

A Blueprint for a

By: Maryanna S. Phinn

When President Greg Weisenstein gave the “State of the Environment at WCU” address during this year’s Earth Week celebration, he reiterated the University’s pledge to make sustainability a “*guiding principle for planning and action.*”

“Sustainability is the process by which natural, social, and economic concerns are brought into balance, providing a fulfilling and worthwhile life for everyone – now and well into the future...While the world’s nations cannot yet collaborate sufficiently to solve our environmental challenges, we can help to do so as an institution of higher learning and as a community. In fact, the route to sustainability is through education and collaboration.”

This year marked the 40th anniversary of Earth Day, celebrated worldwide on April 22. Weisenstein recalled how the spectacular images of the Earth from the 1969 Apollo 11 moon mission helped to transform the way people view the world and the environment. “The amazing full-earth image conveyed a powerful symbolic message: We are not simply individual countries and communities; we are one Earth, one environment, one people,” he noted.

When Weisenstein gave his inaugural address last September, he challenged WCU

topics into the curriculum through educational programs, workshops, guest speakers, international research programs, classroom and volunteer projects, internships and job searches. Students and staff have more opportunities to make a direct impact in dormitories, dining halls and classrooms by reducing, reusing and recycling, using greener alternatives for transportation and studying in new and existing outdoor classrooms. In addition, WCU and the Borough of West Chester have formed a partnership to promote environmental sustainability.

“Sustainability is, should be, and will continue to be a core commitment for West Chester University, and we are joined in this commitment by the Borough of West Chester.”

— President Greg R. Weisenstein,
Earth Week, April 20, 2010

Greener University

to become “identified as a leading university in which the environmental theme permeates all of what we do - throughout our curriculum and in our everyday actions.”

Universities and colleges around the country are instilling sustainability into every aspect of campus life. *The Princeton Review* recently added “Green Ratings” to measure environmentally-friendly institutions. It also keeps an annual “Green Rating Honor Roll.”

WCU’s transformation into a greener institution is evident around campus. A new certificate program in education for sustainability started over the summer semester (see sidebar on page 17). WCU administration and its faculty are infusing sustainability

The campus infrastructure also looks much greener. New facilities are designed to meet Leadership in Energy and Environmental Design (LEED) specifications, a certification developed by the U.S. Green Building Council. A major effort is underway to phase out conventional heating and cooling systems in many buildings with a cleaner, cost-efficient geothermal HVAC system. Custodial and maintenance services are transitioning to environmentally friendly cleaning products and systems.

In addition to these ongoing green projects, Weisenstein noted that the University’s comprehensive blueprint for sustainability will take a giant leap forward in the upcoming year.



“The University’s current strategic plan, the Plan for Excellence, includes a goal encouraging environmental awareness through training, curricula, and co-curricular programming; assessing and reducing the ecological impact of the University; and promoting research and service that foster regional and global sustainability. We are acting vigorously on that goal, and this year, the University began moving toward a new strategic plan through a shared visioning process. The new plan, which will begin taking shape next year, will expand and emphasize our institutional orientation for sustainability and foster a sustainability ethos.”

New Sustainability Coordinator — Q & A with Dr. Tim Lutz

As part of WCU's greener vision, Weisenstein appointed Dr. Tim Lutz as the first Sustainability Coordinator in January. Lutz, a Professor of Geology and faculty member since 1998, will evaluate sustainability at the University. He will work with the Sustainability Advisory Council (formerly the Environmental Council) using a tool developed by the Association for the Advancement of Sustainability in Higher Education (AASHE) called the Sustainability Tracking, Assessment and Rating System (STARS). The STARS assessment focuses on three core areas: education and research; operations including facilities, purchasing, building design and construction; and community relations and university administration including local, regional and global connections.

Q. What's new about sustainability at WCU?

Lutz: We are thinking about sustainability now as a university goal and not something distributed among many interested and concerned people or groups on campus. We are thinking of this as a feature of our university, not just little pieces that go on here and there. That's the big change.

Q. What are the major challenges for creating a sustainable culture at the University?

Lutz: What I found out from just one semester is that it's actually difficult to find out what is going on around a big institution like a university. One of the symptoms of non-sustainable activities is that there are poor channels of communication. So in any system, all of the parts need to know what's going on. If you look at natural systems, that's the way things develop and evolve in nature. The communication is more of a physical means, but the systems work over long periods of time because the connections exist. In our human structure or in the university setting it is no different.

