502 TD100 PN102
CNC WEEKE vacuum pod BMG & VENTURE	MC086 (Introductory) MC300 (Advanced) MC077 (CAD/CAM Plugin)	CR086	MC502 TD100 PN102
CNC WEEKE nested-based VANTECH & VANTAGE	MC096 (Introductory) MC300 (Advanced)	CR096	MC502 TD100 PN102
EDGE BANDERS BRANDT		EB052	EB052, EB059 TD100 PN102
HOMAG		EB102	EB102, EB550 TD100 PN102
MATERIAL HANDLING SYSTEMS IntelliStore	MH100PT	MH100PT	
PANEL SAWS HOLZMA	PS110	PS110	PS504 (Introductory) PS801 (Advanced) TD100 PN102

ADVANCED SOFTWARE

MC077: Advanced woodWOP 3D + CAD | CAM Plugin Programming

MC300: Advanced woodWOP Programming for CNC Machining Centers

TD800: CODESYS & TwinCAT - Programming & Troubleshooting

TD900: Siemens SIMATIC Step 7 - Introductory Programming

MISSION STATEMENT

“To be the leading resource for accredited professional advancement in industrial training and educational services.

To provide the knowledge and skillsets to achieve the quality and efficiency necessary to meet strategic production and business goals.”

Browse our courses and dates at: www.stilesmachinery.com/su

Email: classes@stilesmachinery.com

Call: **616-698-7500 ext. 1625**

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WELCOME

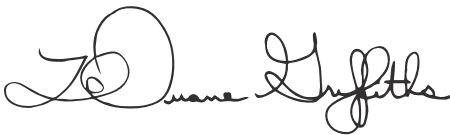
After over 25 years and 40,000 graduates, Stiles University is beginning its next quarter of a century continuing to provide the best education and training for our students.

Today, more than ever, there is a need for companies to grow their own programmers, machinery operators, maintenance personnel and other production leaders. This catalog is designed to assist with putting your personnel on the **Course Path** to provide essential knowledge and skills to attain your production goals.

The courses in this catalog are regularly scheduled at regional offices and select locations and can be brought to your facility as well, specific to your machinery, applications and objectives as **Customized Training**.

If you do not find the training listed that would fulfill your needs, we look forward to working with you to provide customized solutions.

Stiles University stands ready to develop and implement this key to your future success.

A handwritten signature in black ink, reading "Duane Griffiths". The signature is fluid and cursive, with the first name "Duane" being larger and more prominent than the last name "Griffiths".

Duane Griffiths
DIRECTOR OF STILES UNIVERSITY

INTRODUCTION

REGISTRATION

Advanced registration and course tuition payment are required.

Please register by calling Stiles University at 616.698.7500 ext. 1625,
by email at classes@stilesmachinery.com
or on-line at www.stilesmachinery.com/su

Student enrollment can only be confirmed upon receipt of tuition payment.
For your convenience we accept VISA, MasterCard or Discover.

TUITION

Course tuition includes a course manual, lab materials and certificate.
Lunch and refreshments are provided.
Note: Course tuitions are tax deductible.

TUITION DISCOUNTS

Stiles University offers a 50% discount off the course for every third student from the same company enrolled in the same course session. This discount applies only when the first two students are billable at our published prices. This quantity discount cannot be used in conjunction with Stiles University scholarships included in machinery sales agreements or any other discount offer and is based upon space availability.

RESCHEDULING OR CANCELLATIONS

Students may transfer the registration to another course equivalent or to another student from the same company. Full refunds are available for cancellations made 14 days prior to the start of the course. No refunds can be provided when cancellation is less than 14 days prior to course start date. Stiles University reserves the right to cancel or reschedule courses without notice. Stiles University is not responsible for any other costs incurred by the student due to cancellation of a course.

INTRODUCTION

SCHOLARSHIPS

Some machinery sales agreements include seats in training for a Stiles University course. These seats are referred to as scholarships. Scholarships are valid for up to one year after the installation date of the machine. Scholarship values can be applied as a credit towards the tuition of other Stiles University education opportunities.

COURSE CONFIRMATIONS

A course confirmation PDF document will be provided to the registration contact by the Stiles University registrar. This confirmation will include course dates and times, information on the nearest airport, a recommended hotel and full course agenda.

Airfare, lodging and other travel-related expenses are the responsibility of the student.

SAFETY

Stiles University courses are not designed to cover all aspects of machine safety. The continuing responsibility for the training of operation, maintenance and safety remains with each participating company. Stiles University classes are designed to present a variety of techniques and approaches on programming, operation and maintenance. Consult your Stiles Machinery salesperson for recommendations on specific machine models and/or features.

Firearms and illegal substances are not permitted on Stiles property. It is the policy of Stiles Machinery that the use, sale transfer or possession of alcohol or drugs on Stiles Machinery property, works sites or vehicles parked on Stiles Machinery property is prohibited. In addition, Stiles University prohibits any individuals from attending Stiles University courses or Stiles Machinery events under the influence of alcohol or drugs. If the Stiles University faculty determines that an individual is under the influence of alcohol or drugs, or is acting in an inappropriate manner, the individual will be asked to leave Stiles Machinery premises without tuition refund.

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BRANDT

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Courses in this catalog included icons – symbols that indicate course activities:



Programming Training

These courses teach programming. Related software is used with Stiles provided computers.



Operator Training

These courses provide classroom and hands-on machine time on Stiles provided equipment.



Maintenance Training

These courses provide classroom and hands-on maintenance training on Stiles provided equipment



Wood Career Alliance of North America

These courses are aligned with Levels 1 and 2 Skill Standards.

INDUSTRY TRAINING

PP035 **OVERVIEW OF SECONDARY** **WOOD AND PANEL** **PROCESSING INDUSTRIES**

Course Duration & Credit

1 day, 0.7 CEU

Description

Students receive a comprehensive overview of the secondary wood and panel processing industries. Review of industry segments, related products, materials, production techniques, manufacturing equipment and processes are emphasized. Solid wood, alternate materials, and panel processing concepts are addressed.

