

***Presentation Title:***

Humber's Centre for Urban Ecology: Using Sustainability to Connect Academic Programs, Applied Research and the Community

***Presenter:***

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***Background:***

Humber College Institute of Technology & Advanced Learning, Toronto, Ontario, Canada.

A leader in polytechnic education, Humber offers innovative, career-focused learning opportunities. It provides over 350 programs including: bachelor's degree, diploma, certificate, apprenticeship and postgraduate programs. Humber serves 18,000 full-time and 55,000 part-time learners, as well as more than 15,000 employees in custom corporate training. Its strong partnerships with employers, as well as transfer agreements with 45 universities and colleges, help students to build a foundation for lifelong success. Over 90 per cent of Humber students find employment within six months of graduating.

***Topic:***

Humber's Centre for Urban Ecology: Using sustainability to connect academic programs, applied research and the community.

Humber's recently completed Centre for Urban Ecology holds sustainability at the core of its design, construction and operational lifespan. The Centre for Urban Ecology will demonstrate technologies and practices that reduce green house gas emissions, clean up rivers and lakes, restore adjacent valley lands, and work towards a healthy, sustainable environment in urban spaces.

The following green technologies and design elements are included:

- Passive solar heat sources, incorporating high performance windows, super-insulation
- Vegetated ('green') roof for storm water management and passive cooling
- biofilter system for sewage and grey water treatment
- water conserving toilets
- cistern to collect roof top runoff and supply landscape irrigation
- natural cooling and ventilating
- natural day lighting, high efficiency luminaries, occupancy sensor controls
- high efficiency gas boiler
- environmentally friendly building materials

- minimization of PVC products, low VOC finishes/ sealants
- exterior designed to LEED ( Leadership in Energy and Environmental Design) standards
- an integrated monitoring and control system to achieve energy efficiency and occupant comfort and to provide data relating to the effectiveness of green technologies in an urban public building

These features collectively will reduce the Centre's impact on our urban environment, and cut Humber's energy costs significantly.

The Centre opens the door to improved learning and research opportunities for Humber students in programs including Architectural Technology, Civil Engineering Technology, Electrical Control Systems, Environmental Technology, Horticulture, Interior Design and many more. Interdisciplinary curriculum activities focused on the Centre's sustainable components provide opportunities for improved learning, critical thinking and problem solving. Applied research projects focused on the Centre's sustainable components will contribute to the Ontario's colleges recently adopted mandate of supporting innovation and commercialization.

Each year, thousands of elementary, middle and high school students and community members will visit the Centre and Humber Arboretum for programs in ecology, nature interpretation and sustainable building technologies and practices.

This presentation will highlight Humber's experience in the design and construction of this sustainable building and how the Centre for Urban Ecology will serve to advance the study and practice of sustainability among students, researchers and the community.

***Evaluation:***

The Centre for Urban Ecology has not had its official opening, evaluation of the impact of the Centre will be done as programs commence.

***Lessons Learned:***

Humber's Capital Development Office, responsible for the construction of the Centre for Urban Ecology, found that initial estimates of additional cost related to the LEED certification process were significantly less than actual costs.