Sustainability is really about changing culture and values, and on a larger scale our management philosophy, which is sometimes called ethos. It changes the way we see the university at a very basic level.

Q. What is the role of the Sustainability Coordinator and Sustainability Advisory Council?

Lutz: At this point, the Sustainability Coordinator and new Sustainability Advisory Council are advisors. We make suggestions to the president and his cabinet. What we're recommending as priority issues for this next year is to assess sustainability at the University.

Q. What is planned for the upcoming school year?

Lutz: We have had elements of sustainability going on for years, but one of the difficulties is when things are done piecemeal. WCU is a member of AASHE that developed the STARS assessment tool. This system asks each university who would like to assess their sustainability efforts to essentially engage in a year-long information gathering process. Sustainability at any organization such as a university is all encompassing. The sustainability assessment will help us identify our strengths and weaknesses. The assessment is crucial and the information we gather will be a university-wide effort. It will put sustainability on everyone's radar.

Q. How will you collect this information?

Lutz: Some areas, such as facilities and the Office of Institutional Research, already have information available. To tie it together in other areas, we will need to identify people who will become, in essence, information managers over the course of time. We'll be working in conjunction with the president's office to do this. The importance of sustainability at the University comes from the top down to the grassroots level.

My impression from talking with people around campus is that many are ready to start working toward sustainability but they think, 'I'm just one person and it probably wouldn't make a difference.' I think establishing a higher level of visibility will do a lot for people to understand the importance of sustainability. If you have an interest, you have a place in this process and that's exciting.

Visit www.wcugreen.org to learn about WCU's sustainability goals, programs and projects.



Dr. Tim Lutz

A Dedicated Green Group Gets a New Name

For several years a group from a cross-section of the University, called the Environmental Council, worked toward making WCU "greener." In January, the Environmental Council became the "Sustainability Advisory Council," in part to reflect WCU's major commitment toward incorporating sustainability into the campus culture. Members include students, staff, faculty, food service, purchasing and facilities personnel and others interested in sustainability and environmental concerns.

Joan Welch, Professor and Chair of the Department of Geography and Planning and Kurt Kolasinski, Assistant Professor of Chemistry, Co-chair the committee. "Everyone on our council is passionate about this work," notes Welch. "We will continue to work with the new sustainability coordinator to build linkages and provide avenues to meet the goals of the University," she says. One common goal is to work toward adding sustainability as a general requirement for all University students.

The group's many achievements include developing a comprehensive web site as a central place for information and collaborating with other groups to design and build the Outdoor Classroom and the organic garden. "Perhaps its greatest success involved working with the University to get an institutional commitment added into the strategic plan affirming the value of sustainability in decisions made at all levels," notes Welch.

GENERATION “E”

Move over Generation X, Y and Z, it's time for Generation E (a.k.a energy and environment!) When a *New York Times* environmental blogger re-positioned the current high school and college-age generation with the “E” designation, it was for good reason.

Schools are turning green and introducing sustainability into curriculums at all levels. As young people embrace this philosophy, they become a major catalyst for change. At West Chester University, students take an active role in promoting green awareness and finding solutions for sustainability.

Green In 3 — Less is Best

During the spring 2010 semester, a team of three undergraduate students won first place out of 15 total winners in a national contest called “Green In 3” sponsored by Duke University’s Nicholas School of the Environment. The contest entailed creating a 30-second (or less) video using just three written words and no audio to tell how to make the environment better. The contest had three rounds with five winning entries per round. “Hang Your Clothes” received a first place award in the third round for its clever way of illustrating a green solution to doing the laundry. Colleen Kokai, a senior majoring in music education, Angela Cuff, a junior studying elementary education and Courtland Jackson, a sophomore, majoring in elementary education submitted the winning entry. They won \$500 and their video will be shown campus-wide by the College of Education and other University closed circuit televisions. Watch the award winning video “Hang Your Clothes” at www.wcugreen.org.

Project Green – A “How To” Become Green on Campus

Most students know the benefits of reducing, reusing and recycling, but day-to-day college life doesn’t always translate into action. “A lot of students find that it’s hard to make eco-friendly decisions,” explains Stephanie Eckman, a junior majoring in Spanish and International Relations. Eckman and four Honors College classmates created a practical solution for a Technology and Environment class project to help educate other students. “Project Green makes it easier to find out what’s available on campus,” Eckman says.

