

SPOTLIGHT ON...U of M masonry partnership

Generally speaking, the history of masonry is virtually synonymous with the history of architecture.

This winter, architecture students from the University of Manitoba were able to find out more about how these two arts intertwine, thanks to a five-week elective created in partnership with the Manitoba Masonry Institute (MMI).

“I believe that having connections to industry partners is very important,” says Terri Fuglem, head of the Department of Architecture at the university. “Masonry is an ancient and venerated art, and I have deep respect for the trade. If we can improve the building stock of our country through courses like this, it’s a great partnership.”

Sessional instructor Ted Landrum did his homework prior to designing the graduate-level course, taking previous University of Manitoba workshops into consideration and consulting with Fuglem about course objectives.

“I think everyone in the department is keen to encourage continued appreciation for masonry construction,” says Landrum, “both because of the obvious need to maintain and adapt buildings that are a cherished part of Canadian heritage, and because masonry remains one of the principle areas of innovation in architecture today.”

Landrum also met with Red River

College bricklaying instructor Brian Gebhardt and MMI president Jeffrey Dolovich to discuss the creation of the hybrid seminar and workshop, which saw a mix of academic research and practical “hands-on” coursework.

During the five weeks, students were able to cover the world history of masonry, to study masonry details featured in local buildings and in recent award-winning projects, and to learn more than 150 technical terms associated with the field. Following an intensive workshop and a tour of Gillis Quarries, students then presented their research to one another and prepared a final booklet documenting what they had learned.



“I decided to ask the students to collaborate with one another, not only in laying a few bricks, but in working to build up a broad scaffolding of historical, contemporary and technical knowledge,” says Landrum. “This supportive scaffolding should enable them to place the physical knowledge gained through hands-on experiences and field trips on a solid foundation of understanding they can continue to build on in their own way in the future.”

As the centrepiece of the hands-on component, students participated in a bricklaying workshop at Red River College, headed by Gebhardt and Dolovich.

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—University of Manitoba instructor Ted Landrum



Pictured: University of Manitoba students attend a bricklaying workshop at the Red River College (RRC) campus, headed by RRC instructor Brian Gebhardt and MMI president Jeffrey Dolovich. Photos courtesy of Dolovich and University of Manitoba sessional instructor Ted Landrum.

“It came up in a meeting that they wanted to have practical experience with the students. I said, ‘We have everything we need at the shop at the college.’ Quite honestly, I could argue that our facility is one of the best in North America,” says Gebhardt. “It was a no-brainer. I want people to know that masonry training is ongoing in Winnipeg—we’re still teaching masonry techniques that are now hundreds of years old.”

The workshop included a detailed demonstration of an insulated cavity wall with brick veneer, complete with bituminous membrane, adjustable masonry ties, weeps, a vertical control joint and reinforcement in the back-up wall. “What is essential for architects to understand is the successful integration of these diverse materials and systems, and the limitations and advantages each part brings to the whole: a brick cavity wall, without a properly drained and vented air space, will not perform,” says Landrum.

That practical experience brought students closer to the material and provided them with a deeper understanding of the trade, which will help them in their future architectural careers, says Fuglem. “Our students really love materials, and that’s one reason they become architects,” she notes. “The way in which we introduce them to the qualities and properties of building materials is through this kind of hands-on experience that allows them to see, touch and feel the masonry units and what they’re like to assemble.”

Students had nothing but positive things to say after the workshop. “They seemed to be very receptive of it and really enjoyed the experience,” says Gebhardt. “I loved having the young people in here, getting their hands dirty.”

“Students really loved touching the stone and seeing, hearing, and smelling the elaborate stone-cutting facilities, machines and saws,” adds Landrum. “Getting the students into the bricklaying shop at the college was itself very persuasive for them.”

In addition to the workshop, students went on a masonry expedition right on the university campus, where they took photos and charcoal rubbings of buildings featuring brick and stone. They also toured the facilities at Gillis Quarries, where they learned more about the quarry; the formation, cutting and finishing of the stone; the stone's performance in different orientations; and all of the practical aspects of design and production.

"I firmly believe multiple approaches are needed to cement knowledge in a way that leads both to comprehensive understanding and to the vitality of imagination that architects need to do their work," says Landrum. "Like building a great city, learning takes time and a willingness to expose ourselves to unfamiliar things."

