

WOODLINKS

Wood Products Manufacturing Curriculum

Presented by:

Dave Wentland, Antigo High School



Context

- Forestry
 - One of the major “engines” of the economy
 - Resource sustainability requires better utilization
 - Career opportunity awareness needed for youth
- Preparing for the Workforce
 - Comprehensive understanding of industry
 - Knowledge about current practices



Relevance

- ❑ Remanufacturing
- ❑ Finger jointed, specialty grade, and profiled lumber products
- ❑ Engineered building products
- ❑ Log home kits
- ❑ Prefab housing components
- ❑ Gluelam lumber, laminated beams
- ❑ Millwork
- ❑ Decorative components
- ❑ Furniture
- ❑ Indoor softwood products
- ❑ Industrial products
- ❑ Pallets, containers, fruit boxes, construction items
- ❑ Many others locally and regionally



Preparing for Further Education

- ❑ Supervisor certification
- ❑ Certified trades training
- ❑ Business certification
- ❑ Vocational training
- ❑ Technical training
- ❑ Engineering/wood science research

Wood Products Manufacturing Programs in High Schools

□ WoodLINKS

- Driving educational force
- Development and delivery
- Wood products manufacturing education
- Secondary schools

□ Skill Standards

- Currently under revision
- <http://skillstandards.wikispaces.com/TechTerms>



Occupational Certification

- WoodLINKS certification process
 - Standardized test
 - Checklist of
 - Skills
 - Habits
 - Attitudes
 - Minimum standard
 - 70%



Course Concepts

- Personal skills
 - Communications, team work, safety, stress mgt.
- Business skills
 - Id products, marketing, distribution, management
- Manufacturing skills
 - Materials, processes, management
- Citizen skills
 - Human and natural resource management



Expectations of WoodLINKS

- ❑ Describe the wood products industry
- ❑ Demonstrate skills necessary for transition to post-secondary
- ❑ Demonstrate skills necessary for entry level positions
- ❑ Begin to apply entrepreneurial skills



Curriculum Organizers

- Fundamentals
- Manufacturing
- Products
- Industry Issues

Directions: Evaluate the student by entering the appropriate number to indicate the degree of competency**.

0: Unsuccessful attempt – unable to meet knowledge or performance criteria and/or required significant assistance.

1: Partial demonstration – met some of the knowledge or performance criteria with or without minor assistance.

2: Knowledge demonstrated – met knowledge criteria without assistance at least once.

3: Performance demonstrated – met performance criteria without assistance at least once

4: Repetitive demonstration: - met performance and/or knowledge criteria without assistance on multiple occasions.

5: Mastered: - successfully applied knowledge or skills in this area to solve related problems independently.

Rating/ Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Listening:
		<ul style="list-style-type: none"> • give full attention to the communication • be open to other's ideas • ask questions • use strategies to check understanding • combine ideas from others
Total ____/25		
0 - 5	Date	Teamwork:
		<ul style="list-style-type: none"> • take responsibility for success of the team • follow through on commitment to the team • actively contribute to team discussions • actively listen to others • articulate ideas clearly • provide useful feedback • accept feedback • focus on the task
Total ____/40		
0 - 5	Date	Presentation Skills:
		<ul style="list-style-type: none"> • use a variety of techniques to present ideas • deliver ideas clearly • make eye contact • use appropriate vocal tone and volume • use appropriate body language • respond to questions in an appropriate manner • incorporate background knowledge • use appropriate vocabulary • accept and consider constructive criticism
Total ____/45		

Rating/ Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Shop Practice and Safety Habits
		Reliability
		<ul style="list-style-type: none"> • display an appropriate work ethic • be on time • work the full shift (class) • ask questions • acknowledge mistakes • work cooperatively • have the right attitude in the shop
Total ____/35		
0 - 5	Date	Safety Conscious
		<ul style="list-style-type: none"> • wear appropriate clothing at all times • use appropriate personal protective equipment • display appropriate behaviour at all times • assume responsibility for the safety of others • not distract other operators • maintain the work area and clean up at days end • ensure a safe work area before starting • check equipment before each operation • unplug/lock-out equipment for maintenance • check power cords before use • store and handle over-size stock safely
Total ____/55		
0 - 5	Date	Innovation
		<ul style="list-style-type: none"> • make suggestions regarding safety • suggest improvements for processes • arrange tools and materials effectively • help others • discuss ideas when and where appropriate
Total ____/25		

**Certification requires that all competencies on Page 1 and at least 6 of the competencies on Page 2 must be completed.

WoodLINKS®: Introduction to Wood Products Manufacturing Practical Skills CheckLIST

