

Biology Professor Brings Technology to Teaching

Traditional textbooks cannot illustrate a moving three-dimensional atomic structure, nor can they show clips from recent newscasts that report the latest on stem cell research and human cloning.

But Eric J. Simon, Ph.D., does both using digital video and his *Perspectives: Chemistry* and *Perspectives: Biology* CD-ROMs.

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cannot keep up with topical issues," said Simon, an assistant biology professor in Fordham's Department of Natural Sciences.

That's why Simon started experimenting with e-books in 1999, doling out the 5- by 7-inch electronic devices in lieu of ink-and-paper texts. The e-books, which cost about \$200, were lent to Simon by a manufacturer and could be continually updated to include the most recent scientific advancements. Like cellular phones, e-books are mobile units and do not require disks or desktops for operation. When Simon used them in his introduction to biology course for non-science majors, the response among students was overwhelmingly positive.

Simon sings the e-book's praises and points out its flaws in "Are E-Books Ready for the Classroom?," an article that will appear in the September issue of *Syllabus* magazine. In the article, he describes turning his classroom into an e-book experi-

ment, surveying students who were using the devices in the 1999-2000 academic year. Ninety-five percent of the students surveyed said they wished other courses offered an e-book option and 84 percent said they would be willing to pay \$200 for e-books in other courses. The study, titled "Electronic Textbooks: A Pilot Study of Students' E-Reading Habits," was published in the *Future of Print Media Journal* (Winter, 2001).

In another effort to integrate teaching and technology, while sparing students the expense of buying e-books, Simon developed the compact disks. He converted his lesson plans into text, added original pictures of sugar beets and other biological images and created three-dimensional illustrations.

Each semester, the disks are enhanced by student contributions — a course requirement. Simon's students wrote the CD-ROM's science glossary and developed "chapter" review questions, along with illustrations and animations. All of the material on the disks is original.

Although he doesn't have any empirical evidence, Simon said that he thinks using the technology helps students absorb more.

"The [disk] makes science a lot more fun and a lot more interesting than having a textbook.

There are a lot of things on the disk that



Eric J. Simon, Ph.D.

make science relevant to everyday life," said Elizabeth Carena, a junior theater major who has taken Simon's biology and chemistry courses.

For instance, the disk features pictures of over-the-counter aspirin medications. Students examine the active chemicals only to find that store brands and name brands have the same ingredients. Yet, consumers pay more for name brands.

"He's teaching us ways to save money," Carena said. That's not the only way that Simon saves students money. Carena noted that the disks are cheaper than textbooks and easier to navigate with key word searches and clicks of the mouse.

"Technology is a good way to teach science to non-majors," Simon said. "The biggest problem with non-majors is showing them that the sciences relate to everyday life. So, I try to make that connection for them."

