



# Hardwood University



## *Educational Opportunities for you and your employees*

### Goal

Provide hardwood industry professionals with information and training on sustainability of material supply, best management practices, procurement and marketing, tree, log and lumber quality and measurement, step-by-step processing techniques, equipment and decision-making.

### Audience

- Employees new to the hardwood industry
- Employees that are preparing for advancement, cross-training, etc.

### Organized by

Purdue University Department of Forestry and Natural Resources  
Indiana Hardwood Lumbermen's Association

### Instructors

Prof. Rado Gazo  
Prof. Eva Haviarova  
Subject matter guest speakers as needed

### When and where

This is an annual, once per month program consisting of nine events. Each event's exact date and location will be announced one month prior, but will generally be held in the middle of the workweek. Locations will be selected to take advantage of IHLA cooperating member company facilities within Indiana. Participants will receive an attendance certificate and those who complete all nine events in a chosen track within 2 years will receive an IHLA/Purdue recognition of program completion.

### Program – (3 different tracks)

- Primary Industry - focused on log buyers, sawmill, stave mill, veneer mill, lumber drying operators
- Secondary Industry - focused on furniture, cabinet, millwork and other manufacturers of wood products
- Training a-la-carte - designed for companies and individuals that would like to organize in-house training on a selected topic

### Cost

1. **\$79 per person per course.** Registration and payment done on a course-by-course basis.
2. **\$999 per year for a “Hardwood University One-Pay” pass.** Companies choosing this option can send up to 4 employees to any class, all for one annual fee. Instead of making decisions on a course-by-course basis, the employer's only decision will be “who do I send?”

## Hardwood University Primary Industry Curriculum 2023/2024

<b>May 17, 2023</b>	<b>Hendricks Co. 4-H Fairgrounds, Danville, Indiana</b>	<b>Woodland owner tax planning</b>
Discuss tax implications of owning woodlands, harvesting, entering into the classified program, and selling timber (Tamara Cushing).		
<b>August 30-31, 2023</b>	<b>2 day – Indiana</b>	<b>Hardwood 101 industry tour</b>
Visit a tree farm, logging job, sawmill, veneer mill, drying yard, and furniture or cabinet manufacturer. Discuss industry processes, challenges, and opportunities with principal owners or managers. Gain an understanding of industry vocabulary, supply chain, and connection to upstream and downstream processes (Gazo).		
<b>September 13, 2023</b>	<b>1 day – SEPAC</b>	<b>Tree and log quality, scaling, and measurement</b>
Observe standing trees and discuss tree grades. Practice tree grading on selected trees. Fell a tree and discuss bucking decisions to maximize the value of each log. Discuss and practice log grading (Gazo, guest speaker).		
<b>October 11, 2023</b>	<b>1 day - Edinburg, IN</b>	<b>Marketing hardwood veneer, stave, sawlogs</b>
Discuss tree quality and log merchandising. The highest-value use of our hardwood resource is for fine face veneers. Excellent markets have always existed for “perfect” trees and logs. Marketing of “somewhat less than perfect” trees and logs can present a challenge. The practicing forester may not be sure what a particular veneer buyer can accept and why log or tree value varies widely and changes weekly. Furthermore, the markets for the veneer itself change. A tour of the Danzer facility and showroom as well as a field trip to a logging site is included (Hartog, Gazo).		
<b>November 15, 2023</b>	<b>1 day – Akron, IN</b>	<b>Grade-sawing hardwood logs</b>
Theory and practice of sawing hardwood logs into lumber. Observe external characteristics affecting lumber quality and measurement of selected logs. Discuss decisions made at head saw, resaw, edger, and trimmer that affect the lumber grade. Cut logs on a portable sawmill to observe the process in practice and evaluate the impact of right/wrong decisions (Gazo).		
<b>January 24, 2024</b>	<b>1 day - Purdue</b>	<b>Sawmill efficiency and quality control</b>
Discuss current and state-of-the-art sawmilling technology, including tree and log scanning, automated lumber grading, lumber overrun and recovery, statistical quality control, lean manufacturing principles, and other modern management techniques (Gazo, guest speaker).		
<b>February 21, 2024</b>	<b>1 day – Logansport, IN</b>	<b>Air drying hardwood lumber</b>
Discuss moisture content of wood, why drying is necessary, and various ways in which to dry lumber. Review principles of setting up a quality air-drying yard, proper lumber stacking, and basics of wood preservation (Gazo).		
<b>March 27, 2024</b>	<b>1 day – Edinburg, IN</b>	<b>Kiln drying hardwood lumber</b>
Discuss various methods and types of dry kilns, and their pros and cons. Learn to develop a kiln-drying schedule and a way to select and check kiln samples. Discuss lumber drying defects and how to prevent them (Gazo).		
<b>April 17, 2024</b>	<b>1 day - Purdue</b>	<b>Introduction to hardwood lumber quality/grading</b>
Basic overview of reasons for grading lumber, measurement of boards, and NHLA lumber grading rules. Limited practice of grading sample boards. Discuss how log quality affects lumber grade and how head sawyer, resaw, edger, and trimmer operators can maximize value potential (Gazo).		