Landrum and Gebhardt hope to see the program offered again so future architecture students can take advantage of the unique partnership between the university and the MMI.

"I think the biggest advantage for the students is that they can see some of the possibilities of what can be done with masonry, in terms of product and all of the different procedures," says Gebhardt. "There are so many possibilities that can be explored."

Update from the CMCA from new president Harry Laarveld

The Canadian Masonry Contractors' Association's (CMCA) annual conference, in conjunction with its AGM, took place from May 7 to 9, 2015 in Chicago. It is my honour to act as president of the association for the next two years. I will have some big shoes to fill after the leadership of several forward-thinking representatives in our industry.

We recently lost the CMCA's first president and active member for 48 years, Mr. Eugene George of G.A. Masonry. He was a true visionary and I will attempt to follow his lead to advance the CMCA's profile as the industry leader in Canada.

Our board of directors, consisting of provincial representatives, is empowered to guide us into the next 10 years—the theme of this year's conference that will help set the tone for my tenure.

Some of the areas we're currently working on:

1. The CMCA is continuing to work with the U-40 to help bring us into the electronic information age.
2. We are working on the second edition of the textbook for Canadian masonry that our schools are using to instruct apprentices. The book will be ready for use in both official languages by May 2016.
3. Through the National Trade Contractors Coalition of Canada, of which the CMCA is a national member, we are leading the charge across the country to formulate provincial prompt payment legislation.
4. Lobbying work concerning fire safety in buildings housing multiple families is ongoing. In this quest, we continue to work with other industries, such as ready-mix concrete, precast, etc., that are closely associated with masonry.
5. The latest version of all CSA standards related to masonry will be published in 2016. The CMCA has invested many hours of hard work, as well as substantial finances, to cover the costs involved in that procedure.

We continuously work to bring together all industry members and work toward a more consumer-friendly environment, through which our customers are assured quality of work when they choose CMCA contractors and their partners.

SPOTLIGHT ON...New Manitoba Energy Code for Buildings

As of Dec. 1, 2014, the 2011 National Energy Code of Canada for Buildings became effective in Manitoba, with a few tweaks to suit our local practices and environment. The new Manitoba Energy Code for Buildings will help our province see an increase in building performance.

"Work on updating the national code began in 2007 and was completed in 2011, when it was published," says Rick Marshall, design manager at Bird Construction, who sits on the standing committee for the National Energy Code. "Codes are a provincial responsibility, so each province has its own procedures to review model code documents and decide whether or not to adopt them."

The goal of the 2011 national code rewrite was to see a 25 per cent increase in energy efficiency for commercial and institutional buildings. "During the rewrite, we also completed energy modeling simulations," says Marshall.

Energy modeling has proven to play an important role in the design process, with many electing to employ energy modeling rather than adhering to the new code's prescriptive design requirements. John Wells, principal at Crosier Kilgour & Partners Ltd., has found energy modeling useful when following the prescriptive path does not lead to the desired results.

"What is most difficult is that if you follow the prescriptive path, it requires a very high level of thermal resistance," says Wells. "In terms of overall thermal transmittance of opaque wall areas, the prescriptive path requires R27 Effective for exterior walls, which is a very high level of thermal transmittance. An important component of overall building design is the return on investment, and introducing such high levels of insulation will substantially increase the required payback period."

Another issue, says Wells, is trying to effectively accommodate the reduction in thermal resistance due to thermal bridging in exterior wall systems—an important design consideration. "From a cost perspective, it will tend to increase the design and construction costs to accommodate for thermal bridging," he says. "There is a positive impact, however, as it reduces condensation within wall systems."

Wells notes that the changes that come with the introduction of the new code will affect the design and construction industries fairly significantly. But perhaps most importantly, the code has brought the power of energy modeling to the surface.

"To arrive at the appropriate design solution for the building envelope, you really need to employ energy modeling. Rather than following the prescriptive path, energy modeling allows us to holistically look at the actual costs of running the building," he says. "It will enable us to make more educated decisions when we design and construct mechanical and electrical systems while incorporating the performance of the building envelope."

The normal code cycle calls for updates every five years, but it's up to the province to decide if and when Manitoba adopts any updates. "Nationally, we're starting to work on updates for 2020," says Marshall.

For more information about the National Energy Code for Buildings, please visit:
http://www.nrc-cnrc.gc.ca/eng/publications/codes_centre/2011_national_energy_code_buildings.html