



## Developing Skills and Building Capacity for Tomorrow's Forest Product Industry: The UBC Centre for Advanced Wood Processing

**N**ESTLED WITHIN THE FOREST SCIENCES CENTRE complex at UBC's main campus, the Centre for Advanced Wood Processing (CAWP) is identifiable first by the familiar stacks of lumber and engineered wood products arrayed around the yard. Visitors venturing inside will find a manufacturing lab equipped with the latest manufacturing machinery, a computer lab brimming with computer-aided-design tools and a staff dedicated to carrying out the training and industry service mandate of Canada's national centre for education, extension and research for the advanced wood products industries.

### Who We Serve

CAWP was established in 1996 in response to the lobbying efforts of a group of Canadian value-added manufacturers. Its services are typically aimed at producers of furniture, cabinets, millwork, doors and windows, remanufactured products and factory-built homes. The enterprises range in size from three or four employees to several hundred. Primary lumber manufacturers also benefit from activities such as CAWP's kiln drying certificate program and its product development service.

### Continuing Education

CAWP's newest certificate program was developed for the Wood Manufacturing Council and launched this year. It consists of eight 30-hour management skills modules that can be taken online, covering areas such as production planning, factory layout, quality management, new product development and business finance. The program was created primarily to help small to medium sized enterprises develop the in-house expertise to implement management systems into their businesses and prepare for further growth.

The program was developed with direct input from an industry committee that

reviewed and commented on every page of course text and a full-scale pilot launch of the first module was done to ensure that it met industry needs. This program is unique in that all of the case studies and examples discussed in the course modules are from the value-added wood sector. "We had 10 companies from St. John's, Newfoundland to Delta, BC take the pilot course. Then we interviewed all 30 learners during a packed two-week road trip last April [to get their feedback on the course]," explains Jason Chiu, the project manager. Each management skills module is being offered twice a year and is taught by instructors who all boast extensive experience in the industry.

### Making Learning Flexible

The range of continuing education programs offered by CAWP is diverse, from one-day skills workshops and seminars to week-long technical training courses, in-factory training, e-learning courses, to certificate programs.

We've been offering training for more than 10 years and there has been a conscious effort in that time to make workplace learning more and more flexible for our industry clients. The first certificate program we offered was on kiln drying and was delivered face-to-face at UBC and onsite at various kilns. The course consisted of four one-week modules, but the travel costs and time away from the workplace really hindered many companies from taking part.

To address this issue, subsequent certificate programs incorporate web-based e-learning portions so that learners can study the theoretical side on their own time at their home or workplace and then travel to a shorter face-to-face session in which they apply the information they've learned. An example is the Industrial Wood Finishing Certificate, in which participants complete 100 hours of study online between January and March,

then visit UBC in April for a six-day intensive practical course that includes hands-on sessions, demonstrations and factory visits.

### Developing and Prototyping New Products

In addition to offering training, CAWP works one-on-one with companies to help develop and prototype new products. In the last year, CAWP has helped furniture and millwork companies to design new furniture lines and determine the most cost and time-efficient manufacturing sequences to produce them. It has also worked with two companies seeking to adopt prefabricated construction methods for residential homes.

One project involved analyzing various computer-aided design and manufacturing software applications and recommending the best one for the company to use to produce panelized walls and roof sections. Once this was done, technicians used CAWP's Hundegger K2, an advanced computer-controlled joinery machine, to pre-cut a whole house package as a test of the cost savings and efficiency gains that the company could expect from prefabrication. CAWP expects to do around ten such projects this year.

BC companies can receive funding support to cover 50% of the costs because these activities are supported by the Business Innovation Partnership, an initiative that is funded by Forestry Innovation Investment and delivered by CAWP, BC Wood Specialties Group, and FPInnovations. The Business Innovation Partnership provides one-stop shopping for BC manufacturers seeking to access technical or business/marketing services.

CAWP was originally established with grants from Forest Renewal BC and the BC Ministry of Advanced Education. Nowadays its activi-



Student-designed blue pine furniture destined for the Olympic Athlete's Villages.

ties are funded through an endowment that was established at its inception, as well as through an industry partnership program, various project grants and cost recovery on some of its services. CAWP is fortunate to be supported by a large number of industrial equipment and technology suppliers, whose in-kind contributions of software, machinery, supplies, and services significantly enhance the facilities and the training and education experiences that CAWP is able to offer.

For more information on CAWP see [www.cawp.ubc.ca](http://www.cawp.ubc.ca) or [iain.macdonald@ubc.ca](mailto:iain.macdonald@ubc.ca).

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Product development: A timber-frame gazebo prototype cut on the Hundegger K2.



Parts for the 2010 Olympic medal ceremonies podiums in the CAWP lab after CNC machining.

Photos: CAWP