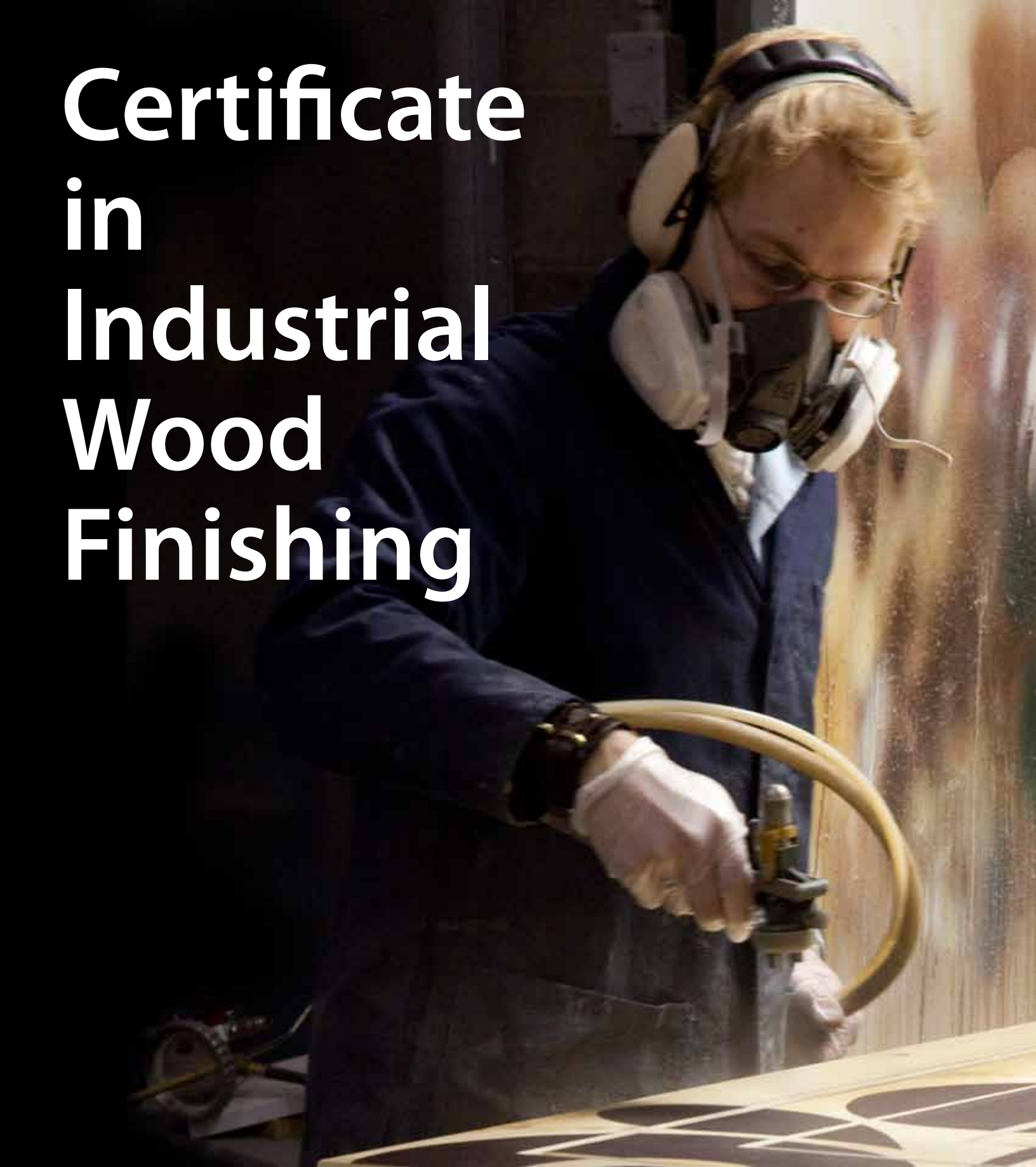


Certificate in Industrial Wood Finishing



A Unique Industry Training Program at the University of British Columbia



*Centre for Advanced
Wood Processing*

who we are?

Located at The University of British Columbia, the Centre for Advanced Wood Processing (CAWP) is Canada's national centre of excellence for the secondary (value-added) wood processing industry. We provide specialised research, extension services and education programs to strengthen the market competitiveness of Canada's wood products manufacturing sector.

CAWP has been organising industry conferences on industrial wood finishing since 1998, and has conducted educational seminars on wood finishing at major industry trade shows. Numerous workshops have been held throughout Canada to provide hands-on skills training to small groups of industry learners.

