

# Technology Transforms College Classes

**UNIVERSITY PARK,** (Centre Co.) - New technologies such as the Internet and video-conferencing are transforming the way the faculty in Penn State's College of Agricultural Sciences are teaching students - and the way students are learning.

The College's Council on Educational Technologies, which includes representatives from each academic unit, provides leadership for faculty and staff who are interested in adopting these technologies in their educational programs.

"Our mission is to collectively explore and develop the College's use of educational technologies in the classroom and beyond," said Al Turgeon, professor of agronomy, who co-chairs the committee with

James Mortensen, associate dean for undergraduate education.

Turgeon has used the Internet's World Wide Web to teach beginning and advanced turfgrass science courses to students at both Penn State Berks and Rutgers University. This spring, he will teach two courses through Penn State's World Campus, a University-wide initiative to offer education programs through the Internet and other new information technologies.

"Students anywhere in the world will be able to take this class," he said. "Materials will be available on the Web, and we also will provide a CD-ROM of graphics for students who live in places with slow Internet connections. Eventually, we hope to offer a complete series of turf-

grass science courses. We're hoping our courses can serve as a model for future World Campus offerings from our college."

Robert Weaver, professor of agricultural economics, has used the Web extensively for the past three years to teach a course on commodity markets and prices. "It's an incredible resource," he said. "In the past, we had to read yesterday's market news in print media. Today, students use the Web to retrieve current auction data within minutes. The role of the textbook has changed as the Web offers a dynamic, rapidly evolving knowledge base about market operation and performance."

Weaver said using the Web to guide students through his course also makes it easier for them to learn in their own style and at their own pace. However, he noted, using the Web is not a "hands-off" teaching method. "Instead, faculty must be intimately involved in teaching as a one-on-one guides along individualized learning paths," he said. "The Web just gives students more flexibility in how they learn."

Charles Heuser, associate professor of horticultural physiology, is using the Web to teach an introductory course in wood

plants to more than 130 students at both University Park and Penn State Berks-Lehigh Valley College. "Since last fall, the lecture portion of the course has been taught entirely on the Web," he said. "All of my lectures and notes are available to students to access when they need them. Important concepts, such as (as) plant identification, plant features or diseases, are hyperlinked to one of more than 1,500 illustrations or photographs. Most students seem to love this approach, and the beauty of it is that they can access the materials from anywhere with a Web connection."

Students in a new senior-level course on food product development use computer-based learning technologies in a variety of ways. "We have supplied each student with a new IBM ThinkPad computer, which is integral to the way we offer this course," said Lam Hood, professor of agricultural sciences, who coordinates the course with Spiro Stefanou, professor of agricultural economics, and Ramaswamy Anantheswaran, associate professor of food science. "The Students are organized into teams in order to solve food product development problems. They use the computers to com-

municate with each other, with the faculty and with industry experts who are serving as student resources for the course."

Some professors are using other educational technologies. PicTel, a teleconferencing system that transmits live video images over phone lines onto a computer screen, lets users see and talk to each other in real time.

Gary Rogers, associate professor of animal science, uses it to deliver an animal science seminar course on genetic principles. "This course is a collaborative effort between Penn State, Cornell University and the State University of New York at Cobleskill," Rogers said. "A series of genetic experts deliver seminars at Cornell while students at Penn State and Cobleskill participate via PicTel. This gives students a chance to have direct interaction with these experts even though they're hundreds of miles away."

A variety of other uses of educational technology soon will be applied in the College's undergraduate classes and extension programs. Robert Weaver maintains a Web page that highlights the College's educational technology use at <http://cac.psu.edu/~r2w/edtech.html>.

## Pesticide Disposal

**LANNAPOLIS, Md.** - In 1998 the Maryland Department of Agriculture (MDA) is offering what may be a once-in-a-lifetime opportunity to dispose of unwanted, unusable, or unidentified pesticides at no cost to the farmer.

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