



Computer Security Class Immensely Popular

When Electrical and Computer Engineering Adjunct Professor Brad Rubin submitted a proposal to develop and teach a computer security course, he decided they'd have to interest at least 20 students to make offering the course worthwhile. Much to his surprise, 68 students enrolled for the very first offering.

"I was a bit overwhelmed, at first," says Rubin, who owns and operates a private computer security consulting firm. "Of course, part of the reason for the interest is a general increase in the need for security in the wake of 9-11. But also, this course offers a number of features that are unique."

Unlike most such classes, Rubin's offering uses Java as a programming language, which has many security features and facilities that most people haven't explored. But more importantly, the course addresses a primary security concern that is often overlooked by other approaches to examining computer security: the human factor.

"Engineers and other technical people tend to get caught up in the cryptography, and math, and protocols

that are a part of computer security," he says. "But often computer security has nothing to do with those factors. Anyone who's attempting to compromise computer security is going to go first to the weakest link—and the weakest link is often the human link."

According to Rubin, the means of attacking the human link can vary from coercion, to bribery, to relatively simple trickery. For example, hackers and other people who are threats to computer security often rely on common human nature to get passwords. They might call-up the password administrator, tell them a sad story about how they got in an unusual predicament and need to get the password. The administrator might want to seem like a nice guy and help out, so he gives out the password without following the proper security protocol.

"That's why this class is structured so that it addresses both sides of the problem," says Rubin. "During the first half of the class, we use a traditional engineering text that addresses the technical side of computer security. The second half uses a book called *Secrets and Lies* to take a look at how human issues can compromise computer security."

Rubin has ample background to prepare him for developing and teaching such a class. He earned his bachelor's degree in computer engineering in 1984 and his master's degree in electrical engineering, both from the University of Illinois at Champaign-Urbana. He earned his Ph.D. in computer science in 1996 from the University of Wisconsin, Madison. Prior to starting his own consulting firm two years ago, he worked 14 years for IBM Rochester and 3 years for Imation. His firm, Brad Rubin and Associates, Inc., specializes in wireless network security, Java application security, and security education.

The course, which was offered for the first time during fall semester 2002, will be offered again in the fall of 2003. Rubin is expecting another large class—and another eye-opening experience.

"The great thing about developing and teaching a new class like this is that the professor learns a great deal, too," he says, laughing. "It keeps me on my toes. The students from the first class provided lots of good feedback. I've been busy reshaping the class for the next go around."