

## CASE STUDY

# Villanova University

### INTRODUCTION

**F**ounded in 1842, Villanova University established a first-class reputation for its bachelor's, master's and doctoral programs, and its College of Engineering was recently ranked by *U.S. News & World Report* as one of the top engineering schools in the country. The college provides education in four disciplines: chemical engineering, civil and environmental engineering, mechanical engineering, and electrical and computer engineering.

### CHALLENGE

Villanova's College of Engineering determined that remote students should have two options for receiving course content. It

invested in both a video teleconferencing facility and Web-based streaming technology, which could capture and stream the audio and video of the professors, but lacked the graphical components.

"We had to manually convert any type of graphic to a video signal, which of course takes time and degrades the quality of what the student sees," says Seán O'Donnell, director of distance education. "I think that really held us up in terms of offering a highly effective distance education program."

Engineering courses, particularly at the graduate level, create unique challenges for institutions interested in offering distance education programs because of all the complex graphics and simulations used by the professors. Technologies that might be effective in capturing and streaming PowerPoint slides for a liberal arts course are ill-suited for the technical disciplines like engineering and healthcare where the content includes highly detailed imagery that is generated from a variety of devices.

### SOLUTION

Villanova University selected Sonic Foundry's Mediasite for its ability to capture multi-source, multiformat visual content from virtually any analog and digital source. Mediasite easily handles complex engineering diagrams, maps, photos, detailed medical imagery, intricate drawings and other applications where visual clarity is critical. All of this is accomplished in real time and is completely transparent to the instructor.

In January 2004, the college began using Mediasite to capture and stream courses for its graduate degree program, two certi-



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Villanova University displays high quality complex graphics through the Mediasite Viewer interface.

fication programs, and two noncredit professional development courses. The recorded classes serve as an important adjunct to in-class learning and facilitate effective online learning for students in the distance education section.

“Mediasite has now allowed us to reach students in ways we never imagined before,” says O’Donnell. “There are so many solutions in the market that do a piece of what Mediasite offers, but no real solution which combines everything into a single offering, like Mediasite.”

Villanova’s Mediasite Recorders run simultaneously every night of the week, reflective of the growing demand for dis-

tance education from working engineering professionals. Online students have the option of watching the classes streamed live or on-demand. Students without broadband Internet access, or the time to watch live, can download each class and watch offline. Traditional classroom-based students also can access the online lecture archive to review complex concepts or to make up a class.

## RESULT

In the last 2 years, the College of Engineering has served more than 435 students from 20 states and two countries through Mediasite. Enrollments continue to grow

each semester, serving more students than ever before. "Using Mediasite, we increased the number of students in our distance education program, generating over half a million in dollars annually for College programs," says O'Donnell.

"With Mediasite, the in-class and distance education programs mirror each other—the information is exactly the same," says O'Donnell. "In fact, some of our in-class learners are switching to the online section because they've seen that it's the same experience. There's no difference between sitting in class and sitting at their computer, except the distance education program is more convenient as they can watch where and when they want."

To date, more than 50 professors have used the system both in the distance education mode and as an enhancement to their traditional classroom teaching experience. They teach once even though they are reaching multiple audiences, and there are no restrictions on types of materials they use. The system integrates with the university's WebCT course management platform, enabling live chat and the posting of notes and other materials to support the learning process.

"Our professors really love it," says O'Donnell. "To be honest, they were a little disheartened by our earlier distance education efforts because they couldn't use their computer images. With Mediasite, that's

no longer an issue. Now they can teach the way they want, using all the complex high-resolution images that are so essential to engineering courses."

O'Donnell believes the distance education program for the College of Engineering is unique because it gives students three options for receiving their education: in person, via the Web (live and on-demand) and through video teleconferencing. Mediasite's role in the program will continue to grow as the demand for both master's and certification programs increases. "It's important for us as an institution to offer an optimal learning experience—regardless of where the student is sitting when that learning occurs," he says. "Mediasite allows us to extend our distance education offering and enhance our in-class learning."

## **BENEFITS**

- Generates significant revenue from new enrollments each year;
- Provides engineering faculty with high-quality graphic capture capabilities essential for effective teaching;
- Meets growing demand for continuing distance education from working engineers; and
- Offers optimal learning experience regardless of location or geography.

SEAN O'DONNELL SAYS, "TO BE HONEST, THEY WERE A LITTLE DISHEARTENED BY OUR EARLIER DISTANCE EDUCATION EFFORTS.... NOW THEY CAN TEACH THE WAY THEY WANT, USING ALL THE COMPLEX HIGH-RESOLUTION IMAGES THAT ARE SO ESSENTIAL TO ENGINEERING COURSES."