



### The Need: Up-to-date A+ and Network+ Training

Central Lakes College in Brainerd, Minnesota, has an enrollment of more than 3000 students, and nearly 200 of them are working toward an associate's degree in the Computer Careers program. Two degrees are offered, including Network Administration with a networking emphasis, and Information Technology with a help desk emphasis. Students range in age from 18 to 80, and Central Lakes College offers technology courses both on campus and online, accommodating both traditional and non-traditional students. Chuck Lund, instructor in the Computer Careers program, teaches courses in networking, security, Microsoft server, and Microsoft operating systems that are modeled around industry certifications.

Two years ago, Lund was faced with the challenge of offering a computer repair course online. "The big problem was how to get students hands-on training," Lund said, so he looked for a simulator that would give students practice working with technology. First, Lund found physical simulation equipment that he said he would have loved to purchase, but "it would have cost less to just buy each student a computer to practice on!" he said. Next, instructors considered lending or renting computers to students, but again, the cost would have been way too high. "So we started looking at virtual labs," Lund said. "I got lucky and found LabSim when I did a Google search for 'virtual A+ simulators.' I spent time testing LabSim and also many other software programs from other companies. None were as good as LabSim."



## The Solution: LabSim Is Simple to Use and Maps to A+ Certification Objectives

Lund and other Computer Careers program instructors incorporated LabSim into their curricula and now have used it three semesters. Lund has been pleased with LabSim—from its easy setup to its built-in reporting feature that tracks students' time and scores in the course. "LabSim is so easy to use," Lund said. "Other programs I tested were hard to navigate, but the setup in LabSim is simple."

For his online computer repair course, Lund incorporated LabSim A+ training, and he said he appreciates that LabSim maps directly to the objectives of A+ certification—an industry exam that covers in depth the knowledge and skills computer technicians must have. "All the objectives of A+ are addressed in the LabSim A+ courses," Lund said. And since Lund's textbook is also based on the objectives of A+, he can plan his assignments to match the chapters of the text with the sections of LabSim. "For example, I can tell the students, 'This week we're covering hard drives, so read these chapters in the text and complete these LabSim labs about hard drives.'"

In his online courses, Lund uses LabSim to replace in-class lecture and physical labs. He assigns one section of LabSim at a time and also posts a weekly homework assignment online. He requires students to complete the section quizzes in LabSim and treats them like he would a quiz in a physical classroom. Lund also gives students points for fully watching each LabSim video. "Since they're not getting class lecture," he said, "if they're not watching the LabSim videos, they're not getting the information."

Finally, Lund grades the hands-on labs in LabSim by averaging students' scores for each attempt at the lab. "The more times they complete a lab, the more they can up their average. To me, that's just reinforcement. It helps them spend more time in LabSim, which helps them better understand the concepts," Lund explained. According to Lund, while some students stop after their first try, many keep trying until their average is around 90%, no matter how many times it takes to get there.

Lund makes LabSim 20% of students' overall grade—the same percentage he uses for physical labs in a classroom. To track students' work in LabSim and know what grade they deserve, Lund utilizes LabSim reports. LabSim courses automatically track students' every action, including how much time they spend in each LabSim component and what their scores were. For example, when Lund said he gives students points for fully watching each video, he is able to learn whether they really watched the whole video by viewing LabSim reports. "Other software programs don't track," Lund noted, "so how do I know they did it or got it right?"

## The Results: LabSim Prepares Students for A+ Certification

Lund's classes and use of LabSim have emphasized to students the importance of hands-on training. "With LabSim, students have a detailed picture of a computer right in front of them. They can drag and drop parts. It's very close to the real thing, and it absolutely prepares students to pass certification exams," Lund said. Although he doesn't require his students to certify, Lund gives students a letter grade higher if they do. His training and incentive have helped, and last year, one-third of Lund's students took the A+ certification exam and had a 100% pass rate.

"I love that I don't have very many issues using the LabSim software, but if I've ever had concerns, TestOut has been right there for me," Lund said. "Directions for setup are easy, so if someone has questions, it's because they didn't read the instructions!"

In the coming spring semester, Lund is teaching a Networking Essentials class online and has plans to use the LabSim Network+ course as his curriculum. "TestOut has made the price reasonable, and it gives me no excuse not to use it!" he said. "I've been very happy with LabSim."