Results

By taking this course, personnel will be able to:

- Understand common woodworking materials and processes
- Communicate with woodworking personnel
- Relate to various production techniques
- Analyze the plant layout of a woodworking manufacturer

Targeted Learning

Supervisors, managers, sales representatives, purchasing agents, and other personnel new to the industry who need a working knowledge of industry terminology, equipment and processes



TD100 EUROPEAN ELECTRICAL SCHEMATICS AND TROUBLESHOOTING

Course Duration & Credit

3 days, 2.05 CEU

Description

Students learn introductory through intermediate troubleshooting skills to diagnose and repair electrical errors with European panel processing equipment. Emphasis is placed on electrical circuits, electrical components, reading European schematics and use of multi-meters. Hands-on experience with the electrical aspects of edgebanders, saws and CNC machinery is included.

Results

By taking this course, personnel will be able to:

- Troubleshoot and repair emergency electrical breakdowns in a fraction of the time increasing uptime
- Reduce machine downtime and repair costs
- Troubleshoot and repair other electrical problems in the plant (i.e., lights, compressors, etc.)
- Perform more in-house repairs
- Better communicate electrical challenges to Stiles' phone support personnel

Targeted Learning

Plant, facility and machinery maintenance technicians; supervisors and advanced machine operators

Prerequisites

Basic knowledge of panel processing equipment



PN102 INDUSTRIAL PNEUMATIC SCHEMATICS AND TROUBLESHOOTING

Course Duration & Credit

1 day; 0.70 CEU

Description

Students learn pneumatic fluid power system schematics and troubleshooting. Course topics include safety protocol, pneumatic fundamentals, cylinders, air delivery routing, air treatments, and more. Students are exposed to pneumatic system principals applicable to multiple types of production equipment.

Results

By taking this course, personnel will be able to:

- Quickly troubleshoot and repair emergency pneumatic breakdowns
- Improve machine uptime and reduce repair costs
- Perform more in-house repairs
- Better communicate pneumatic challenges to Stiles' phone support personnel

Targeted Learning

Plant, facility, and machinery maintenance technicians, supervisors and advanced machine operators

Prerequisites

Basic knowledge of panel processing equipment



CNC MACHINING CENTERS

HEIAN

CR105 **HEIAN CNC ROUTERS** **PROGRAMMING, OPERATION** **AND PREVENTATIVE MAINTENANCE**

Course Duration & Credit

5 days; 3.45 CEU

Description

Students learn machine terminology and features, safety, tooling and the fundamentals of programming, operation and preventative maintenance of HEIAN non-EG CNC routers. Programming instruction addresses the Cartesian coordinate system, NC codes, an overview of G codes, modal and non-modal commands, explanation of interpolation, an introduction to CAD | CAM and the use of trigonometry and geometry to assure proper formatting. Machine instruction includes the FANUC control, how to increase machine and tooling life, correct setup and fixturing, and preventative maintenance.

Results

By taking this course, personnel will be able to:

- Create efficient router programs to maximize materials used and produce quality components
- Utilize various available software options to aid in creating efficient programs
- Implement necessary safety protocol
- Fixture to adequately secure material to produce a perfectly dimensioned part
- Select the best tooling for the application
- Operate CNC effectively to meet and exceed production goals
- Enact preventative maintenance procedures to increase mechanical life of machine and tooling

Targeted Learning

Advanced machine operators, maintenance technicians and supervisors

Prerequisites

Basic PC Skills, Windows experience, and proficiency in mathematical principles in addition to basic geometry



CR503 **HEIAN CNC ROUTERS** **MAINTENANCE AND TROUBLESHOOTING**

Course Duration & Credit

3 days; 2.05 CEU

Description

Students review machine terminology, safety protocol and operation before addressing recommended procedures for preventative and essential maintenance of HEIAN routers. Course learning addresses machine leveling, mechanical repairs, calibration, vacuum pumps, pneumatics, lubrication, spindle motor theory and repair. Additional emphasis is placed upon FANUC diagnostics, electro-mechanical troubleshooting, and Toshiba inverters.

Results

By taking this course, personnel will be able to:

- Reference machine and realign spindles
- Utilize MDI / diagnostics
- Read electrical schematics
- Reduce downtime and increase valuable production time
- Increase mechanical life of machine and tooling

Targeted Learning

Advanced machine operators, maintenance technicians, and supervisors

Prerequisites

Familiarity with machine, multi-meters, and hand tools preferred



CNC MACHINING CENTERS

HOMAG

MC056

WOODWOP 6, 6.1, AND 7 PROGRAMMING FOR HOMAG BOF/BMG CNC MACHINING CENTERS

Course Duration & Credit

3 days, 2.05 CEU

Description

Students learn efficient programming techniques of woodWOP 6, 6.1, and 7 software for their HOMAG BOF or BMG model CNC machining centers. Programming instruction includes how to increase CNC machining functionality including horizontal & vertical drilling and trimming, grooving & vertical sawing, and aggregate functions and capabilities. Efficiently creating pockets, free form pockets, polygon routing, processed part parameters, and contour arcs. Course instruction addresses the use of variables and global variables, template values, conditional statements, components, block macros and DXF importation.

Results

By taking this course, personnel will be able to:

- Create efficient programs through woodWOP 6, 6.1, and 7
- Apply accurate programming principals for safe machine operation
- Optimize production programming for reduced material waste to achieve production goals

Targeted Learning

Programmers, machine operators, maintenance technicians, and supervisors

Prerequisites

Basic PC skills and prior experience with Windows



CR056

HOMAG BOF/BMG CNC MACHINING CENTERS OPERATION USING WOODWOP

Course Duration & Credit

2 days; 1.35 CEU

Description

Students apply woodWOP programming techniques to safely operate HOMAG BOF/BMG CNC machining centers including uploading or adjusting programs at the machine. Through classroom & hands-on machine experience, students learn the importance of feed rates & rotation speeds, CNC tooling materials & geometry, use of the tool holder & collet, cutter assembly & measurement.

Using the powerTouch controller, students learn tooling and how to reference the tool database using the softkey functions of the controller. Additional time will be spent addressing aggregate identification & applications and fixturing. Emphasis is placed on increasing machine uptime and the mechanical life of the machine and tooling.

