Certificate in Industrial Wood Finishing

A unique industry training program combining e-learning & practical components

Centre for Advanced Wood Processing
A unique industry training program combining e-learning and practical components includes hands-on exercises, demonstrations, and guest presentations. One week in an intensive practical finishing session that includes theoretical aspects of finishing in a convenient, web-based format. At the conclusion of the web-based study period, learners will spend three most difficult occupations to recruit for. A 2003 study by the Wood Manufacturing Council (Ottawa) found that finishing technicians were one of the three most difficult occupations to recruit for. In response to the need for accessible, non-proprietary, structured training, the Centre for Advanced Wood Processing has developed the Certificate in Industrial Wood Finishing. The program provides in-depth, comprehensive discussion of all of the key aspects of wood finishing. It has been designed to allow industry participants to study the theoretical aspects of finishing in a convenient, web-based format that is flexible to learners' work schedules and other commitments. At the conclusion of the web-based study period, learners will spend one week in an intensive practical finishing session that includes hands-on exercises, demonstrations, and guest presentations by various technical specialists.

Who We Are

The Centre for Advanced Wood Processing (CAWP) is Canada’s national centre for excellence for the wood products industry. We have been providing specialised research, extension services and education programs since 1996 to strengthen the market competitiveness of Canada’s wood products manufacturing sector. We deliver a wide range of seminars and lifelong learning programs for industry participants, including technical conferences, strategic marketing seminars, workshops and training programs, and in-plant consulting services. The Centre is located in Vancouver, at the Faculty of Forestry, University of British Columbia. CAWP has been organising industry conferences on industrial wood finishing since 1998, and has conducted popular educational seminars on wood finishing at major industry trade shows. Numerous practical workshops have also been held in various parts of Canada to provide hands-on skills training to small groups of industry learners. Since 2003 CAWP has begun incorporating web-based components into its professional training programs to provide an improved theoretical foundation for learners and reduce the amount of time that must be spent away from the workplace.

The Skills Challenge

Wood finishing typically represents at least 25% of the cost of the product, and the decisions made and actions taken at this stage of the production process are critical to final quality. Paradoxically however, formal training in this area is difficult to find. Wood finishing is a complex area, as it is directly and substantially affected by a large number of factors. These include: the quality and surface properties of the wood used; the coatings and stains chosen; the finishing system used; environmental conditions within the plant; and the relevant air emissions and safety regulations in force in the manufacturer’s location. A 2003 study by the Wood Manufacturing Council (Ottawa) found that finishing technicians were one of the three most difficult occupations to recruit for.

In response to the need for accessible, non-proprietary, structured training, the Centre for Advanced Wood Processing has developed the Certificate in Industrial Wood Finishing. The program provides in-depth, comprehensive discussion of all of the key aspects of wood finishing. It has been designed to allow industry participants to study the theoretical aspects of finishing in a convenient, web-based format that is flexible to learners’ work schedules and other commitments. At the conclusion of the web-based study period, learners will spend one week in an intensive practical finishing session that includes hands-on exercises, demonstrations, and guest presentations by various technical specialists.

Program Goals and Overview

This Certificate Program is intended to provide participants with a broad understanding of the field of wood finishing. It has been designed for individuals employed in the wood products industry who have some general experience in manufacturing (and possibly finishing), but would like to expand their specific knowledge and understanding of wood finishing processes. The broad aims of the program are to equip learners with the knowledge and experience to do the following:

• Understand why finishes are applied to wood, and how the properties of wood and finishes influence the performance of finishing systems
• Have a broad understanding of all of the considerations that must be borne in mind when making decisions related to wood finishing
• Select the most appropriate coatings systems and technologies to apply finishes to wood and wood composites for specific product requirements
• Apply finishes to wood using common application technologies (spraying systems and roller and curtain coaters) and test the properties of liquid finishes and the properties of the coatings
• Design a finishing facility to minimize contamination of finishes and the probability of fire or explosions and reduce costs and emissions of volatile organic compounds
• Access third-party information and resources that can be used on an ongoing basis to improve and successfully manage wood finishing processes

The program involves a comprehensive review of the various dimensions of wood finishing, including: wood properties; colour theory; the physical and chemical processes associated with the applications of stains and coatings; application methods; pre-treatments; coatings; application and curing equipment and automation; safety; environmental considerations; quality control and testing methods; and costs/economics. Throughout the course, workplace examples and case studies are referenced as much as possible, to provide real-world context to the discussions.

Testimonials

“This course has already helped my company and myself in several different ways. The most recent example was that we are having problems with blotchiness and shadowing on a medium dark tinted lacquer on maple. After reading the course modules, I decided to try a dye spray stain through a fine-tip airless system. This achieves 50% of the colour and gets into the shaker corners. Now we just lightly shade without any blotching. This is only one of several ideas I have come up with during the course. It’s also nice to be able to better understand the technical salespeople who visit us.”

