

## Practical Wood Coatings Formulation and Application Training Course



The Year 2025 Practical Wood Coatings Formulation and Application course is offered as both an On-Site and as a Virtual Training option. The On-Site offering is a 3 ½ -day intensive course combining lecture, laboratory instruction, and demonstration. The Virtual course offering is a 2 ½ day option designed to cover the same topics, items, and details as our On-site course, without the travel requirement. The virtual course combines lecture, video laboratory instruction and demonstration, with opportunity for interaction between instructor and participants.

As a whole, the course provides an overview of the wood coatings market. Further, the course introduces students to the historical aspects of wood coatings and then, systematically, brings them to the current state of the art. The course discusses solvent-based, water-based, and UV technology in a scientific, comparative and enlightening manner. The course is a comprehensive technical, marketing and idea generation resource. Participants will leave the course with improved knowledge, skills and understanding of coatings as well as a heightened sense of confidence regarding their knowledge of wood coatings. Researchers, formulators, chemists, applicators, users of wood coatings, sales, marketing and technical service personnel of raw material suppliers will find the course very beneficial. We also offer a one-half day virtual course module specifically targeted towards market managers as an overview of the wood coatings market and technology, e.g., Module 12.

Please visit [www.woodcoatingsresearchgroup.com](http://www.woodcoatingsresearchgroup.com) for more information and registration.

Year 2025 Dates of On-Site Training Course	Registration/Payment Deadline	Cost
January 21-24, 2025	January 10, 2025	\$1900 per course
February 25-28, 2025	January 31, 2025	
April 1-4, 2025	March 7, 2025	
August 12-15, 2025	July 11, 2025	
November 4-7, 2025	October 3, 2025	
This Course is offered five times in 2025 on the above dates		

On-Site classes begin on Tuesday at 1:00 PM and run through Friday to about 12:00 Noon.

Please visit <https://www.woodcoatingsresearchgroup.com/on-site-registration.html> to register for the On-Site Course.

**It is important to note that registration is typically limited to 8 participants for On-Site trainings. Please contact us if you have need for individual company training and/or require alternative dates for your company's training needs.**

Year 2025 Dates of Virtual Training Course	Registration/Payment Deadline	Cost
February 5-7, 2025	January 17, 2025	\$1700 per course
March 12-14, 2025	February 14, 2025	
April 23-25, 2025	March 28, 2025	
May 21-23, 2025	April 25, 2025	
July 23-25, 2025	June 27, 2025	
December 3-5, 2025	October 31, 2025	
This Course is offered Six times in 2025 on the above dates		

Virtual classes run from 8:00 AM to about 4:00 PM with breaks and lunch on days one and two; and from 8:00 AM to about 1:00 PM on the third day.

The following links may be used to register for the Complete Virtual Training Courses

Year 2025 Dates of Virtual Training Course	Registration Link
February 5-7, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t36e20b738314931308d36010b91fae22">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t36e20b738314931308d36010b91fae22</a>
March 12-14, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t497bf68df69ebf2eeca58412c77c3ffb">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t497bf68df69ebf2eeca58412c77c3ffb</a>
April 23-25, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=te0b40b54733acc7841edacb072b62ca5">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=te0b40b54733acc7841edacb072b62ca5</a>
May 21-23, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t977cb6370302de558b451460e0361f5d">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t977cb6370302de558b451460e0361f5d</a>
July 23-25, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t8366654f3f82d09e09ae43febf7f8cbb">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t8366654f3f82d09e09ae43febf7f8cbb</a>
December 3-5, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t398a609aa09b9197a4e689aa622cf992">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t398a609aa09b9197a4e689aa622cf992</a>

Year 2025 Dates for Virtual Market Manager's Training Course	Registration/Payment Deadline	Cost
February 13, 2025	January 17, 2025	\$440 per course
March 20, 2025	February 28, 2025	
May 29, 2025	April 25, 2025	
October 2, 2025	September 5, 2025	
December 11, 2025	November 7, 2025	
This Course is offered Five times in 2025 on the above dates		

The Market Manager's Training runs from 8:00 AM to about 12:00 Noon, each day.

