Chapter Spotlight: Charlotte's Eco Learning Lab

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Late last year, South Mecklenburg High School in Charlotte, NC built an "Eco Learning Lab," an outdoor classroom for students, instructors and green building professionals. The laboratory provides a forum for students to strengthen their educational experience and opens a dialog with green building professionals that can assist in career exploration. The hope is that the Eco Learning Lab can be replicated at other high schools in North Carolina.

Sponsored by 25 organizations including the USGBC Charlotte Region Chapter (USGBC CRC), this outdoor classroom is a full scale green building system mock-up including a weather station, photovoltaic trees, a greenhouse, rainwater harvesting and a green roof. Once operational, the lab will be a supplement to Science, Technology, Engineering and Mathematics (STEM) curriculum taught at South Mecklenburg. In fact, Greg Pillar, chair of the Environmental Science Department at Queens University of Charlotte and meteorologist Brad Panovich of WCNC are among those working on a curriculum for the Eco Learning Lab.

In addition to the positive impact on students at South Mecklenburg High School, web-based monitoring of the lab provides an opportunity for interaction across the school system. The $30,000 project was financed by donations from professionals and building suppliers, and included a grant awarded to USGBC CRC from the Center for Green Schools. USGBC CRC has also supported the project with volunteer time, including architectural renderings, signage, logistics, photo documentation and school system connections.

The project is spearheaded by Tim Munson of Tecta America Carolinas and a USGBC CRC green schools advocacy committee member. Construction and installation of the Eco Learning Lab was primarily conducted by student and adult volunteers in November 2011. The technical wiring and IT work was done by experienced professionals.

Snapshot of the Eco Learning Lab:

Components

- green roof
- greenhouse
- water-catchment system
- seven different solar modules, ranging from 175 to 230 watts, each comprised of different media -digital monitoring system that anyone can access online

Functions

- track power production
- compare and contrast solar modules
- monitor carbon dioxide and oxygen levels in the greenhouse
- read moisture sensors on green roof
- measure water retention and water purity

For more information, please contact Emily Scofield, Executive Director, USGBC CRC, escofield@usgbccrc.org or Hamilton Cort, Green Schools Advocacy Chair for USGBC CRC, hbcort@yahoo.com In addition, the project information is available online at http://www.ecolearninglab.com/.

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