Results

By taking this course, personnel will be able to:

- Experience faster start-up times
- Increase mechanical life of the machine and tooling
- Reduce downtime due to poor operating techniques
- Understand layout of machines
- Safe and efficient machine operation

Targeted Learning

Machine operators, programmers, and supervisors

Prerequisites

Basic PC skills and prior experience with Windows and completion of a woodWOP 6, 6.1, or 7 programming course



CNC MACHINING CENTERS

HOMAG

CR550 HOMAG BOF/BMG CNC ROUTER MAINTENANCE AND TROUBLESHOOTING

Course Duration & Credit

2 days; 1.35 CEU

Description

This course is dedicated to exploring the recommended maintenance procedures of HOMAG BOF or BMG machining centers. It begins with a review of machine terminology and machine operation and progresses into tooling, tooling setup, and extending tooling life. Additional instruction addresses spindle motor cooling systems, diagnosing spindle vibration, and spindle motor repair. Extensive information on machine preventative maintenance procedures for cleaning & filters, lubrication & preventative maintenance of vacuum pumps, and electro-mechanical components is provided. Course instruction also includes electrical schematic reading & troubleshooting, and using automatic & manual machine modes for troubleshooting errors using the NC control screen & woodScout.

Results

By taking this course, personnel will be able to:

- Utilize woodScout
- Reference machine and realign spindles
- Read electrical schematics
- Reduce downtime
- Increase mechanical life of machine and tooling

Targeted Learning

Advanced machine operators, maintenance technicians, and supervisors

Prerequisites

Basic PC skills and prior experience with Windows.

Familiarity with machine, multi-meters, and hand tools preferred



CNC MACHINING CENTERS

HOMAG & WEEKE

MC090 WOODWOP 5 PROGRAMMING FOR CNC MACHINING CENTERS

Course Duration & Credit

3 days; 2.05 CEU

Description

Students learn efficient programming techniques of woodWOP 5 software on their HOMAG or WEEKE CNC machining centers. Programming instruction includes how to increase CNC machining functionality including horizontal & vertical drilling & trimming, grooving & vertical sawing, and aggregate functions & capabilities. This course addresses efficiently creating pockets, free form pockets, polygon routing, processed part parameters, and contour arcs. Course instruction addresses the use of variables & global variables, template values, conditional statements, components, block macros, and DXF importation.

Results

By taking this course, personnel will be able to:

- Create efficient programs through woodWOP 5
- Apply accurate programming principals for safe machine operation
- Optimize production programming for reduced material waste to achieve production goals

Targeted Learning

Programmers, machine operators, maintenance technicians, and supervisors

Prerequisites

Basic PC skills and prior experience with Windows



CNC MACHINING CENTERS

HOMAG & WEEKE

MC091 CNC MACHINING CENTERS OPERATION USING WOODWOP 5

Course Duration & Credit

2 days, 1.35 CEU

Description

Students apply woodWOP 5 programming techniques to safely operate HOMAG or WEEKE CNC Machining Centers including uploading or adjusting programs at the machine. Through classroom and hands-on machine experience, students learn the importance of feed rates & rotation speeds, CNC tooling materials & geometry, use of the tool holder & collet, and cutter assembly & measurement. Using the Machine Control Center (MCC), students learn tooling and how to reference the tool database using the softkey functions of the controller. Emphasis is placed on increasing machine uptime and the mechanical life of the machine & tooling.

Results

By taking this course, personnel will be able to:

- Understand layout of machines
- Experience faster start-up time
- Safely and efficiently operate machine
- Increase mechanical life of the machine and tooling
- Reduce downtime due to poor operating techniques

Targeted Learning

Programmers, machine operators, maintenance technicians, supervisors, and owners

Prerequisites

Basic PC skills and completion of woodWOP 5 programming course



CNC MACHINING CENTERS

WEEKE

MC066

WOODWOP 6, 6.1, AND 7 - PROGRAMMING FOR WEEKE BHX THROUGH-FEED MACHINES

Course Duration & Credit

3 days; 2.05 CEU

Description

Students learn efficient programming techniques of woodWOP 6, 6.1, and 7 software for their WEEKE BHX through-feed CNC machining centers. Programming instruction includes how to increase CNC machining center functionality including horizontal & vertical drilling & trimming, and grooving & vertical sawing. Course instruction includes efficiently creating pockets, polygon routing, processed part parameters, and contour arcs. Course instruction addresses the use of variables & global variables, template values, conditional statements, components, block macros, and DXF importation.

Results

By taking this course, personnel will be able to:

- Create efficient programs through woodWOP 6, 6.1 & 7
- Apply accurate programming principals for safe machine operation
- Optimize production programming for reduced material waste to achieve production goals

Targeted Learning

Programmers, machine operators, maintenance technicians and supervisors

Prerequisites

Basic PC skills and prior experience with Windows



CNC MACHINING CENTERS

WEEKE

MC086 WOODWOP 6, 6.1, AND 7 PROGRAMMING FOR WEEKE VACUUM POD CNC MACHINING CENTERS

Course Duration & Credit

3 days; 2.05 CEU

Description

Students learn efficient programming techniques of woodWOP 6, 6.1, and 7 software for their WEEKE vacuum pod CNC machining centers. Programming instruction includes how to increase CNC machining center functionality including horizontal & vertical drilling, and trimming, grooving & vertical sawing, and aggregate functions & capabilities. This course addresses efficiently creating pockets, free form pockets, polygon routing, processed part parameters, and contour arcs. Course instruction addresses the use of variables & global variables, template values, conditional statements, components, block macros, and DXF importation.

Results

By taking this course, personnel will be able to:

- Create efficient programs through woodWOP 6, 6.1, and 7
- Apply accurate programming principals for safe machine operation
- Optimize production programming for reduced material waste to achieve production goals

Targeted Learning

Programmers, machine operators, maintenance technicians, supervisors, and owners

Prerequisites

Basic PC skills and prior experience with Windows

MODELS

WEEKE vacuum pod machines

WEEKE Venture series



CR086

WEEKE VACUUM POD CNC MACHINING CENTERS OPERATION USING WOODWOP 6, 6.1 AND 7

Course Duration & Credit

2 days; 1.35 CEU

Description

Students apply woodWOP programming techniques to safely operate WEEKE vacuum pod CNC Machining Centers including uploading or adjusting programs at the machine. Through classroom and hands-on machine experience, students learn the importance of feed rates & rotation speeds, CNC tooling materials & geometry, use of the tool holder & collet, and cutter assembly & measurement.

Using the powerTouch controller, students learn tooling, and how to reference the tool database using the softkey functions of the controller. Additional time will be spent addressing aggregate identification & applications, and fixturing. Emphasis is placed on increasing machine uptime, and the mechanical life of the machine and tooling.