The following links may be used to register for the Complete Virtual Training Courses

Year 2025 Dates for Virtual Market Manager's Training Course	Registration Link
February 13, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t2759a1dbdd6836f403a03118a43b9adc">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t2759a1dbdd6836f403a03118a43b9adc</a>
March 20, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=tef13cd09bca7dc4f03c3800f9a74d561">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=tef13cd09bca7dc4f03c3800f9a74d561</a>
May 29, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t0855bf4323fddac7eb39a714f1faad57">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t0855bf4323fddac7eb39a714f1faad57</a>
October 2, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t412090892bc3a156c04af090dcf56788">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=t412090892bc3a156c04af090dcf56788</a>
December 11, 2025	<a href="https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=td4728403edcf8cecf4e39d90e4fab1">https://woodcoatingsresearch.webex.com/woodcoatingsresearch/k2/j.php?MTID=td4728403edcf8cecf4e39d90e4fab1</a>

## **Syllabus**

### **Module 1 - Wood Coatings, an overview of market value, characteristics, and needs**

What you will learn in Module 1 -

- Learn the potential value of the wood coatings market
- Learn the market and technical characteristics of the 8 wood coatings market segments
- Learn what new technologies are most viable and poised for impact and growth in the various markets
- Learn the primary performance requirements and characteristics of the various markets
- Learn potential required areas for research of various markets

### **Module 2 - Technology of Wood Finishing I – Wood/Substrate Properties**



What you will learn in Module 2

- Learn how the properties of wood varies based on species, plane of cut, and growth environment
- Learn about the wood substrate, its properties, characteristics, and anatomical and chemical composition; discover how these parameters impact coating and finish formulation, design, and performance
- Compare the properties, structure, and appearance of various wood

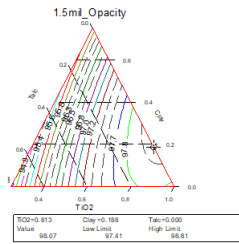
### **Module 3 - Technology of Wood Finishing II – The composition of a wood finish**



What you will learn in Module 3

- Learn what goes into the make-up and composition of a coating and how coating components function within a coating
- Learn about the various operations of the finishing process and discover how and why coatings are formulated to address those operations and processes
- Gain valuable insight regarding critical parameters relative to topcoat appearance and performance
- Discover the meaning of “Total System Interdependence”

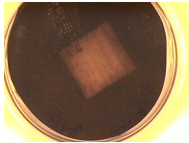
## Module 4 - Technology of Wood Finishing III – Pigmentation in coatings



What you will learn in Module 4

- Learn about the use of decorative pigments, minerals, and fillers utilized in coating formulations
- Discover the properties and characteristics of decorative pigments, minerals, and fillers that are important to their successful utilization in coatings and how they impact coating properties and performance

## Module 5 - Technology of Wood Finishing IV – Specialty Finishes



What you will learn in Module 5

- Learn parameters and properties that are necessary for the development of specialty finishes such as deck and fence stains, finishes, and coatings
- Learn about stain blocking coatings, and hardwood floor finishes
- Learn about the effects of weathering
- Learn about extractive bleeding and other stains
- Review some requirements of interior hardboard coatings

## Module 6 - Technological Background of Solvent based and Water based Wood Coatings I – Solvent based coatings



What you will learn in Module 6

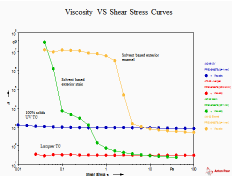
- Learn theoretical and practical properties and characteristics of solvents, polymers, resins, and binders, and how these properties impact coating appearance and performance
- Learn about the characteristics, properties, and formulation parameters of resins such as alkyds, vinyls, nitrocellulose, hard resins, acrylics, cellulose acetate butyrate, etc. and how they are utilized in wood coatings formulations

## Module 7 - Technological Background of Solvent based and Water based Wood Coatings II – Water based coatings

What you will learn in Module 7

- Combined with Module 6, strategically compare characteristics and properties of solvent based and water based coating technologies
- Learn about film formation in water based coatings and parameters necessary for film formation
- Learn about polymer-coalescent-water interactions and how considering these can lead to more successful formulations and strategies
- Learn about various polymer particle morphologies and how these impact formulation and properties