Project Green is a campus sustainability guide with common sense suggestions for greener use of electricity, water, food, waste and recycles. It reminds students about simple things such as shutting down computers during long weekend breaks, washing laundry in full loads and in cold water, turning off lights and opening blinds, taking shorter showers, and using the bus instead of driving. Food is a big part of college life and Project Green provides tips on affordable restaurants and pizza parlors near campus that provide environmentally-friendly choices and locally-grown food options. The guide offers recycling tips (walk to the Salvation Army to donate old stuff) and reducing reminders (drink from reusable water bottles).

Students contributing to the project included Rebecca Young and Elizabeth Mallozzi, sophomores majoring in music education; Andrew Szypula, a sophomore music education and percussion performance major and Andres Wewer, a junior majoring in anthropology and sociology. Wewer and Annie Koempel, a junior majoring in history and anthropology, plan to expand upon Project Green next year for their capstone projects. The expansion may include a training and informational program for students to become certified green.

“The students in our classrooms are not simply the next stewards of our environment; they are also a generation at the tipping point...Sending our students into the world with a firm commitment to and knowledge of sustainability will be among our finest contributions – to the students themselves and to our communities and planet Earth.”

— President Greg R. Weisenstein,
Earth Week, April 20, 2010

Project Green is in its beginning stages, notes Eckman, “we have the bare bones for now, but we’re hoping to make Project Green a continuing organization on campus.” The students plan to put the guide online at www.wcugreen.org. They also produced an eight minute video, featuring “Rammy,” about Project Green that is shown at Freshmen Honors Orientation.



Honors student Stephanie Eckman, one of the authors of “Project Green.”



Outdoor garden next to Merion Science Center

The Green Wall – The Outdoor Classroom's Latest Learning Space

WCU's Outdoor Classroom will soon be greener thanks to The Philadelphia Zoo's Community Conservation Grant Program. The Zoo awarded \$1,500 to "The Green Wall" project submitted by three biology students, Jessica Richard, Tom Ponticello and Karl Thompson, during the spring 2010 semester. The funds will be used to construct a wall of vines and vegetation on a section of the Schmucker Science Center wall within the Outdoor Classroom, notes Gerry Hertel, stewardship manager for the Gordon Natural Area. Hertel and Kurt Kolasinski, assistant professor of chemistry, worked with the students to submit the grant proposal. Fifteen proposals were selected from a large pool of applicants.

The Green Wall will be built this summer from three types of vines, *Lonicera sempervirens*, *Campsis radicans* and *Gelsemium sempervirens*, chosen for their ability to attract different insects and birds. It will naturally cool part of the building as it blocks the sun from directly hitting the wall. Signage will be added to explain the purpose and benefits of The Green Wall.

This project continues the ongoing enhancements of the natural outdoor learning center dedicated by President Weisenstein last year. In 2010, the Outdoor Garden was also added. The Outdoor Classroom and Garden, located between the Merion Science Center and the Schmucker Science Center, is a place

for education and research complete with an organic garden, a rain barrel and composter, native trees, plants and flowers and warm season grasses.

"The students learn about sustainability and take ideas home to their parents and to their own homes after graduation," notes Hertel, adding that the upkeep of the area must be integrated into classroom work. "Students will monitor birds, tend to the vegetable garden, The Green Wall, warm season grasses and cut the grass," says Hertel, "and new project ideas will be suggested by the students."

In addition to the Zoo's grant for The Green Wall project, Strategic Technology Concepts of West Chester recently awarded a grant to support the Outdoor Classroom and Garden.

Always Green – The Gordon Natural Area

Gerry Hertel describes The Robert B. Gordon Area for Environmental Studies on the south campus as an "ecological treasure island in a sea of development." Since 1973, WCU students, faculty and researchers have had the opportunity to study and conduct lab exercises in a dedicated 70-acre natural setting. "Very few colleges have something like this on campus," notes Hertel, the area's formal manager since 2006. Twenty classes from five departments use the area for study. But many students may be unaware of it and alumni might be surprised that such a place exists, Hertel adds.

His team works to improve and protect the area's biodiversity and maintain a healthy



Gerry Hertel

population of native birds, trees and animals. Although WCU used the area for study and research from 1973 to 2006, it was being degraded by the large deer population (there are 81 deer and there should be six to 10!) and the increase of non-native invasive plants, notes Hertel.

Of the 500 known plants in the area, 30 percent come from Europe or Asian, and deer eat most of the native plants. "By managing the area, just like we manage buildings on campus, we have some hope to improve things," Hertel says. Some gradual improvements include building fences to limit the deer population and planting trees greater than six feet tall. In the last three years, about 300 large trees were planted which also serve to offset the University's carbon footprint. Recent grants have come from the Pennsylvania Department of Conservation & Natural Resources, USDA Forest Service and AQUAPA through the Tree Vitalize Program administered by the Chester County Conservation District.