Results

By taking this course, personnel will be able to:

- Understand layout of machines
- Experience faster start-up time
- Safely and efficiently operate machine
- Increase mechanical life of the machine and tooling
- Reduce downtime due to poor operating techniques

Targeted Learning

Machine operators, maintenance technicians, supervisors, and owners

Prerequisites

Basic PC skills and prior experience with Windows, and completion of woodWOP 7 programming



CNC MACHINING CENTERS

WEEKE

MC096 WOODWOP 6, 6.1, AND 7 PROGRAMMING FOR WEEKE NESTED-BASED CNC MACHINING CENTERS

Course Duration & Credit

3 days; 2.05 CEU

Description

Students learn efficient programming techniques of woodWOP 6, 6.1, and 7 software for their WEEKE nested-based CNC machining centers. Programming instruction includes how to increase CNC machining center functionality including vertical drilling, and trimming. Course instruction addresses efficiently creating pockets, free form pockets, polygon routing, processed part parameters, and contour arcs. Emphasis is also placed upon the use of variables & global variables, template values, conditional statements, components, block macros, and the fundamentals of DXF importation.

Results

By taking this course, personnel will be able to:

- Create efficient programs through woodWOP 6, 6.1, and 7
- Apply accurate programming principals for safe machine operation
- Optimize production programming for reduced material waste to achieve production goals

Targeted Learning

Programmers, machine operators, maintenance technicians, and supervisors

Prerequisites

Basic PC skills and prior experience with Windows

MODELS

WEEKE nested-based machines

WEEKE Vantage series

WEEKE Vantech series



CR096

WEEKE NESTED-BASED CNC MACHINING CENTERS OPERATION USING WOODWOP 6, 6.1, AND 7

Course Duration & Credit

2 days, 1.35 CEU

Description

Instruction is geared towards safe operation of WEEKE nested-based CNC machining centers including uploading or adjusting programs at the machine. Students apply woodWOP programming fundamentals & continue with programming specific to nesting capabilities. Through classroom and hands-on machine experience, students learn the importance of feed rates & rotation speeds, CNC tooling materials & geometry, use of the tool holder & collet, and cutter assembly & measurement.

Using the Machine Control Center (MCC) or the powerTouch controller, students learn tooling, and how to reference the tool database using the softkey functions of the controller. Additional time will be spent addressing aggregate identification & applications, and fixturing. Emphasis is placed on increasing machine uptime, and the mechanical life of the machine and tooling.

Results

By taking this course, personnel will be able to:

- Produce more accurate panels and less waste material
- Utilize nesting software techniques
- Produce accurate and efficient panel programs
- Properly care for the CNC machining center

Targeted Learning

Programmers, machine operators, maintenance technicians and supervisors

Prerequisites

Basic PC skills and prior experience with Windows and completion of woodWOP 7 programming

MODELS

WEEKE Nested-based machines with woodWOP 6.0, 6.1 or 7.0

WEEKE Vantage series

WEEKE Vantech series



CNC MACHINING CENTERS

WEEKE

MC502 **WEEKE MACHINING CENTERS** **MAINTENANCE AND TROUBLESHOOTING**

Course Duration & Credit

3 days; 2.05 CEU

Description

This course is dedicated to exploring the recommended maintenance procedures of WEEKE CNC machining centers. It begins with a review of machine terminology and machine operation then progresses into machine calibration, and preventative maintenance of the various electro-mechanical components.

Using the machinery interface programs including the Machine Data Report (MDR), students will troubleshoot CNC error codes. A significant portion of class time addresses tooling, including setup, alignment, zero point calibration in the tool database, and extending tooling life. Mechanical maintenance aspects addressed include machine referencing, vacuum systems, cooling systems, machine cleaning & filters, and lubrication.

Additional troubleshooting instruction includes pneumatics, electrical cabinet layout, interpreting WEEKE schematic diagrams, use of PLC, NUM, and Beckhoff controls, DriveTop software, KEB frequency inverters, various motor axis drives, and the use of hand-held multi-meters for diagnostics.

Results

By taking this course, personnel will be able to:

- Enact effective maintenance procedures
- Read electrical schematics and troubleshoot error codes
- Increase mechanical life of machine and tooling
- Reduce downtime and increase valuable production time

Targeted Learning

Advanced machine operators, maintenance technicians, and supervisors

Prerequisites

Familiarity with machine, multi-meters, and hand tools preferred



EDGEBANDERS

BRANDT

EB052 BRANDT EDGEBANDERS OPERATION AND PREVENTATIVE MAINTENANCE

Course Duration & Credit

3 days; 2.05 CEU

Description

This course provides the skills needed to maximize the capabilities of BRANDT single-sided edgebanders. Instruction begins with machine terminology & safety, then addresses the characteristics of various panel & edgebanding materials. Students learn the proper use of tooling for maximizing results and tooling life. Students will receive instruction on controller interfaces to efficiently setup & operate edgebanders. Instruction progresses through all the edgebanders stations, the purpose of each, how to make adjustments and, administer preventative maintenance for optimum results and extending machine life.

Results

By taking this course, personnel will be able to:

- Produce edgebanded panels that meet quality control standards
- Increase machine efficiency and life
- Reduce machine changeover time, tooling costs and, wasted materials
- Perform more in-house repairs to increase production time

Targeted Learning

Machine operators, maintenance technicians, supervisors and, owners

Prerequisites

Basic knowledge of panel processing



EB059

BRANDT EDGEBANDERS

ELECTRICAL MAINTENANCE AND TROUBLESHOOTING

Course Duration & Credit

0.7 CEU; 1 day

Description

Students learn advanced preventative maintenance and machine setup for of BRANDT single-sided edgebanders. Extensive coverage on machine lubrication, reading and troubleshooting with European electrical schematics and mechanical/pneumatic systems are included. Course work includes adjusting gluing stations as well as working with manuals, drawings, spare parts inventory, and cost-effective maintenance programs.

