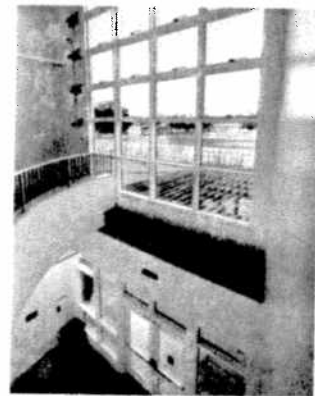
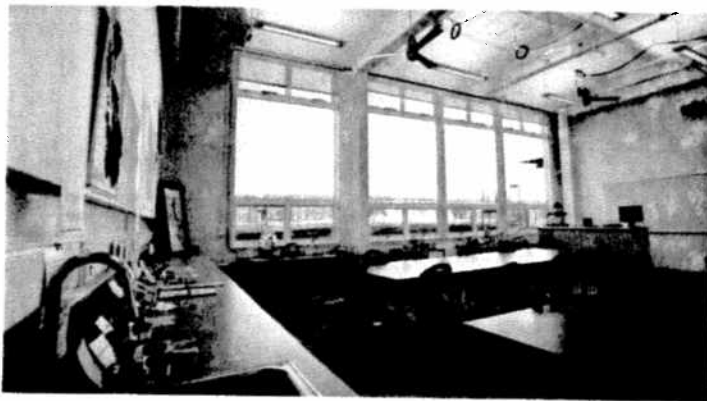


# SUSTAINABLE EDUCATION

## COMMUNITY COLLEGES AS ENVIRONMENTAL CHAMPIONS

Educators at DeAnza College not only are preparing students to live as good stewards of the natural world, they are also leading by example, creating a hands-on, organic learning environment that serves as a living, breathing reminder of the fragile state of the planet on which we live—and society's charge to protect it.



The community college, based in Cupertino, Calif., now offers some 70 environmental studies courses, including popular general education courses that teach students the basics of ecology, conservation and sustainable living, and how their choices can impact the environment. Students seeking an environmental career can pursue four degrees and certificates in areas ranging from environmental compliance and pollution prevention to energy management and climate policy.

The college does more than simply teach environmental stewardship; it abides by it.

The Kirsch Center for Environmental Studies, which houses the school's environmental studies program, is a two-story, \$10 million green building designed with energy and water conservation in mind. The building, opened in September 2005, features an open architecture with high ceilings and plenty of windows to let sunlight in—an advantage that enables energy-

### BY WYLIE WONG

conscious staffers to keep the lights off during the daytime. The building's west side is windowless, which helps cool classrooms during the summer. Solar panels are installed on the roof. Bathrooms feature waterless urinals and stalls built with recycled plastic from beverage containers. Outside, the lawn and gardens are landscaped with native plants that require less water.

Windows are outfitted with green and red LED lights that indicate whether they should remain open or closed. On a hot day, for example, a red light will alert students and faculty that if they open the window, hot air will enter, so it's best to keep the window closed. But it doesn't automatically lock the window. It lets teachers and students decide what to do.

"We want people to think about their reasons for doing things. The whole philosophy of the building is to teach energy stewardship," says Pat Cornely,

the Kirsch Center's executive director.

As educational institutions, community colleges play a central role in the sustainability movement and in the battle against climate change. Across the country, two-year institutions are creating sustainability programs, such as recycling garbage or composting food waste. They are building new green buildings, upgrading their facilities to be more energy-efficient, and installing new equipment, such as solar panels or wind turbines, to generate electricity. They also are increasing efforts to educate students about the environment and the need to protect it for future generations.

About 500 presidents and chancellors of community colleges and four-year universities recently signed a pledge to reduce greenhouse gas emissions on their campuses and develop curricula to educate future generations about the importance of sustainability and help reverse the damaging effects of global warming.

The pledge, called the American College & University Presidents Climate Commitment, requires each participating institution to develop a comprehensive plan to reach climate neutrality as quickly as possible, meaning each institution must reduce and offset emissions of potentially harmful greenhouse gases. College presidents who sign the pledge volunteer to launch immediately two efforts to reduce greenhouse gases. Such efforts might include purchasing Energy Star-compliant computers or establishing a policy to build new buildings that conform to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver standard, among other options. As part of the commitment, colleges must purchase or produce at least 15 percent of their electricity from renewable sources.