To learn more about the Gordon Natural Area or to volunteer or donate a tree in memory or honor of someone, visit www.gordonarea.org or e-mail ghertel@wcupa.edu.

GEOTHERMAL HEATING AND COOLING BUILDING CONVERSION: A MAJOR SUSTAINABILITY INITIATIVE



Earlier installation of wells under tennis courts.

When “The Village” opened in 2004 on South Campus, one important amenity in the new student apartments was not visible to the residents, but served as a major impetus for the University’s work toward sustainability.

“The Village was the first place on campus that was built with a geothermal heating and cooling system,” explains Greg Cuprak, Executive Director for Facilities Management.

While planning to replace the eight residence halls on North Campus that were built in the 1960’s, a University accountant noted that the new geothermal system at the 13-building Village complex was cheaper to heat and cool, recalls Cuprak. “So, we decided to commission a study to find out if we should continue using our traditional central steam plant or convert to geothermal-based heating and cooling systems,” he notes. The study complemented the University’s strategy toward energy savings plans and reducing the usage of fossil fuels.

Most North Campus buildings were heated by steam generated by a coal and oil-fired central plant more than 50 years old. The initial study concluded that the University will save more than \$1 million a year by converting approximately 25 North Campus buildings over a 10-year period to a geothermal exchange system. A follow-up study determined that a geothermal system will dramatically reduce the University’s carbon footprint by eliminating annual emissions of 85 tons of

sulfur oxides, 54 tons of nitrogen oxides, and 44 tons of particulate matter. In the long-term, the University will no longer need to spend \$2.5 million annually running the central heating plant and burning 7,000 tons of coal and 300,000 gallons of heating oil to heat campus buildings.

Based on these findings, WCU has worked to phase out steam-heat and conventional cooling systems and replace them with a centrally-operated geothermal system. Currently, 15 academic and residence life facilities use geothermal heating and cooling systems and several others are in progress.

Geothermal systems extract their heating and cooling capacity from the ground through a closed loop system of underground vertical pipes containing water.

Subsurface ground temperatures remain fairly constant at 55 degrees year-round. In the winter, the natural heat warms the water and circulating pumps move the water through a closed loop to heat buildings. In the summer, the system reverses, drawing excess heat from the building into the water loop for the Earth to absorb. The process uses electricity to distribute the heated or cooled air throughout the buildings and to help remove or insert energy into the water loop.

Currently, 180 wells are being installed under the tennis court parking lot on Roslyn Ave. and approximately 2,000 feet of distribution piping will eventually be connected to

the library and the new student recreation center at New St. and Sharpless Ave. The state contributed \$6 million toward this part of the project, plus \$252,000 from Pennsylvania Energy Harvest grant and \$300,000 from a U.S. Congressional grant.

“Ours will be one of the largest district geothermal exchange systems in the world,” Cuprak says, noting that European countries have used geothermal heating and cooling systems for some time. In addition, several universities in the United States are also planning or converting to geothermal exchange systems.

Maryanna S. Phinn is a freelance writer from Washington Crossing, PA.

WCU Launches Certificate Programs in Education for Sustainability

WCU’s new 12-credit education program in sustainability started this summer for undergraduates and graduates interested in its applications on campus, at home, in the workplace, in the community and in everyday life. The Certificate Program in Education for Sustainability (EFS) is one of the first of its kind offered in the Philadelphia region.

“It is a trend in education and we have had quite a bit of interest in our program,” says Paul Morgan, Associate Professor and Director of Education for Sustainability Certificate Programs.

Students earn the certificate after completing four courses including: an overview of sustainability; its history, theory and practice; systems in sustainability education; outdoor and place based education; and methods and field experience.

Most of the coursework will be hands-on and include field studies, guest lecturers and practical applications. Students will meet with professional mentors and representatives from the region such as the Delaware Nature Society, the Green Woods Charter School, the Brandywine Valley Association and the Westtown School, notes Morgan.

“Sustainability affects all fields of study. It doesn’t matter if you’re a literature major or studying to get an MBA,” says Morgan, who works collaboratively with other faculty to infuse sustainability across the general curriculum. “Our biggest challenge is helping people understand that sustainability is not just a course added on or a separate specialty, but the core of everything that we do.”

For more information, contact pmorgan@wcupa.edu.