

Education

Prep Work

UBC's software program gives students hands-on experience

By Christine Honeyman

If you've been pondering the purchase of CAD CAM software but are sceptical about finding someone who can run it, you're not alone. Companies across the industry have long complained of the lack of skilled workers. Thankfully, Canadian post-secondary institutions are working to change that, some partnering with leading manufacturers to ensure that students are well equipped to face the "real" world. One of those schools is the University of British Columbia (UBC), where students enrolled in their Wood Science program are trained using the latest technology.

UBC's most recent partnership is with Microvellum, a supplier of AutoCAD-based design and manufacturing software. The company — known for its strong support of education and training — donated 25 licences valued at \$8,000 each to the university after a facility manager at the university approached the company's booth at Ligna, one of the industry's largest trade shows located in Hannover, Germany. Not only do fourth year students enrolled at UBC's Wood Science program benefit from learning on the latest CAD CAM software, they also benefit from the additional training they receive from Microvellum. "As part of the course I invited Microvellum to assist with training, and we did it together," says UBC Senior Instructor, Robert Fürst, who teaches several courses including the CAD CAM course known as Mech 492. In this course, students gain hands-on experience operating and programming CNC routers using commercially available CAD and CAM software.

"The training we receive is great," says fourth year student Sean Compston. "The software saves you an incredible amount of work in terms of organization, and it's a really practical program. Because it's Excel-based it's easy to understand and it's also very intuitive. Not only does it do drawings, it does the whole CAD CAM procedure including the draft drawing, the bill of materials, the route sheet and the supply, which then link-up to other parts of the business."

"The fourth year is pretty much when students get their first exposure to CAD CAM, but they do get a bit in second year," says Fürst. "We recently



changed the program so students would know how to draw in the second year but they would not know the CAM side of it until fourth year. I have to say they pick it up like nothing. It's not rocket science but it does require a different mindset, and unlike boomers, kids today have pretty much grown up with computers."

Due to budgetary constraints, Fürst says it's necessary to partner with industry leaders to ensure students benefit from working with leading edge technology. "We have this 10,000 square foot machine lab, and I would say out of all

the equipment about 60 percent is loaned to us." Another 30 percent is purchased. The remaining percent, says Fürst, is donated to the department by larger manufacturers and suppliers. "The main players in the industry put their machines here for free. And every two- or three-years we get brand new equipment, and pay only for shipping and installation."

It's a win-win situation for manufacturers, for our students, and for the industry," adds Fürst. "In the end, we provide training for the industry, but we also allow industry to use our facility for training in the evenings. Sometimes manufacturers use our facility as a showroom because we use the huge CNC centres."

While post-secondary institutions like UBC are educating students on the latest technology, there still aren't enough students to go around. "We do a lot of consulting," says Fürst, "and finding educated workers remains a problem. Even if a company has the newest CAD CAM software some still can't find people to program it, or who understand how to use it. So what I do quite often is recruit people from Germany to help these companies. I would rather recruit Canadians but it's impossible."

Fürst has 24 students in his fourth year class but admits that he'd like to see twice that many. Fortunately, programs such as WoodLinks, a wood products manufacturing and certification program designed for North American high schools, is helping to introduce woodworking to a new generation. The program, which was initially developed in

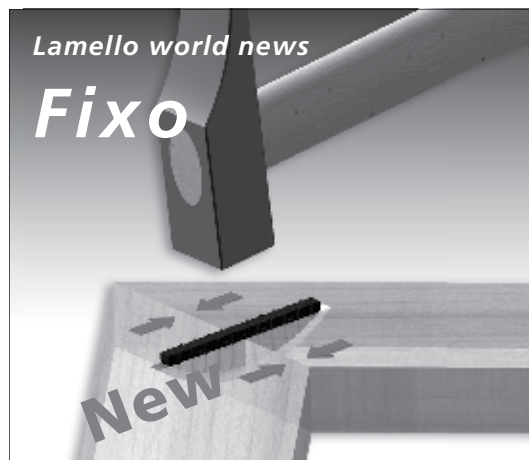
Continued on page 21



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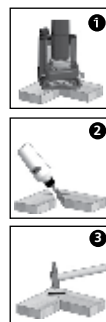
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Education



Thinking Ahead Prep Work

Looking for workers who possess entry-level woodworking skills geared toward your specific industry sector? Try your local high school. Savvy woodworking companies and industry groups are taking advantage of what could be one of Canada's best kept secrets — the revised WoodLinks curriculum.