Mary Spilde, president of Lane Community College (LCC) in Eugene, Ore., says the decision to become a charter member of the commitment was a no-brainer; LCC faculty, staff and students are passionate about sustainability. Instructors in a variety of subjects teach about sustainability. And that commitment extends beyond the classroom. Custodians use only green products for housekeeping. A campuswide recycling program includes a clothing exchange for students and an office supply exchange for staff and student groups.

"We have a number of operational and instructional initiatives related to the environment, so when the idea of the Presidents Climate Commitment came up, we felt it was important to be involved, to raise the issue of climate control, and for us to be proactive," Spilde says. "As educators, we have a responsibility to turn out students who have a sensibility around this issue."

Many community colleges are well on their way to climate neutrality. In some cases, community colleges are on the cutting edge of the movement. Cape Cod Community College (CCCC), for example, built the first public building in Massachusetts to be certified with the LEED building rating. Now, the state wants all future public buildings



Community college administrators undertaking sustainability efforts have a lot to think about. But there is no need to feel overwhelmed. A good way to start is by talking to people. Chances are, faculty members on campus already are pursuing environmental programs, says John Lebica, Cape Cod Community College's director of facilities management. Find out what they know.

"To get started, [administrators] need to formally look and see what's going on, and if people feel like they are working in a vacuum, it's important to hook everyone up," and build a sense of community on campus, he says.

It's also critical to celebrate small victories. That way, people feel appreciated. Positive encouragement often spurs more people to join the cause.

"When people start recycling paper and reach a milestone, like recycling 25 tons of paper, that is something to celebrate," Lebica says. "It's a great opportunity for people to say, 'We are doing this right. Come join us. Join the bandwagon.'"

funded by the state to be built using LEED guidelines, says John Lebica, director of facilities management for CCCC.

Other community colleges are taking traditional, even antiquated, concepts—such as burning wood for heat—and using them in new ways. Administrators at Mount Wachusett Community College (MWCC) in Gardner, Mass., recently installed a "biomass" heating system that burns discarded industrial wood chips to heat the campus during the winter months. Supporters of the

project say it represents a clean, efficient alternative to fossil fuels.

Though green projects typically require an initial upfront investment, college administrators are discovering that, in the long run, forward-thinking initiatives often translate into significant cost-savings.

MWCC president Daniel M. Asquino says the biomass heating system already has saved the college nearly \$2.5 million in electricity costs—money that has been reinvested into the college.

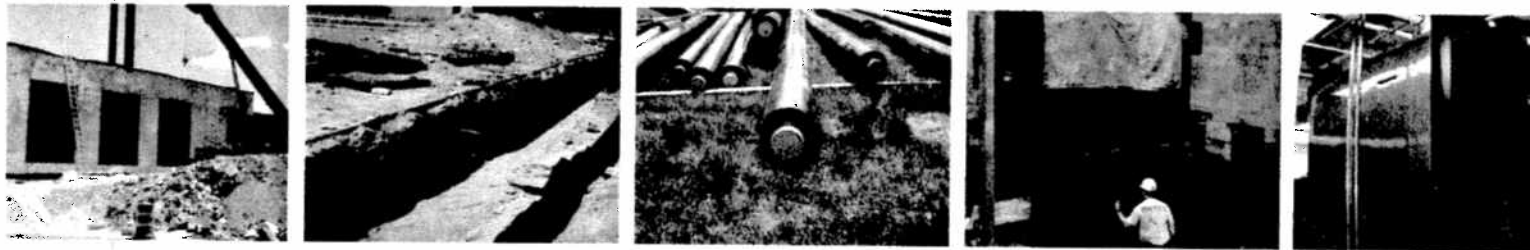
When the college first deployed the system, it was spending as estimated \$400,000 a year to heat its campus. Given the rising cost of energy, administrators say, the heating bill would be nearly three times that today. In contrast, officials say, they spend just \$31,000 a year on wood chips.

"We started out doing it out of desperation because our energy costs were going up and our budget was going down," recalls Asquino, a charter signatory to the Presidents Climate Commitment. "But it's made a huge impact by significantly reducing our heating costs. That \$2.5 million saved goes right into the learning process and helps us keep costs to students low."