## Module 8 - Application and Application Properties of Solvent based and Water based Coatings



What you will learn in Module 8

- Discover the importance of coating rheology/viscosity and how to control these properties to beneficially impact paint/coating in-can stability, application, and final film appearance and performance
- Learn how to improve coating appearance by control of key physio-chemical and surface energy parameters that control flow, leveling, and defoaming characteristics
- Learn about thickeners, rheology control agents, flow and leveling agents, and defoamers and deaerators
- Learn the key characteristics and parameters affecting application and appearance of water based, solvent based, and UV cured coatings
- Learn about various pumping and application methodologies for wood coatings and their key characteristics

## Module 9 - Reactive Polymers and Crosslinkers I – Background, Chemistry, and Reactive Crosslinkers

What you will learn in Module 9

- Learn the background of crosslinked systems and network polymers
- Learn about various functional groups
- Learn how to calculate reaction stoichiometry for various functional groups
- Learn about crosslinking and film formation in aqueous coating systems
- Learn chemistry, properties, and characteristics of amino resins
- Learn chemistry, properties, and characteristics of polyurethanes

- Discover parameters that impact pot life, cure, crosslinking, appearance, and performance

## **Module 10 - Reactive Polymers and Crosslinkers II – Radiation Cure Technology**

What you will learn in Module 10

- Compare and learn the difference between UV and EB cure technology
- Learn chemistry, properties, and characteristics of UV/EB cured polymers and coatings. Discover parameters that impact and control viscosity, cure, crosslinking, appearance, and performance
- Discover relationships between photoinitiator absorbance, UV lamp spectral properties, and coating spectral properties and subsequent coating cure
- Study the influence of pigmentation on UV/EB cure technology

## **Module 11 - Paint Calculations**

What you will learn in Module 11

- Learn definitions of coating formulation constants and parameters, and learn how to calculate them
- Learn how to completely characterize a coating formulation by calculation of formulation constants such as PVC, Volume Solids, VOC, and Spreading Rate from first principles
- Learn how to calculate a coatings formula from first principles

## **Module 12 – Wood Coatings – Market Manager Overview**

This module is targeted specifically towards market managers of raw material suppliers who may only desire an overview and may not wish to take the entire coatings training or who are not necessarily interested in technical/scientific aspects of wood coatings technology.

What you will learn in Module 12

- Learn the potential value of the wood coatings market and identify the overall technical characteristics of the various wood coatings market segments
- Learn what new technologies are most viable and poised for impact and growth in the various markets
- Learn the primary performance requirements and characteristics of the various markets
- Gain background introduction into the make-up and composition of a coating and how coating components function within a coating
- Learn about the various operations of the finishing process
- Gain valuable insight regarding critical parameters relative to topcoat appearance and performance
- Discover the meaning of “Total System Interdependence”

Instructor – Ronald Obie

Ronald Obie is the founder of the Wood Coatings Research Group, an Independent Research and Development and Think Tank organization. Ronald has over 40 years of research, development, consulting, training, and problem solving experience in the wood coatings and coatings industry. Ronald has developed highly successful new coating technology platforms and technologies for the marketplace. He is extremely knowledgeable of the science, technology, and market characteristics of the wood coating industry. He has been a multiple short course Technology Conference instructor for FSCT / ACA in the area of wood coatings, teaching such courses as “Formulating for Factory Applied Wood Finishes” and “Crosslinking of Aqueous Wood Coatings.” Further, Ronald has taught as an Adjunct Instructor in the area of polymer chemistry. Ronald has also spoken at international and local societies, and symposia in the area of coatings science and technology.

Course language - ENGLISH

### What Students are saying about the Practical Wood Coatings Formulation and Application Course



- “Excellent! – Achieved all of my objectives: Learning about techniques, ideas for future work, role of functional fillers.”
- This course taught me more about wood, wood application than I would have ever learned at my job. It gave me a whole new perspective on coating wood.”
- Excellent! The info that was given was in such detail and explained perfectly.”
- ...”I have never obtained as much knowledge from any job as I did from this course.”
- The content of this course was “very good. I thought the course offered a nice blend of background and current information on the wood coatings industry.”
- “The delivery was very good.”
- “I thought the course was very informative.”
- “I am really enjoying the e-course.”
- “Excellent Presentation”

- "I have never enjoyed a class so much. Enthusiasm of Ron and obvious enjoyment of the technology and industry is contagious."