Results

By taking this course, personnel will be able to:

- Apply effective maintenance procedures
- Read electrical schematics and troubleshoot error codes
- Increase mechanical life of machine and tooling
- Reduce downtime and increase valuable production time

Targeted Learning

Advanced machine operators, maintenance technicians and, supervisors

Prerequisites

Completion of Edgebander Operations course

Basic knowledge of maintenance principles

Prior experience working with electrical schematics preferred



EDGEBANDERS

HOMAG

EB102 **HOMAG EDGEBANDERS** **OPERATION AND PREVENTATIVE MAINTENANCE**

Course Duration & Credit

3 days; 2.05 CEU

Description

This course provides the skills needed to maximize the capabilities of HOMAG single-sided edgebanders. Instruction begins with machine terminology & safety, then addresses the characteristics of various panel & edgebanding materials. Students learn the proper use of tooling for maximizing results and tooling life. Students will receive instruction on controller interfaces to efficiently setup & operate edgebanders. Instruction progresses through all the edgebanders stations, the purpose of each, how to make adjustments and, administer preventative maintenance for optimum results, and extending machine life.

Results

By taking this course, personnel will be able to:

- Produce edgebanded panels that meet quality control standards
- Increase machine efficiency and life
- Reduce machine changeover time, tooling costs and, wasted materials
- Perform more in-house repairs to increase production time

Targeted Learning

Machine operators, maintenance technicians, supervisors and, owners

Prerequisites

Basic knowledge of panel processing



EB550

HOMAG EDGEBANDERS

ELECTRICAL MAINTENANCE AND TROUBLESHOOTING

Course Duration & Credit

1 day; 0.7 CEU

Description

Students learn advanced diagnostic and electrical maintenance for HOMAG single-sided edgebanders. Course work addresses use of the controller to utilize system diagnostic features, adjusting gluing stations, machine lubrication, reading European electrical schematics and, troubleshooting mechanical / pneumatic systems. Students explore the electrical cabinet and the interpretation of indicator lights, other electrical components and, how to use a voltmeter effectively. Additional instruction includes making use of the machines CD-ROM to access machine manuals and drawings, view 3D representations of parts to order them online, creating a spare parts inventory and developing a cost-effective maintenance program.

Results

By taking this course, personnel will be able to:

- Apply effective maintenance procedures
- Read electrical schematics and troubleshoot error codes
- Increase mechanical life of machine and tooling
- Reduce downtime and increase valuable production time

Targeted Learning

Advanced machine operators, maintenance technicians and, supervisors

Prerequisites

Completion of Edgebander Operations course

Basic knowledge of maintenance principles

Prior experience working with electrical schematics preferred



MATERIAL HANDLING SYSTEMS

MH100PT HOMAG AUTOMATION INTELLISTORE TLF WITH POWERTOUCHE PROGRAMMING AND OPERATION

Course Duration & Credit

2.5 days, 1.70 CEU

Description

The IntelliStore optimization module ensures boards are always in the storage positions that match the fraction of the overall production of boards. Due to the unique nature of each IntelliStore configuration, integration of additional software conducted during machine installation & operational testing.

Students are introduced to terminology for IntelliStore, woodStore software, and powerTouch soft keys, functions and, indicators. Students progress through programming exercises designed to graphically assign storage positions, provide a detailed board inventory and, create production lists for HOLZMA panel saws, as well as WEEKE or HOMAG CNC machining centers. Students learn to assign parameters that set and analyze storage optimization including establishing pick-up and, drop-off heights and, times including the option for soft lift & drops for delicate materials. Programming instruction also includes designing storage locations for panel racks and the storage of offcut parts in the residual parts locations.

Operational instruction includes system safety including collision checks on storage boundaries, system start-up and, shut-down procedures and, managing in-feed and, out-feed panel materials process lists. Students will learn how to clear the crane in manual and automatic modes and implement system information back-ups and perform periodic maintenance procedures.

Results

By taking this course, personnel will be able to:

- Program the desired storage locations and requirements for panel materials
- Operate the storage system: load/unload panel materials and process production cut lists
- Troubleshoot system operation faults and perform system recovery
- Provide storage system required maintenance

Targeted Learning

System programmers, operators, maintenance technicians, supervisors and, owners

Prerequisites

Students must have a basic knowledge of panel processing (saws and CNC machining centers) and a working knowledge of a Windows computer system.



PS110 HOLZMA PANEL SAWS CADMATIC PROGRAMMING AND OPERATIONS

Course Duration & Credit

3 days; 2.05 CEU

Description

This course emphasizes the fundamentals of programming, operation and preventative maintenance for HOLZMA panel saws including machine & saw cut terminology, features, safety and, tooling. Students learn the correct operator procedures for panel handling, unloading, stacking and utilizing the CADMATIC interface to input parameters and optimize panels. Instruction addresses adjustment of saw carriage & programmed fence parameters, adjusting & changing blades and, label printing. Additional class time is spent on troubleshooting and basic preventative maintenance to maximize panel saw efficiency.

Results

By taking this course, personnel will be able to:

- Achieve and maintain high cut quality
- Align program fences and saw carriages safely
- Reduce tooling costs
- Increase machine efficiency
- Utilize tooling to extend tooling life

Targeted Learning

Machine operators, maintenance technicians, supervisors, and owners

Prerequisites

Basic PC skills and prior experience with Windows



**CutRite Training
Also Available**

PS504

HOLZMA PANEL SAWS

MAINTENANCE AND TROUBLESHOOTING

Course Duration & Credit

4 days; 2.75 CEU

Description

Students review HOLZMA panel saws features, terminology, materials, tooling and safety then progresses through preventative and major maintenance procedures and techniques.

Students learn to inspect and determine degree of wear on saw carriage & program fence components including V-groove rollers, drive roller chain & motors and, bearings. Instruction includes how to assure parallelism with program fences, angular fences and, pressure beam. Students address adjustment of rack and pinion drive unit clearances and speed parameters.

Emphasis is placed on reading HOLZMA electrical schematics and, troubleshooting mechanical / pneumatic systems. Students explore the electrical cabinet and the interpretation of PLC lights, other electrical components and, use of a voltmeter. Additional instruction includes making use of the machines CD-ROM to access machine manuals and drawings, view 3D representations of parts to order them online, creating a spare parts inventory and developing a cost-effective maintenance program.