Door manufacturer, BC
The course is divided into ten modules:

**Module 1** - Introduction to Wood Finishing
**Module 2** - Colour Theory and Wood Colour
**Module 3** - Surface Preparation
**Module 4** - Surface Finishes
**Module 5** - Spraying Technology
**Module 6** - Automated Finishing
**Module 7** - Drying and Curing of Finishes
**Module 8** - Post-Treatments
**Module 9** - Coating Parameters, Recycling, Safety, Environmental Considerations
**Module 10** - Quality Control and Finish Testing

The practical component of the course will be held over an intensive 6-day period and will involve 8 hours of instruction and hands-on exercises each day. Sessions will be held at the Centre for Advanced Wood Processing in Vancouver and/or other locations depending upon where the majority of course participants are drawn from. The practical component features presentations and demonstrations by a variety of guest technical specialists, as well as instruction by CAWP personnel. Topics covered in the practical sessions will build upon the theoretical foundation gained during the web-based component of the course, and will include the following:

- Measuring the colour of Canadian wood species
- Farnsworth-Munsell colour test
- Finish sanding and surface preparation
- Conditioning of surfaces for staining
- Spraying basics – gun setup, correct use, and cleaning
- Staining effects & simple finishes, chemical staining
- Advanced staining systems
- Preparing bleaches and removing stains from wood
- Tests on liquid finishes
- Tests on wet coatings
- Water-based finishes
- Roller coating, curtain coating, and flat line automated finishing
- UV curing and powder coating
- Automated spraying finishing
- Achieving special finishing effects
- Exterior finishes and testing
- Testing the properties of finishes
- Tours of various industrial finishing facilities

Throughout this phase of the certificate program, learners will have constant access to a course tutor and a technical support team. Individuals who have not taken an online or distance education course before may be concerned about the level of computer literacy required. The course website is very intuitive, and the various communication tools it contains are simple to learn and use. Individuals who have used a computer for word processing and other common applications, and are familiar with surfing the Internet and sending and receiving email, should have no difficulties. The first week of the course is set aside for the purpose of helping learners become accustomed to the course website and all of its functions.

**Course Author: Philip Evans**

Dr. Phil Evans is a Professor in UBC’s Faculty of Forestry, and Director of the Centre for Advanced Wood Processing. He has taught wood science and wood utilization in universities in the UK, Australia and North America for twenty years, and his research has focused on wood surface properties and the development of methods to enhance the aesthetics and durability of finishes on wood.

**Course Tutor: Jason Chiu**

Jason Chiu is a quality control certification specialist and extension trainer at the Centre for Advanced Wood Processing, UBC. Jason holds a Bachelors degree in Wood Products Processing from UBC and has worked for a number of secondary wood products companies. He has conducted several audits of industrial finishing facilities and performed hands-on finishing training, as well as running a comprehensive range of finishing testing services for industry.
Registration Form

complete form and fax to (604) 822-9159 or mail with payment to CAWP (address below)

PREFIX FIRST NAME (PLEASE PRINT)

LAST NAME

TITLE

COMPANY

ADDRESS

CITY

PROVINCE/STATE & POSTAL/ZIP CODE COUNTRY

TEL

FAX

E-MAIL

☐ Course Tuition Fee $1,995

Method of payment

☐ Cheque enclosed(make cheques payable to UBC)

☐ VISA ☐ Mastercard

Credit Card Number Expiry Date

Signature of Cardholder

Course Dates, Registration and Fees

The course is limited to 15 industry participants. The program fee of $1,995 covers the three-month web-based study component and the 7-day intensive practical session, and represents approximately 150 hours of instruction/study time. The web-based study component will begin in early January and will run until the first week of April. The practical component will be held during the second half of April (exact dates will be announced). To register or enquire about the program, please contact the Centre for Advanced Wood Processing.

Information & Location:

Centre for Advanced Wood Processing
#2900-2424 Main Mall
Vancouver, BC
V6T 1Z4

Tel: 604-822-6448 E-mail: cawp@cawp.ubc.ca
Fax: 604-822-9159 Web: www.cawp.ubc.ca
Toll Free Events Line: 1-866-822-2297

Prerequisites

1. Participants should have some knowledge or experience of value-added wood products manufacturing. There are no formal educational requirements, but participants should possess good numerical and writing skills.

2. Participants will need to access the course website and their own email account at least three times per week to check for announcements and updates and perform assessed tasks. Participants should have regular access to a relatively new computer (three years old or newer) running Windows 2000 or above, Mac OS X 10.2 or above, with sound card and speakers, Microsoft Word, web browser, reliable Internet connection, and an e-mail account.

Refund Policy:

Please notify us by mail, fax, e-mail or phone two weeks prior to the course start date for a full refund.

Cancellations received less than 14 days prior to the course start date will be subject to a $100 cancellation fee. No refund or credit will be issued if cancellation notice is not received prior to the course. Substitution of participants is acceptable.

In the event of very low registration CAWP reserves the right to cancel this course. Participants will be notified 14 days prior to the course start date in this case and will receive a full refund.