## Training a-la-carte (you pick the topic and time and we will come to your location)

<b>By appointment</b>	<b>1/2 day</b>	<b>Automated hardwood lumber grading</b>
Discuss state-of-the-art proven and existing technology for scanning rough, kiln-dried lumber and computer grading it to NHLA lumber grading rules. Include edging and trimming optimization (Gazo).		
<b>By appointment</b>	<b>1/2 day</b>	<b>Scanning of hardwood logs</b>
Discuss state-of-the-art proven and existing technology for scanning hardwood trees and logs with a CT scanner. Discuss processing optimization for sawmills and veneer mills (Gazo).		
<b>By appointment</b>	<b>1 day</b>	<b>Safety in the woodshop training</b>
Discuss general safety in the woodshop and safety procedures for individual woodworking equipment such as the table saw, band saw, jointer, planer, CNC equipment, etc. Practice hands-on safety under the supervision of an experienced woodshop teacher (Haviarova, Bollock).		
<b>By appointment</b>	<b>1/2 day</b>	<b>Sale and marketing of wood products</b>
Discuss the strategic importance of marketing and innovative sale practices suitable for the forest products industry. Learn the basics of putting together a strategic marketing plan (Haviarova, guest speaker).		
<b>By appointment</b>	<b>1/2 day</b>	<b>Supply chain management</b>
Overview and Importance of forest products supply chain management. Discuss demand management, supply chain flow, inventory management coordination, cooperation, collaboration, and information sharing (Haviarova, guest speaker).		
<b>By appointment</b>	<b>1/2 day</b>	<b>Lean manufacturing</b>
Discuss the main principles of lean manufacturing applicable to the forest product industry. Highlight state-of-the-art manufacturing operations around the world (Haviarova, guest speaker).		
<b>By appointment</b>	<b>1/2 day</b>	<b>Wood products and international trade</b>
Overview of import and export statistics, opportunities, and challenges of international trade. Overview of trade organizations that could help facilitate international trade (Haviarova, guest speaker).		
<b>By appointment</b>	<b>1/2 day</b>	<b>School furniture production</b>
Discuss strength design principles for the construction of durable and strong wooden chairs and desks suitable for the developed and developing world. A hands-on workshop where participants learn how to build chairs from wood residue material. This is an opportunity for supplemental production when business slows down (Haviarova, guest speaker).		
<b>By appointment</b>	<b>1 day</b>	<b>Magical Wood</b>
The hands-on workshop engages youth in interactive games, to increase their interest in wood, the future sustainable material, and expose them to careers in the wood products industry (Haviarova, Gazo, Bollock).		
<b>By appointment</b>	<b>1 day</b>	<b>Hands-on Wood ID</b>
Learn how to identify commercially important hardwood species. Distinguish ring-porous, semi-ring porous, and diffuse-porous species. Learn about macroscopic and microscopic features and how to use tools and keys for easy wood identification (Haviarova, guest speaker).		

# Hardwood University Sign Up Form

Name: \_\_\_\_\_ Company: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

**Class(s) attending:**  
(one class per line)

_____	_____
_____	_____
_____	_____

**Name of attendees:** \_\_\_\_\_  
(up to 4 if one-pay pass)

\_\_\_\_\_

Tax-deductible payments can be made to IHLA.

\_\_\_\_\_ Sign me up for the Hardwood University One-Pay option.

\_\_\_\_\_ Check enclosed.

Please charge this card: \_\_\_\_\_

Name on card: \_\_\_\_\_ Exp. \_\_\_\_\_ CVV: \_\_\_\_\_

Billing Zip Code: \_\_\_\_\_

For specific class information please contact Rado Gazo, Purdue University at gazo@purdue.edu or 765.494.3634. Other questions call 317-288-0008.

Please return form to: IHLA - 12574 Promise Creek Lane, Suite 100  
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