Results

By taking this course, personnel will be able to:

- Maintain desired cut quality
- Apply effective maintenance procedures
- Read electrical schematics and troubleshoot error codes
- Increase mechanical life of machine and tooling
- Reduce downtime and increase valuable production time

Targeted Learning

Maintenance technicians, maintenance supervisors, advanced machine operators, and owners

Prerequisites

Basic understanding of panel processing and maintenance principles



PS801

HOLZMA PANEL SAWS ADVANCED ELECTRICAL CONTROL SYSTEMS AND PLC TROUBLESHOOTING

Course Duration & Credit

3 days; 2.05 CEU

Description

Students review HOLZMA single-line and angular panel saws maintenance safety and schematics then progress through advanced electrical troubleshooting for HOLZMA system control systems & PLCs.

Course content includes frequency inverter setup and troubleshooting modes. Students learn to troubleshoot incremental magnetic linear systems, relay logic, using PLC I/O's, advanced software and, onboard machine controls.

Emphasis is placed upon machine calibration, advanced system diagnostics, understanding wiring diagrams & circuitry.

Results

By taking this course, personnel will be able to:

- Perform advanced system diagnostics
- Interpret error codes and electrical indicator lights
- Calibrate machine effectively
- Understand electrical wiring and circuitry for troubleshooting

Targeted Learning

Advanced machine operators, maintenance technicians, electricians and, supervisors

Prerequisites

Completion of PS504: HOLZMA Panel Saws - Maintenance & Troubleshooting course
The ability to interpret electrical schematics



SOLID WOOD PROCESSING

KENTWOOD

WD055

KENTWOOD MOULDER KNIFE AND PROFILE GRINDING CONCEPTS & OPERATION

Course Duration & Credit

2 days, 1.35 CEU

Description

KENTWOOD grinders save time & money and, prolong the life of solid wood machinery by allowing shops to re-sharpen straight knives and grind new profiles in-house.

Students learn safety, proper setup and, operation of all knife grinding machinery with insight into faster changeovers, record keeping, storage, optimizing production and, machine preventative maintenance.

Instruction begins with an overview of the machine and grinding terminology, then addresses identification and selection of grinder wheel types, proper steel and tool grades, as well as cutting angles for specific wood species and desired finish texture.

The course also addresses manual setup with calipers vs. using the Accu-Lok® System to reference axial and radial points on the knife heads. Attention is given to template specifications in relation to knives, positioning templates and achieving balance in the cutter head assembly.

Results

By taking this course, personnel will be able to:

- Operate and maintain knife grinder effectively
- Yield optimum production results quickly
- Save time and money with in-house, accurate moulder knife and profile grinding
- Improve tool cart, tool room, storage and record keeping organization

Targeted Learning

Operators, tool room technicians, owners, supervisors and, maintenance personnel

Prerequisites

Basic understanding of wood

Completion of WD100: KENTWOOD Moulders Operation course strongly recommended

Models

KENTWOOD and other knife grinding machines



SOLID WOOD PROCESSING

KENTWOOD

WD100 KENTWOOD MOULDERS OPERATION

Course Duration & Credit

2 days, 1.35 CEU

Description

Students receive comprehensive instruction on moulder setup, operation, template procedures, tool referencing and machine preventative maintenance. The course begins with a review of machine safety protocol and then progresses to machine terminology, identifying the different types of moulders, cutter head styles, feed beam, beds & various fence functions and adjustments, rollers, guides, and the feed system components (consisting of the drive motor, Carden drive, gear boxes, drive feed wheels, springs and air cylinders).

The course also focuses on identifying wood types, lumber grades, warping, moisture content, and the properties of wood. This understanding helps woodworkers differentiate between natural wood flaws and machining defects requiring troubleshooting such as snipes, tear outs, burns, chatter, and lines.

Machine operation instruction includes manual vs. dial in setup and use of the control panel key pad for radius and finish size, key switches, feed speed adjustments, and spindle buttons. Selection of the appropriate tooling and feed rates based on wood species and desired finish texture are emphasized. Use of the Accu-Lok™ System to reference the axial and radial points are demonstrated along with setting the chip breaker and pressure shoe.

Results

By taking this course, personnel will be able to:

- Accurately setup moulder
- Efficiently operate a moulder
- Reduce downtime by correctly referencing tooling
- Identify and troubleshoot defects to reduce wasted wood
- Perform production change over efficiently

Targeted Learning

Operators, tool room technicians, owners, supervisors, and maintenance personnel

Prerequisites

Basic understanding of wood

Completion of WD055: KENTWOOD Moulder Knife Grinding Concepts & Operations strongly recommend



WD150 KENTWOOD HIGH SPEED MOULDERS OPERATION

Course Duration & Credit

1 day, 0.70 CEU

Description

This course provides comprehensive instruction on advanced moulder setup associated with moulders capable of running above 100ft/min. Proper use, setup, and maintenance with straight and profile jointers are covered. Instruction on identification and troubleshooting of defects are emphasized in this course. Selection of the appropriate tooling and feed rates based on wood species and desired finish texture are addressed.

Results

By taking this course, personnel will be able to:

- Perform basic machine setup, operations and, troubleshooting
- Select appropriate tooling and feed rates
- Identify defects and troubleshoot issues
- Reduce wasted material
- Increase tool life

Targeted Learning

Machine programmers & operators, maintenance technicians, supervisors, and owners

Prerequisites

Basic understanding of wood;

Completion of WD100: KENTWOOD Moulders – Operation course



SOLID WOOD PROCESSING

KENTWOOD

WD701 KENTWOOD MOULDER TOUCH SCREENS/CNC PROGRAMMING

Course Duration & Credit

3 days, 2.05 CEU

Description

One of the major advances in moulder technology is having a touch screen controller coupled with CNC features. While there are tried and true methods of setting-up, operating and diagnosing traditional moulder, having this feature provides more efficient, rapid and accurate procedures. This class is designed to investigate the options that this controller provides and how to best take advantage of them. It is a "must take" for Kentwood's with these features.

Results

By taking this course, personnel will be able to:

- Apply proper techniques and procedures for KENTWOOD touch screen control/CNC systems

Targeted Learning

Machine programmers & operators, maintenance technicians, supervisors, and owners

Prerequisites

WD100: KENTWOOD Moulders – Operation and basic understanding of wood



WD200 **KENTWOOD RIP SAWS** **PROGRAMMING AND OPERATION**

Course Duration & Credit

3 days; 2.05 CEU

Description

This hands-on course covers the programming, setup, operation, and maintenance techniques for the KENTWOOD Multi Rip Saws. Course instruction will cover the safe and efficient rip saw operation with an emphasis on creating cutting list and optimization programs via the touch-screen controls.

