



Advancing Greener Careers and Campuses

Germanna Community College Fredericksburg Campus Fredericksburg, Virginia Green Jobs

SCHOOL

Germanna Community College, public, 2-year, Fredericksburg, Virginia.

ABSTRACT

The goal of this project was to increase the knowledge and awareness of green building methods of reducing energy consumption among Germanna's students, faculty and staff. This project involved training students to be tour guides for the newly constructed Science and Engineering Building/Information Commons at the Fredericksburg campus. The building project was completed in May 2012, and the student tour guides provided over 40 tours to community members, faculty and staff, students, and visitors from other institutions interested in green building design. This project involved one faculty member, ten personnel associated with the architect and construction firms selected for the building project, and six engineering students serving as the tour guides. According to the Northern Virginia Workforce Investment Board, there are more than 336,000 jobs in a representative group of job areas that could see job growth or wage increases by putting global warming solutions to work. Furthermore, Chancellor Glenn DuBois of the Virginia Community College System states that the VCCS is "starting to see demand for green jobs in Virginia in the weatherization, HVAC, and wind industries."

GOALS AND OUTCOMES

Goals

1. Train students to conduct tours of the new facility by working with project architects and building construction team.
2. Conduct tours of the building using student tour guides for community members and the Germanna Community College staff, faculty and students.
3. Incorporate green building design into engineering curriculum.



Accomplishments and Outcomes

The project successfully trained six engineering students to conduct over 40 tours of the new facility. The students memorized a five-page script with included details of the wind turbine, green roof, and recycled building materials content. The students provided tours to over 500 people including community members, local politicians, and VCCS leadership. In addition, green building design modules

were added to the Introduction to Engineering course to support student understanding of green building design.

Challenges and Responses

The greatest challenge for this project was timing. We initially expected that the building would be completed in March 2012. The building was not released for occupancy until May 2012. Because of the delay, it was very difficult to arrange practice sessions for students leading up to the Grand Opening due to final exams. We responded to these challenges by being as flexible as possible. We developed a very detailed script and process for taking visitors through the building. This information was shared with all the supporters of the project using Google Docs which ensured that everyone was working off of the most recent version of the document.

Another challenge to note was the ability to obtain pertinent building information. Although we had several meetings with the architects and construction team, it was very difficult to get follow-up questions answered which required input from staff not present at the meeting. We responded to this challenge by doing our own research on various vendors supplying equipment or materials for the building.

Campus Climate Action: Your School's On-Campus Sustainability Projects

This project did not help to reduce the carbon footprint on campus. However, the new building has ushered in a new campus mindset which is more amenable to recycling. The number and availability of recycling stations across campus has increased since the opening of the new facility.

Commentary and Reflection

The determining factor for conducting a successful project involving student tour guides is the passion that the selected students have for the topic. Many students will apply for the opportunity because most students need money. However, only a few truly have a passion for the technologies, methods, and creativity behind green building design. During the practice sessions for the tours, we worked hard to predict questions that the audience would ask of the students. However, we could not predict them all. There were many times when the students would have to take a guess at a question or use their own personal knowledge of the field. At these times, the students demonstrated an understanding that went beyond the script or what the architects had explained. They were able to show and share with others their excitement for the new innovations in green building design and engineering technologies. If I had to start this project again from the beginning, I would focus my time not on taking perfect notes during the meeting with the architects but watching the students. Who was engaged? Who asked questions? Who seemed bored? This is the most important information because, without engaged students, there's no hope of an engaging project or tour.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

The primary departments which contributed significant time and effort to this project were the Engineering Department (Davyda Hammond – trained students, coordinated tours, developed

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curriculum units on green building design), the Professional and Technical Studies Division (Russell James – obtained original funding for the project), Facilities (Ron Williams and Garland Fenwick – providing building access for practice sessions and coordinating meetings with architects and construction team), and the President’s Office (Mike Zitz – taking photographs and video clips during the tours for recordkeeping)

Funding and Resources

Green building instructional units (LJ Create) were purchased by Germanna Community College to support the green building unit added to the Introduction to Engineering course. The units demonstrate the most widely-used green technologies in building design. The unit is an electronically controlled house which enables students to manipulate various transducers and measure the results.

Link: http://www.ljcreate.com/products/green/construction/Eco_House/spec.asp

Employer and Other School Partnerships

This project helped to develop a partnership with Froehling and Robertson, Inc. (F&R). F&R is the oldest independent consulting engineer/testing firm in the United States and was the firm which conducted the materials testing for the new facility. Engineers from F&R conducted a concrete strength testing laboratory for our engineering students during the Spring 2012 semester. This partnership is expected to continue in future years and F&R has agreed to continue providing concrete laboratory training for our students.

Education and Community Outreach

The local community was very interested in our project. We received many calls for tours based upon the articles published on the Germanna Community College website and local newspapers. Several community groups, including STEM groups, arranged tours and provided insight on green technologies to our students.

CONTACT INFORMATION

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Image Credit: National Wildlife Federation