Rating/Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Hand Tools Saws <ul style="list-style-type: none"> select the correct saw for the job measure accurately cut on the waste side of lines support the stock properly use long, even strokes when cutting maintain and store the saw appropriately
Total ___/30		
0 - 5	Date	Planes <ul style="list-style-type: none"> select the correct type of plane for the job adjust the plane appropriately secure the stock safely and firmly plane with the grain plane from the edges into the middle lay the plane on it's side when not in use maintain and store the plane appropriately
Total ___/35		
0 - 5	Date	Chisels <ul style="list-style-type: none"> use the correct chisel for the job use a wooden mallet secure the work firmly and safely cut with the grain keep both hands behind the cutting edge cut in a direction away from self maintain and store chisels appropriately
Total ___/35		
0 - 5	Date	Portable Power Tools Circular Saw <ul style="list-style-type: none"> evaluate the condition of the saw before use check the cord for damage before use select the correct blade for the task ensure all guards are in place and working look for evidence of burn, scoring, chip-outs
Total ___/25		

Rating/Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Sabre / Jig Saw <ul style="list-style-type: none"> evaluate the condition of the saw before use check the cord for damage before use select the correct blade for the task cut curved shapes cut accurately and safely complete plunge cuts accurately and safely
Total ___/25		
0 - 5	Date	Drill <ul style="list-style-type: none"> evaluate the condition of the drill before use check the condition of the cord before use select the appropriate type and size of bit secure the stock to be drilled lay out hole position accurately use an awl to centre holes drill holes accurately and safely
Total ___/35		
0 - 5	Date	Router <ul style="list-style-type: none"> assess the condition of the router before use check the condition of the cord before use select the appropriate bit for the job use the correct tools to change a bit adjust the router accurately select clear stock secure stock securely move the router in the correct direction
Total ___/40		
0 - 5	Date	Sander <ul style="list-style-type: none"> select the appropriate type of sander assess the condition of the sander before use check the condition of the cord before use select the correct abrasive sheet or belt ensure correct installation of the abrasive use the sander appropriately for roughing use the sander appropriately for finishing use dust collectors when appropriate
Total ___/40		

Directions: Evaluate the student by entering the appropriate number to indicate the degree of competency. **

0: Unsuccessful attempt – unable to meet knowledge or performance criteria and/or

3: Performance demonstrated – met performance criteria without assistance at least

without minor assistance.

assistance on multiple occasions.

2: Knowledge demonstrated – met knowledge criteria without assistance at least once

5: Mastered: - successfully applied knowledge or skills in this area to solve related problems independently

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Work Readiness Skills
		Listening
		<ul style="list-style-type: none"> • give full attention to the communication • be open to other's ideas • ask questions • use strategies to check understanding • combine ideas from others
		Total ____/25
0 - 5	Date	Teamwork
		<ul style="list-style-type: none"> • take responsibility for success of the team • follow through on commitment to the team • actively contribute to team discussions • actively listen to others • articulate ideas clearly • provide useful feedback • accept feedback • focus on the task
		Total ____/40
0 - 5	Date	Presentation
		<ul style="list-style-type: none"> • use a variety of techniques to present ideas • deliver ideas clearly • make eye contact • use appropriate vocal tone and volume • use appropriate body language • respond to questions appropriately • incorporate background knowledge • use appropriate vocabulary • accept and consider constructive criticism
		Total ____/45

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Personal Skills
		Conflict Resolution
		<ul style="list-style-type: none"> • deal directly with the conflict or situation • develop an effective working environment • seek to identify the conflict source • use "I statements" in all discussions • focus on the needs of the individuals • seek to understand the positions of others • select the best option for a resolution
		Total ____/35
0 - 5	Date	Problem Solving/Decision Making
		<ul style="list-style-type: none"> • apply strategies to identify the problem • identify alternative solutions • evaluate the alternatives • make an appropriate choice • create and implement an action plan • evaluate the results of the decision
		Total ____/30
0 - 5	Date	Employment Preparation
		<ul style="list-style-type: none"> • be able to explore employment opportunities • create and maintain a resume • create a customized cover letter • maintain a personal portfolio • develop skills related to job interviewing • communicate effectively via telephone
		Total ____/30

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Shop Practice and Safety Habits
		Reliable
		<ul style="list-style-type: none"> • display an appropriate work ethic • be on time • work the full shift (class) • ask questions • acknowledge mistakes • work cooperatively • have the right attitude in the shop
		Total ____/35
0 - 5	Date	Safety Conscious
		<ul style="list-style-type: none"> • wear appropriate clothing at all times • use appropriate personal protective equip. • display appropriate behaviour at all times • assume responsibility for the safety of others • not distract other operators • maintain the work area and clean up at end • check equipment before each operation • unplug/lock-out equipment for maintenance • check power cords before use • ensure a safe work area before starting • store and handle over-size stock safely
		Total ____/55
0 - 5	Date	Innovative
		<ul style="list-style-type: none"> • make suggestions regarding safety • suggest improvements for processes • arrange tools and materials effectively • help others • discuss ideas when and where appropriate
		Total ____/25

