

On-Line Classroom

Math professor Don Piele taking calculus to the Web

A high school senior in Monona, Wis., has just finished his advanced calculus lesson on his home computer. After checking his work, he logs onto the World Wide Web and sends the assignment to his instructor's computer at UW-Parkside in Kenosha. He then moves onto the class' Web site and joins a discussion group about this week's lesson.

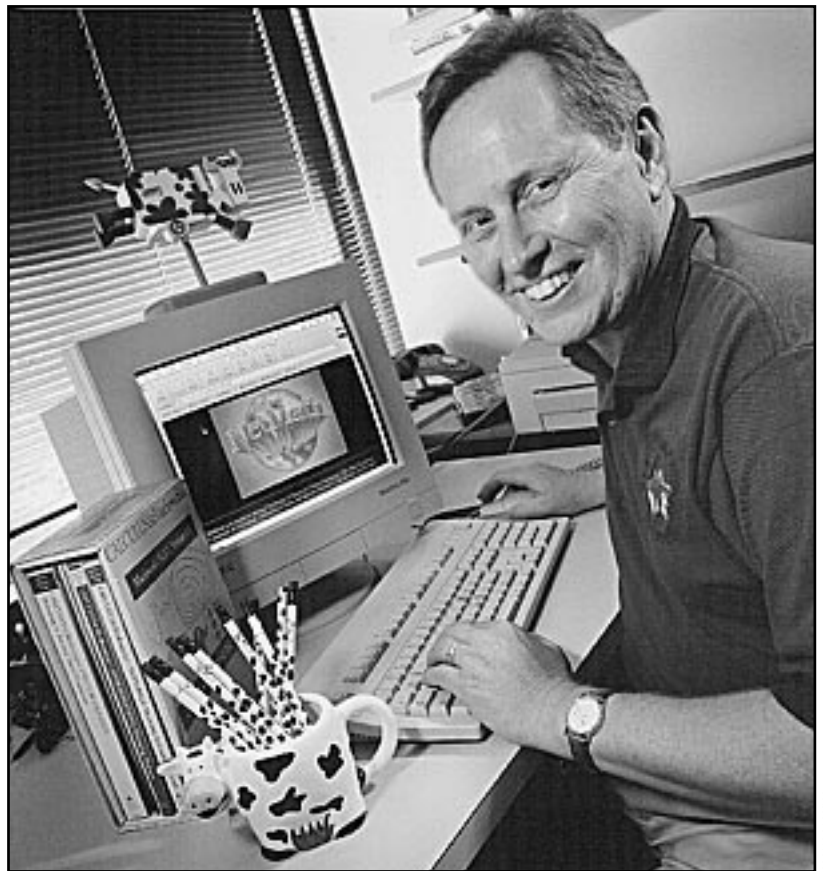
Five years ago, that would have been considered high-tech fiction. But starting soon, a World Wide Web-based calculus course for high school seniors will be a reality at UW-Parkside.

"It's a way of reaching out to students we would never get enrolled at Parkside," said Donald Piele, the math professor who developed the Calculus Offered On Line (COOL) program. "They can't commute here, it's too far a distance."

For the advanced high school math student who has no local university at which to take college calculus, the course should be a boon. Under Wisconsin's Postsecondary Enrollment Options Program, local school districts pay the cost of the course. The student gets college credit.

Here's how it will work: students receive a software program called Mathematica that runs the interactive calculus lessons. Each week's "chapter" is a self-contained interactive lesson called a notebook. Students interact with the lesson: change the values on a problem and a corresponding graph shows the effects.

Students' finished work will be sent over the Internet to Piele. Students log onto the class Web site to learn what lessons are coming up.



Math Professor Donald Piele: Calculus Offered On Line (COOL) to high schoolers.

They can also get help from Piele or other students in a discussion area. The class is not on line at the same time, so work is done at the student's convenience.

"There's no lecturing. The materials are self-paced and interactive. It's sort of like having a mathematics textbook come up (on the screen) and interacting with it."

Even if only one student in a school district wants the course, it's no problem. If a student has Internet access from home, he or she can even do the work at home. Piele said the lack of a physical classroom isn't a disadvantage — for the right students.

"I'm absolutely convinced students will interact with each other more than if they were sitting in the same classroom," he said. The interface "creates people who never speak up in class being your biggest contributors."

Students will receive weekly "literacy sheets" to ensure they can do the basics by hand. The software allows the students to visualize math concepts in a way that would be impossible on a chalk board, Piele said.

"You're not able to teach calculus like this in a normal environment," Piele said. ■

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