## Organic Growth

For sustainability efforts to succeed, every person on campus—administrators, faculty, staff and students—must work in concert to facilitate change, says LCC's Spilde. Administrators shouldn't force the movement. It should grow organically, from the bottom up, rather than top down.

Julie Phillips, Morgan Family Chair in Environmental Studies at DeAnza College, first proposed the idea of constructing a green building on campus in the early 1990s. Her vision became a reality when the student government allocated \$180,000 of student funds to design the building that was to become the Kirsch Center. Everyone on campus got involved in the project. Martha Kanter, then DeAnza's president and now chancellor of the Foothill-DeAnza Community College District, spearheaded a fundraising



effort that eventually led to a \$2 million private donation, Phillips recalls. The rest of the approximately \$8 million in construction costs was raised through bond money.

At LCC, concerned stakeholders, from students to administrators, banded together to create a culture of sustainability on campus, Spilde recalls.

"I see our role as creating the conditions where these kinds of ideas can take root and blossom," she says. "It doesn't have to come from me. Some colleges may need that leadership, but at our college, it's more bottom up. I make sure it's supported."

Up in Cape Cod, CCCC created a sustainability committee representing various campus departments that meets regularly to discuss ways to be more eco-friendly. Ideas have included a "lights out" campaign to make sure every department turns off office lights when they are not in use and the purchase of new software that puts computers and monitors to sleep when they are inactive, says Stephanie Brady, CCCC's senior special program coordinator in environmental technology.

CCCC's environmental technology program offers two degrees and five certificates. Brady also works closely with student groups to organize volunteer work, including beach cleanups. And she gives advice to faculty in other departments who want to incorporate environmentalism into their lectures.

"We all work together holistically to make this place a greener and more sustainable campus," she says.

### Greener Facilities

Lebica, Cape Cod's director of facilities management, devotes much of his time on campus to making certain all facets of the school's facilities operate with an environmental conscience. The school's

Lyndon P. Lorusso Applied Technology Center, which opened in 2006, is a three-story, 27,000-square-foot, LEED-certified facility that boasts an array of green features, including a solar photovoltaic system that provides up to 15 percent of the building's electricity. Special daylight sensors anticipate the rising sun and automatically dial down internal lighting to save energy. Cisterns on the roof collect rainwater into an underground tank and use it to flush toilets.

The college recently installed a solar photovoltaic system on the roof of its science building and will soon erect a wind turbine, which will use natural wind to generate electricity. Discarded food in the cafeteria is composted. To conserve water, the college has replaced nearly all campus lawns with native landscaping. Lebica says he only mows the meadows—open grassy areas—once a year, in September. The reduction in mowing helps reduce air pollution, he says.

"Sometimes, the grass is up to your knee. Some people think aesthetically that it looks like the place is abandoned, but we have signage explaining why we're not mowing," Lebica explains. "It's a low-maintenance approach to landscaping."

MWCC, which offers a natural resources degree and renewable energy courses, recently installed solar photovoltaic systems and will soon put up a wind turbine, two efforts that will generate about 25 percent of the electricity required to power the school.

### Sustainable Education

LCC offers energy management and renewable energy technology degrees and even offers an "introduction to sustainability" course through its small-business development center.

Faculty strive to integrate sustainability throughout the curriculum. Instructors cross-pollinate many of their classes, allowing students to learn about the environment in the context of political science, writing and other subjects.

"We've got sustainability built into a hundred courses," explains Spilde.

Many colleges own and direct their environmental projects, such as solar-power panels and wind turbines, using the tools as hands-on learning devices for a new generation of students.

At MWCC, for example, faculty and local high school teachers take students on tours of the college's biomass facility.

"It becomes a learning environment," says Asquino.

At DeAnza, Phillips and her colleagues in the environmental studies program have inspired students to pursue their own green initiatives. Students can enroll in a project-based course in which they go off campus to survey the potential environmental impact of commercial development in nearby San Jose. In one recent example, a group of developers wanted to build a new housing complex. The plan was set to move forward until DeAnza students, using infrared and GPS technologies, discovered that animals used the proposed job site for migration. The findings were taken into consideration and used in the city's environmental-impact report.

"Students are worried about the environment," says DeAnza's Phillips. "They get it. We have serious issues ahead of us, and students are anxious, depressed and overwhelmed. We as educators have to give our students hope and a vision, and our curriculum does that."

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