Students learn to recognize material defects and assess the general condition of the material to ensure each piece is correctly fed into the rip saw, or loaded onto the machine's in-feed system, to achieve the best material yield in the safest manner. Students will also learn how to manually override a cutting solution to further increase the production yield, efficiency and and minimize waste. The course addresses the selection of the saw blades and how to determine feed speed to achieve the cut quality based upon the materials to be processed and desired result. Basic preventative maintenance and troubleshooting are also addressed.

Results

By taking this course, personnel will be able to:

- Perform basic machine setup, operations and troubleshooting
- Identify and troubleshoot issues to reduce wasted material
- Program and operate machines safely
- Create cut lists
- Implement data optimization programs and manually override to minimize waste

Targeted Learning

Machine programmers & operators, maintenance technicians, supervisors and, owners

Prerequisites

Understanding of facility cutting needs, Basic PC skills and knowledge of maintenance principles, prior experience working with electrical schematics a plus



SURFACE PROCESSING

SA106

WIDE BELT SANDING TECHNIQUES & PROCESSES

Course Duration & Credit

2 days; 1.35 CEU

Description

This course begins with sanding and machine terminology including the machine types of both constant or variable pass-line, and vacuum in-feed. Instruction progresses to the functions of the components of a wide belt sander including the contact roller & drum, pressure shoes & rollers, sanding belts & pads, and brushes. Students will learn the importance of calibration, thickness compensation, abrasive grit compensation, and belt sequencing.

Course addresses specifying the type of natural or synthetic abrasive belts, identifying the appropriate abrasive grade, backing, glue bond, coatings and spliced belts for your applications and detecting when belts need to be changed. Students will learn to utilize a scratch pattern to identify the needed abrasive type and grit select for obtaining the desired results.

Cross sanding, calibration sanding, veneer sanding and sealer sanding principles & techniques are addressed along with troubleshooting sanding defects. The importance of proper belt storage and preventative maintenance are emphasized.

Results

By taking this course, personnel will be able to:

- Reduce the number of rejects due to defects
- Make better abrasive belt selections
- Reduce abrasive belt costs
- Obtain more consistent results with different species
- Produce a better finished product

Targeted Learning

Machine operators, maintenance technicians, and supervisors

Prerequisites

Basic knowledge of panel processing



SURFACE PROCESSING

HEESEMANN

SA550 HEESEMANN SANDERS MAINTENANCE & TROUBLESHOOTING

Course Duration & Credit

3 days, 2.05 CEU

Description

Students learn extensive preventative and corrective maintenance procedures and techniques for HEESEMANN wide belt sanders. Proper procedure for dressing of the conveyor belts, contact roller alignment, segment pad maintenance and platen repair is included.

Results

By taking this course, personnel will be able to:

- Understand causes of sanding defects
- Improve machine uptime and reduce repair costs
- Reduce abrasive belt costs
- Maintain proper machine alignments

Targeted Learning

Advanced machinery operators, supervisors and, maintenance personnel

Prerequisites

Basic knowledge of panel processing



SURFACE PROCESSING

VE100 **VENEERING TECHNIQUES & PROCESSES**

Course Duration & Credit

2 days, 1.35 CEU

Description

Students will learn the art of selecting, sizing, handling, sanding, and, storing veneering to assure quality and consistency of finished products, minimize sand-through and, other rejects, increasing production yield and profit.

The course begins with identifying wood types & their properties, including how veneer is made to better understand the behavior of wood then how to translate veneer design into measurable specifications. This introduction teaches to what to look for when purchasing veneer including understanding veneer grades and, characteristics by species for both face grades and backer materials and, addresses the various types of cuts and pattern matching.

Hands-on instruction progresses to equipment and proper procedures for clipping, cutting/veneer guillotines, splicing/jointing veneers and, wide belt sanding including abrasive types, grit selection and belt sequencing. Additional instruction includes pressing & gluing veneer and addresses substrates, types of glue, types of lay-ups, press types, cycle times, removal of unwanted natural characteristics and final inspection and repair of veneer.

Results

By taking this course, personnel will be able to:

- Make educated decisions about veneer specification and processing
- Produce high quality faces while increasing your yield
- Eliminate or minimize sand-through and other rejects
- Increase quality and consistency of the finished product

Targeted Learning

Veneering machinery operators, production supervisors, product managers and, purchasing agents

Prerequisites

Basic knowledge of panel processing



MC077

WOODWOP 3D + CAD/CAM PLUG-IN PROGRAMMING AND CNC MACHINE OPERATION

Course Duration & Credit

5 days, 3.45 CEU

Description

Directly integrated into the woodWOP user interface, the woodWOP CAM-Plugin allows programmers to select a surface and automatically calculate the required paths, eliminating the need to program contour elements. The woodWOP CAM-Plugin completes the function range and expands woodWOP to a fully-fledged CAD | CAM-system.

Students learn programming techniques of this integrated software to maximize the capabilities of their WEEKE or HOMAG CNC machining centers. Course instruction includes how to program the machine efficiently when designing and processing 3D products. Students program in the classroom, and process various exercises on CNC machining centers using all necessary tooling and 3, 4 and 5 axis interpolating machine functions.

Results

By taking this course, personnel will be able to:

- Create safe and efficient woodWOP programs utilizing CAD | CAM Plugin functionality
- Employ 3 dimensional router functions
- Operate machine effectively including creating part fixtures and understanding of clamping requirements
- Troubleshooting 3 dimensional programs

Targeted Learning

Experienced programmers, machine operators, maintenance technicians, supervisors, and owners

Prerequisites

WEEKE or HOMAG CNC machine experience preferred
Proficiency in basic woodWOP 6 or 7 programming



ADVANCED SOFTWARE PROGRAMMING

MC300

ADVANCED WOODWOP PROGRAMMING FOR CNC MACHINING CENTERS

Course Duration & Credit

3 days; 2.05 CEU

Description

Students learn advanced woodWOP programming skills taking the experienced programmer who understands woodWOP fundamentals through a series of programming projects designed to teach upper-level programming techniques.

By applying geometry, trigonometry, and C axis interpolation, as well as employing advanced parametrics, and specialized subprogram macros, students enhance the efficiency of programs, and capitalize on all of the CNC machine's capabilities.