Although the revised curriculum is not due for official release until mid February, the Wood Manufacturing Council (WMC) which is the Human Resources Sector Council for the advanced wood products manufacturing sector in Canada, has been working with select high schools and industry groups throughout the country to implement the revised WoodLinks program.

The program, which was initially developed in British Columbia, and is approved by the BC Ministry of Education, is designed to recruit and prepare students for entry-level work in the wood products manufacturing industry as well as prepare them for entry into wood-related college and university programs. The original WoodLinks 2000 curriculum, which is a general woodworking program, has recently been revised to include industry-specific teaching modules.

The modules, which were developed with input from industry advisory committees, are designed to meet the specific needs of various industry sectors including manufactured housing, cabinets and millwork, furniture, windows and doors, fine wood working, panelboard and remanufactured wood products. For high schools not located within proximity to an industry sector, a module that covers entrepreneurship is also available.

High schools participating in the program can select the teaching module that best meets the needs of local industry. Companies or industry groups who can provide students with employment opportunities, and who are willing to work with their local high school and mentor students can kick start the program by contacting the WMC.

The most recent industry group to take advantage of the revised WoodLinks program is the cabinet and millwork sector that operates in the vicinity of the Timothy Eaton Business and Technical Institute in Toronto, Ont. This sector has actively worked with the high school to redesign its wood shop so it replicates an actual manufacturing facility complete with equipment and expertise provided by industry partners.

Another industry group that has seized the opportunity to train students for their industry is the manufactured housing sector in New Brunswick. This sector has partnered with five high schools in Halifax, says WMC program manager, Robert Rivard.

To further support the WoodLinks program leading machine manufacturers and software developers have also jumped on-board, donating or leasing the latest technology to WoodLinks certified schools. With this industry support, school boards across North America can afford to offer students industry specific training using the latest technology.

For more information, visit WoodLinks at woodlinks.com.

Continued from page 13

B.C., is designed as a tool to teach relevant knowledge and skills in wood manufacturing to senior students. (For more information on WoodLinks, please see sidebar.)

Back at UBC's Wood Science program, students get to enjoy learning about production, and working with machines. Compston, for one, says he likes everything about the program. "The appeal is you can apply what you learn directly to industry. This program will put you into a job, instead of looking for one. You acquire skills but they also teach you the business side of it." Compston says he recently applied what he has learned to his family's window covering business. "I did a quick inventory with my dad so he could find out what the average size of his blinds were and the average costs, and it made a big difference."

Students also benefit from the university's partnership with two European universities: one in Germany and the other in

Switzerland. Students and professors from the universities travel back and forth, each learning from the other. Rosenheim, the German university, was instrumental in helping UBC design its Wood Science program about 10 years ago, and its president visits UBC once a year and teaches plant layout.

"Compared to the U.S., Canadians are way ahead because they are innovative and open"

Although students are exposed to the latest in European technology and methodologies, Fürst says Canadians are probably about 15 years behind what they are doing in Germany right now. "About 60 to 70 percent of the Canadian industry has old, outdated equipment," he says. "But some of the bigger companies like Palliser and

Loewen are jumping all over the new technology because if they don't, they could not remain competitive in a mass production type of environment."

Although many Canadian firms have yet to update their equipment, Fürst remains optimistic. "Compared to the U.S., Canadians are way ahead because they are quite innovative and open. They are very aware of the new equipment and would like to change if only they had the capital to do so."

The companies that do have the capital to invest in machinery upgrades are offering co-op opportunities to students, and are quickly snapping them up upon graduation. Post-secondary institutions such as UBC continue to forge strong partnerships with industry leaders to provide students with the technologically advanced education they require to ensure the industry remains competitive within a global arena. As Compston says about the state of the Canadian woodworking industry, "Our only option is to go robotic, and to develop a more efficient system." **WW**



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