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NIAGARA**

*Design. Build. Service.*

## Humber College Sustainable Energy & Building Technology Lab



### PROJECT DETAILS

LOCATION:  
ONTARIO – GREATER  
TORONTO

MARKET SECTOR:  
EDUCATION

DELIVERY METHOD:  
DESIGN/BUILD, MECHANICAL  
CONSTRUCTION

The Sustainable Energy and Building Technology Program at Humber College helps students develop the technical skills needed for a career in the growing green economy. To ensure the program is relevant and current, the curriculum is designed with industry collaboration. Modern Niagara is one of their industry partners, with experts teaching the building automation components of the program.

We recently brought together other industry partners – including Distech Controls, Belimo and DMC Mechanical – to design-build and cost-effectively upgrade the program’s lab with state-of-the-art, Internet-enabled building controllers. Humber envisioned a workstation that students could use to manipulate a building automation system (BAS) and experience the real-time reaction to their manipulations. To that end, we designed a miniaturized air-handling unit (AHU), and DMC Mechanical built it using sheet metal. We also upgraded the lab’s systems with IP-enabled devices from Distech Controls.

Ten new workstations now allow student to practice programming building automation systems and analyze the results of their work. They learn about basic input/output relationships, how to program and simulate AHU operation, and how to create graphical user interfaces.

Most importantly, the students are learning about the present and future of building automation, with leading-edge, Internet-connected control systems that represent building automation in today’s “Internet of Things” world.

Details of our lab installation include:

- 10 Distech Controls Eclipse Connected System Controllers with wifi adapters.

- 10 AHU workstations (pictured), complete with: fans and ductwork, dampers and actuators, valves and actuators, temperature sensors.

- Integration with existing workstation technology that includes a Niagara AX JACE from Distech; Distech BACnet controller, Distech LonWorks controller, Wired and wireless temperature sensors, and Niagara AX Security JACE from Honeywell.

As an added benefit to Modern Niagara clients, we have access to the lab to provide customer training when it is not in use by students.