Since 2003 CAWP has offered a full certificate on industrial wood finishing, which incorporates web-based components to complement practical training and provide a theoretical foundation for learners. This format greatly reduces the amount of time that participants taking the certificate need to spend away from their workplaces.

the skills challenge

Wood finishing can represent up to 25% of the cost of manufacturing furniture and cabinets, and the decisions made at this stage of the production process are critical to final quality. 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 wood; the coatings and stains chosen; the finishing system used; environmental conditions within the plant; and the relevant air emissions and safety regulations in force at the manufacturer's location. A study in 2003 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, CAWP developed a Certificate in Industrial Wood Finishing. The Certificate provides in-depth, comprehensive coverage of all of the key aspects of wood finishing.

program goals and overview

This Certificate Program provides participants with a broad understanding of the field of wood finishing. It is designed for individuals employed in the wood products industry who have some general experience in manufacturing (and possibly finishing) and would like to expand

their knowledge and understanding of wood finishing. The Certificate's goal is 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 themselves influence the performance of finishing systems
- Have a broad understanding of the many variables that must be taken into account when selecting a finishing system for wood
- Select the most appropriate technologies to apply finishes to wood and wood composites and troubleshoot problems that occur during finishing
- 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 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 certificate provides participants with unrivalled access to information on the many aspects 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; coating types; 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 course.

course content

The web-based, theoretical component of 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

Topics covered in practical sessions build upon the theoretical foundation gained during the web-based component of the course, and include the following:

- Colour discrimination testing and colour matching
- Finish sanding and surface preparation
- Spraying basics – gun setup, spraying techniques, and cleaning
- Advanced staining systems
- Tests on liquid finishes and wet coatings
- Water-based finishes
- Automated spray lines, roller coaters and curtain coaters
- UV curing and powder coating
- Achieving special finishing effects
- Testing the properties of finishes
- Tours of various industrial finishing facilities

course format and delivery

The Certificate in Industrial Wood Finishing is delivered in two distinct phases. The first phase lasts approximately three months and is delivered via the Internet. During this time, learners study part-time using the interactive course website. The website is an unrivalled electronic resource for the course: all of the information required for the Certificate can be found on the website – no additional text books or printed materials are required.

Learners should set aside eight hours per week for study activities during this web-based phase, which include the following:

- Reading and reviewing the lessons on the course website including the supporting photos, diagrams, videos and simulations
- Answering quiz questions
- Following the web links provided to other websites on wood finishing
- Taking part in online discussions
- Exchanging emails with course tutors and other learners
- Writing and submitting reports and short assignments – both individually and in pairs or groups

Throughout the web-based component, learners will have regular access to a course tutor and a technical support team. The first week of the course is set aside to help learners become accustomed to the course website and all of its functions. 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 second phase of the program is a practical component held over an intensive 6-day period at CAWP in Vancouver. It involves 8-hours of classroom instruction and hands-on exercises each day. It includes presentations and demonstrations by a variety of guest technical specialists, as well as instruction by UBC personnel.

The course is limited to 15 participants.



course leader

Dr. Phil Evans is the holder of the BC Leadership Chair in Advanced Wood Products Manufacturing technology at the University of British Columbia. He leads a major research program focusing on wood surface properties and the development of methods to enhance the appearance and durability of finishes on wood. He has taught industrial wood finishing at UBC for ten years and has given numerous seminars and conference presentations on the subject.

course instructors

Technical specialists from industry are brought in to share their expertise during the classroom component of the course.

course tutor

Jason Chiu is a technical specialist and extension trainer at the Centre for Advanced Wood Processing. He holds a Bachelor of Science 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.

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

"Great course – fantastic instructors"

Cabinet manufacturer, Ontario

"The mix of participants was a real bonus, especially during the practical sessions"

Window manufacturer, BC

"This course has taught me many lessons. It has been a great experience and I recommend it to anyone in the wood finishing industry"

Wood finishing company, BC

"I have gained a better understanding of colour theory. It has helped me to better understand colour matching"

Owner of finishing company, BC

registration and information

Centre for Advanced Wood Processing

#2900-2424 Main Mall, Vancouver, BC, V6T 1Z4

Tel: 604.822.6448

Email: cawp@cawp.ubc.ca

Fax: 604.822.9159

Web: www.cawp.ubc.ca

Toll Free: 1866.822.2297