Other subjects include importation of layered DXF files through a variety of software platforms, and applying time saving variables. In-depth training on complex routing and the use of specialized aggregates is also addressed.

Results

By taking this course, personnel will be able to:

- Demonstrate programming efficiency through parametric programming to achieve production goals
- Maximize machine capabilities and eliminate offline operations
- Minimize manual calculations, and cease use of templates and full project layouts
- Create complex routing programs for incorporating product radiuses

Targeted Learning

Experienced programmers, machine operators, maintenance technicians, supervisors, and owners

Prerequisites

WEEKE or HOMAG CNC experience preferred

Proficiency in basic woodWOP 4.xx/5.xx/6.xx/7.xx programming



MH100PT

HOMAG AUTOMATION INTELLISTORE TLF WITH POWERTOUCH - PROGRAMMING & OPERATION

Course Duration & Credit

2.5 days, 1.70 CEU

Description

The IntelliStore optimization module ensures boards are always in the storage positions that match the fraction of the overall production of boards. Due to the unique nature of each IntelliStore configuration, integration of additional software suites are not addressed in this course. Integration training is conducted during machine installation & operational testing.

Students are introduced to terminology for IntelliStore, woodStore software, and powerTouch soft keys, functions and, indicators. Students progress through programming exercises designed to graphically assign storage positions, provide a detailed board inventory and, create production lists for HOLZMA panel saws, as well as WEEKE or HOMAG CNC machining centers. Students learn to assign parameters that set and analyze storage optimization including establishing pick-up and, drop-off heights and, times including the option for soft lift & drops for delicate materials. Programming instruction also includes designing storage locations for panel racks and the storage of offcut parts in the residual parts locations.

Operational instruction includes system safety including collision checks on storage boundaries, system start-up and, shut-down procedures and, managing in-feed and, out-feed panel materials process lists. Students will learn how to clear the crane in manual and automatic modes and implement system information back-ups and perform periodic maintenance procedures.

Results

By taking this course, personnel will be able to:

- Program the desired storage locations and requirements for panel materials
- Operate the storage system: load/unload panel materials and process production cut lists
- Troubleshoot system operation faults and perform system recovery
- Provide storage system required maintenance

Targeted Learning

System programmers, operators, maintenance technicians, supervisors and, owners

Prerequisites

Students must have a basic knowledge of panel processing (saws and CNC machining centers) and a working knowledge of a Windows computer system.



TD800 **CODESYS® & TWINCAT® PROGRAMMING AND** **TROUBLESHOOTING FOR AUTOMATED SYSTEMS**

Course Duration & Credit

5 days, 3.45 CEU

Description

This course teaches the fundamentals of programming and diagnostics of the CODESYS® and TwinCAT® software for open PLC architecture including the HOMAG Group naming and organization system. CODESYS software assists in customizing industrial automation projects to help increase efficiency and quality in production processes. The IEC 61131 programming tool at the heart of CODESYS offers unique PLC programming independent from hardware and portable to other PLC systems.

Starting with the programmable logic controller (PLC), and circuit diagrams, this course helps production personnel structure ladder & function block diagrams as well as sequential & continuous function charts. Instruction also addresses the use of Boolean expressions and establishing triggers, timers, counters and, tracing variables in your system over a given time frame. Further instruction defines the various data types: enumerations, array and structured and the creation of variables which can be associated with Visualizations for easy identification. Students learn to produce Conditional Program instructions lists and through many practical exercises, how to use the Base Control System in Power Control to read and write to hardware including physical address assignments, setting timed interrupt priorities, layered system structure of machine units and, troubleshooting errors through CODESYS and woodScout..

Results

By taking this course, personnel will be able to:

- Troubleshoot and repair emergency electrical breakdowns quickly
- Increase machine uptime and reduce repair costs
- Better communicate with Stiles' technical support personnel

Targeted Learning

Experienced programmers, machine operators, facility & maintenance technicians, supervisors, and owners

Prerequisites

Intermediate knowledge of DOS and Programmable Logic Controls (PLC).

Completion of TD100 strongly recommended

Students are required to bring laptops to this course



TD900 **SIEMENS SIMATIC STEP 7 PROFESSIONAL** **INTRODUCTORY PROGRAMMING**

Course Duration & Credit

5 days; 3.45 CEU

Description

Students learn the design, functionality and, introductory programming of Siemens SIMATIC STEP 7 to optimize results of all phases of automation projects including an integrated simulator. This course begins with an overview of S7 navigation, functionality, and project structure. The course focus then progresses to creating a program in OB1 (Organizational Block) through ladder logic (LAD), statement lists (STL) or function block diagrams (FBD), and assigning symbols through absolute addresses. Programming exercises reinforce instruction on: applying binary logic, generating instance data blocks, adapting actual values, creating & opening functions, programming a multiple instance, creating & opening shared data blocks & higher-level function blocks, and configuring the distributed I/O with PROFIBUS DP. An overview of programming for speed monitoring, and to switch an engine on/off, then evaluating the diagnostic buffer, and testing programs with the variable table, and monitoring variables. Lastly, the course instructs on downloading to the programmable controller & debugging, configuring hardware and changing the node address.

Results

By taking this course, personnel will be able to:

- By taking this course, personnel will be able to:
- Understand SIMATIC STEP 7 navigation and functionality
- Create programs in organizational block
- Incorporate various programming variable and commands
- Test programs through software simulation and diagnostic tools
- Integrate programs & configure hardware

Targeted Learning

Experienced programmers, machine operators, facility & maintenance technicians, supervisors, and owners

Prerequisites

Intermediate knowledge of DOS and Programmable Logic Controls (PLC)

Completion of TD100 strongly recommended

Students are required to bring laptops to this course



BENEFITS OF CERTIFIED TRAINING



Stiles University has earned international recognition by the Homag Group by meeting standards on training center management, depth and quality of curriculum as well as the proven abilities of the teaching faculty.



By providing the opportunity to apply Stiles University course credit hours towards a degree, Pittsburg State University assists in developing a skilled workforce in alignment with the highest standards for education & training.



Coursework in compliance with and exceeding the skill standards as developed by the Wood Career Alliance of North America.



Stiles University remains the only IACET accredited solid wood and panel processing training center in the United States. Graduates earn Continuing Education Units (CEU's) through structured courses with defined Learning Outcomes.



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