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Global Sustainability Course Educates Leaders for Sustainable Change

December 10, 2010 — Defining sustainability is a complex matter. To help students learn about the multifaceted issues related to sustainability, University of Virginia [architecture](#) professor Phoebe Crisman and engineering professor Paxton Marshall joined forces to lead an introductory-level course that looks at themes and issues of sustainability.

The course, "Global Sustainability," grew out of a 2007 University Seminar created and team-taught by Crisman, Marshall and [McIntire School of Commerce](#) professor Mark White.

The three professors were not strangers to teaching sustainability courses, nor to the idea of collaborating. White had team-taught cross-disciplinary courses focused on sustainability issues with environmental science and religious studies faculty from the [College of Arts & Sciences](#), and Crisman and Marshall co-taught courses over a number of semesters that led students to research and build the Learning Barge, a floating environmental classroom that helps K-12 students learn about environmental issues on the Elizabeth River.

"Sustainability is an inherently messy problem – which makes it very interesting to those who enjoy looking at challenges from different angles," White said. "John Muir once wrote, 'When we try to pick out anything by itself, we find it hitched to everything else in the universe.' There's no one-size-fits-all solution for achieving a sustainable future, and it would be arrogant of a single discipline to claim it had all the answers."

The goal of "Global Sustainability" is to present the issues of sustainability from an interdisciplinary perspective and provide students with a broad foundation for further study in their chosen discipline. To that end, faculty from a variety of disciplines across Grounds guest lecture and present their sustainability-related research and teaching initiatives.

"Often people think of sustainability as just about the environment – about recycling, about energy, about water usage," said Crisman, an associate professor in the School of Architecture. "It is just as much about social equity, about economics, how we produce and consume and our political and legal systems. We're bringing in professors from anthropology, from sociology, from philosophy to talk about ethical considerations."

So, for instance when the class talked about health, Dr. Rebecca Dillingham from the [Center for Global Health](#) in the Medical School came to discuss her work revolving around earthquake recovery in Haiti and AIDS in Africa.

The students – there are 114 of them, drawn from almost all of the University's undergraduate schools – write position papers in response to diverse readings in different disciplines. "We're trying to get the students to make the material personal, to engage with it," Crisman said.

To foster leadership, students begin in the first week of the semester to plan how they will engage with sustainability issues in the community in a "think global/act local" project. University administrators and community leaders meet with students to discuss ideas for hands-on research projects. Projects are based on themes of human settlement, buildings, energy, consumption, production, health, water, food, commerce, social equity and societal behavior.

Representatives from the Jefferson Area Board for the Aging and the Local Energy Alliance Program are among the community partners who mentor students on their projects. On Grounds, students also work with Andrew Greene, sustainability planner in the [Office of the Architect](#); Rebecca White, director of the [Department of Parking and Transportation](#); Jason Bauman, associate director of [athletics](#) for facilities and operations; and members of [Facilities Management](#) and other University offices.

A diverse pool of students is crucial to the success of the class and the projects.

"It's great to brainstorm an idea on your own, but if you really want to bring about positive change in the world you need to work with a broader constituency," Crisman said. "Partnership is crucial to the engagement we are seeking. It's also an opportunity for students across disciplines to collaborate on research and focus on identifying problems and creating solutions."

Students have tackled a variety of issues in their projects, including recycling in various student communities; creating campaigns to educate the community about issues related to consumption (including the 37 gallons of water it takes to produce a single cup of coffee, from seed to coffee cup), and the savings gained by switching to energy-efficient compact fluorescent light bulbs.

One initiative aims to make all products sold inside Scott Stadium recyclable or compostable, thus eliminating the need for trash cans. Other students researched the feasibility of a bike-sharing program on Grounds and a one-time bike-repair



Global Sustainability (click for high-res version)

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Contact:

Jane Ford
 Senior News Officer
 (434) 924-4298
jford@virginia.edu

clinic. Others advocate harnessing the kinetic energy generated by the stationary bikes and rowing and elliptical machines in U.Va.'s [Aquatic and Fitness Center](#).

Students also are promoting partnerships for local schools and farmers to offer fresh and nutritious Virginia-grown products; helping create a "green club" at a local middle school to teach the next generation about sustainable living; and starting a program to engage students at Agnor-Hurt and Johnson elementary schools in recycling.

Carla Jones, a first-year architecture graduate student in the Department of Urban and Environmental Planning and one of the course's teaching assistants, was an undergraduate in 2008 when she took the University Seminar that provided the basis for the "Global Sustainability" course.

"Before taking that course, I knew very little about sustainability, but really found a passion through my project in that course," she said. "It taught me the concept of systems thinking and how to approach some of these very challenging problems. Since then I have focused my studies in urban and environmental planning around environmental sustainability."

After the class was offered in fall 2009, she and seven other student leaders carried through on an end-of-semester discussion about the need for additional courses and hit upon the idea of developing a University minor in global sustainability.

Marshall, an electrical engineering professor in the [School of Engineering and Applied Science](#), sponsored an independent study for the students to research the resources available at U.Va. for a sustainability minor and also to look at sustainability minors at other institutions.

"The students did a remarkable job, interviewing virtually every faculty member who seemed to have an interest, meeting with representatives from the provost's office and that of the [Vice President for Research](#)," Marshall said.

The students created a report that they presented to University administrators and are working through the final details to have the University offer an interdisciplinary sustainability minor with involvement from all the schools at the University.

"Global Sustainability" would be the required foundation course for the minor; the students would then have a range of courses from various disciplines to choose from, with options within different categories and a mandatory practicum at the end, Crisman said.

A governing board with representatives from the University's six undergraduate schools is in place, and the minor will have its administrative home in the School of Architecture, once necessary approvals by the faculty and University are obtained.

Students will present their projects on Dec. 16, from 9 a.m. to noon, in Campbell Hall, rooms 135, 158, 302 and exhibition room C, and many community and University mentors are invited.

George P. Mitchell of Houston provided a significant gift to enable the University to launch the course, and through his continued generosity U.Va. has been able to offer the course now for three years, serving more than 300 students.

Mitchell is a long-time champion of sustainability at a national level through his work in energy, his development of The Woodlands outside of Houston and his philanthropy, most notably at Texas A&M University and the National Academies of Science, in addition to U.Va., where he supports this course and urban and environmental planning professor Timothy Beatley's research in sustainable cities.

The University will seek additional private funds to continue the course and develop the new minor in Global Sustainability.

-- by Jane Ford

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