CSE 644: Internet Security (Online Course in Spring’13)

Instructor: Professor Wenliang (Kevin) Du, Ph.D.
URL: http://www.cis.syr.edu/~wedu/Teaching/cse644/

Course Description: This course provides an in-depth study of a variety of network attacks on the Internet, as well as the defense methods. A number of threats and vulnerabilities of the Internet will be covered, including various vulnerabilities of TCP/IP protocols, denial of service (DOS), attacks on the BGP routing, DNS Pharming attacks, TCP session hijacking, and so on. This course will also cover defending mechanisms, including intrusion detection, firewalls, tracing the source of attacks, anonymous communication, IPsec, virtual private network (VPN), encryption, and Public-Key Infrastructure. To make it easy for students to understand these attacks, the basics of the TCP/IP protocols will also be covered in the course.

The course adopts the "learning by doing" principle. Students are supposed to learn the attacks by performing them in a restricted environment. They will also play with a number of security tools to understand how they work and what security guarantee they provide. There will be 7 hands-on lab exercises (can be done at home) and a final project (developing a simple VPN). All these labs and projects will be done in a virtual machine environment, using a pre-built Ubuntu VM image. Students are expected to have a solid foundation in C programming and know the basic concepts of operating systems.

Instructor: Professor Du has been teaching this class at SU since 2004. He has been working in the field of computer and network security since 1996. All the labs used in this class are developed by him and his students, and over 150 schools worldwide are using his labs.

How does this online course work?

This course is the online session of CIS/CSE 644, which is offered to the on-campus students. All the lectures will be recorded, and uploaded to Blackboard for online students by 5:00pm on the same day. A sample lecture video can be found from the following URL (an HTML5-enabled browser is needed): http://www.cis.syr.edu/~wedu/online/Capability.html. Here are some specific requirements:

1. The requirements, including the projects and deadlines, are the same for both online and on-campus students.
2. Online students are expected to come to SU to take the final exam or do so at some designated places under the supervision of authorized personnel. The time for final exam is 10:15am – 12:15pm on May 3rd 2013.
3. Dedicated office hours will be provided to online students.

Registration: Register for CSE644 (Section U800, class number 55428) from Myslice, or contact the University College.