

New Brunswick H.S. engineering students design science labs based on Paul Robeson Community School construction blueprint

A “real world” opportunity, complete with challenges

NEW BRUNSWICK, NJ (June 19, 2017) – There’s a big difference between theory and a real world challenge – a lesson 15 New Brunswick High School engineering students have now learned firsthand.

With the district’s Paul Robeson Community School for the Arts in the midst of a multi-year construction and expansion project, high school teacher Patricia Chilelli perceived a unique instructional opportunity. She decided her Introduction to Engineering class would learn about municipal construction, as they undertook a long-term project focused on developing designs for a complete science lab... which would fit within the very specific constraints of the Robeson School architectural blueprints.

“With engineering, one of the most difficult considerations is that whatever is being created must exist within a surrounding environment,” Chilelli explains. “That’s true of bridges, highways, and also science labs. Since almost all the students were familiar with the Robeson School project, this seemed a great way to teach about making things ‘fit.’”

Chilelli laid out very detailed guidelines – the lab would need to support science activities appropriate to the school’s population of fourth through eighth graders, while also accommodating a total of 24 students based on a specific space formula. Through support from the New Jersey Schools Development Authority (NJSDA), her class was able to monitor ongoing work in the area of Robeson School that their project addressed, via a mounted, internet-connected video camera

And fortunately for the 15 students – who were divided up among four distinct teams – they were even able to visit the site of their lab, thanks to a pair of in-district field trips coordinated by the NJSDA and New Brunswick Public School’s director of Facilities, Design, and Construction, Frank LoDolce.

“It was a lot of fun fitting the entire class with construction helmets and other safety equipment, then bringing them to the building site,” LoDolce says. “They were working on a range of different concepts, and walk around within the actual space gave them a much clearer vision of what would and wouldn’t work.”

The class’ four final plans and 3D models – one submission each from the teams Victory, Academy, JAGD, and IEJR – were presented during a June meeting of Superintendent of Schools Dr. Aubrey Johnson’s cabinet. All successfully addressed the challenging parameters Chilelli had established.

“Often, when you give students a complex, long-term assignment like this one, you don’t know what the final outcome will be,” Chilelli explained. “The most valuable, educational experience is the overall process – the success or failure of the engineering itself is decidedly secondary. But in this case, I’m proud to say the students did a fabulous job and each of their four science lab designs were terrific.

Photos of New Brunswick High School’s engineering class touring the Robeson School construction site are [available here](#). Frank LoDolce, the district’s director of Facilities, Design, and Construction, is pictured wearing a maroon red tie.

About New Brunswick Public Schools

The New Brunswick, NJ public school district consists of two high schools (New Brunswick High School and Health Sciences Technology High School), a middle school (New Brunswick Middle School) and nine elementary schools (Lincoln, Lincoln Annex, Livingston, Lord Stirling, McKinley, Redshaw, Roosevelt, Paul Robeson Community School for the Arts, and Woodrow Wilson schools). The New Brunswick Public Schools offer a comprehensive educational program for students in grades pre-kindergarten through twelfth grade and serve more than 10,000 students.

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