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Portable Power Tools
		Circular Saw
		<ul style="list-style-type: none"> evaluate the condition of the saw before use check the cord for damage before use select the correct blade for the task ensure all guards are in place and working look for evidence of burn, scoring, chipping
		Total ___/25
0 - 5	Date	Sabre Saw / Jig Saw
		<ul style="list-style-type: none"> evaluate the condition of the saw before use check the cord for damage before use select the correct blade for the task cut curved shapes cut accurately and safely complete plunge cuts accurately and safely
		Total ___/25
0 - 5	Date	Drill
		<ul style="list-style-type: none"> evaluate the condition of the drill before use check the condition of the cord before use select the appropriate type and size of bit secure the stock to be drilled lay out hole position accurately use an awl to centre holes drill holes accurately and safely
		Total ___/35
0 - 5	Date	Router
		<ul style="list-style-type: none"> assess the condition of the router before use check the condition of the cord before use select the appropriate bit for the job use the correct tools to change a bit adjust the router accurately select clear stock secure stock securely move the router in the correct direction
		Total ___/40
0 - 5	Date	Sander
		<ul style="list-style-type: none"> select the appropriate type of sander assess the condition of the sander before use check the condition of the cord before use select the correct abrasive sheet or belt ensure correct installation of the abrasive use the sander appropriately for roughing use the sander appropriately for finishing use dust collectors when appropriate
		Total ___/40

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Shop Machines
		Table Saw
		<ul style="list-style-type: none"> inspect the machine and area before set-up select and install correct blade for the job select the appropriate guide properly position and secure the fence adjust the blade for height and tilt accurately use a stop block or push stick use a face shield use the saw efficiently and effectively use appropriate procedures to clear debris check the stock for grain and knots first accurately complete angle, bevel, blind cuts accurately cut various cabinetry joints use the table saw to cut sheets and panels
		Total ___/65
0 - 5	Date	Radial Arm Saw
		<ul style="list-style-type: none"> inspect the machine and area before set-up select and install correct blade for the job accurately adjust saw for depth and angle use and adjust all guards properly check the stock for knots or defects position the anti-kickback device properly position hands for safe, controlled operation use a push stick or other support device keep hands clear until the blade stops use appropriate procedures to clear debris make clear, clean, accurate cuts
		Total ___/55
0 - 5	Date	Band Saw
		<ul style="list-style-type: none"> inspect the machine and area before set-up use the correct blade for the job set guard height appropriate for the stock maintain proper clearance on blade guides keep hands clear of the saw path use a fence and push-stick as appropriate use appropriate procedures to clear debris stop the machine to make any adjustments change, align and adjust the blade tension
		Total ___/45
0 - 5	Date	Sanding Machines
		Belt, Disc, Spindle, etc.
		<ul style="list-style-type: none"> inspect the machine and area before set-up ensure adequate dust collection is active adjust the feed speed and pressure correctly use the appropriate abrasive material
		Total ___/20

Score	Date	Competency and Objective Statements (The student will:)
0 - 5	Date	Drill Press
		<ul style="list-style-type: none"> inspect the machine and area before set-up ensure the key is never left in the chuck use a backing board when appropriate secure stock securely stop the machine to make any adjustments accurately adjust the depth stop use appropriate procedures to clear debris use jigs to perform multiple operations use a variety of bits and cutters
		Total ___/45
0 - 5	Date	Jointer
		<ul style="list-style-type: none"> inspect the machine and area before set-up ensure all required guards are set and used use a push stick or block as required keep hands away from the cutter head check the stock for knots, defects and grain cut a rabbet according to specifications adjust the fence to cut a bevel stop the machine to make any adjustments leave the jointer set at 1mm at completion
		Total ___/45
0 - 5	Date	Thickness Planer
		<ul style="list-style-type: none"> inspect the machine and area before set-up adjust the feed speed and pressure correctly check the stock for knots and defects use a push stick or block as required feed the stock from a side position feed the stock with the grain plane the stock on both faces observe minimum size rule for the planer
		Total ___/40
0 - 5	Date	Shaper / Router Table
		<ul style="list-style-type: none"> inspect the machine and area before set-up ensure all required guards are set and used feed stock appropriate to cutter rotation select the correct cutter
		Total ___/20
0 - 5	Date	Spray Finishing Systems
		<ul style="list-style-type: none"> inspect the equipment and area before use ensure there is adequate ventilation select the correct nozzle for the material guard against excessive over-spray clean all equipment for proper storage handle hazardous materials appropriately
		Total ___/30