**Welcome to Operating System Exploitation**

An **operating system** (**OS**) is system software that manages computer hardware and software resources and provides common services for computer programs. An **exploit** takes advantage of a weakness in an operating system, application or any other software code, including application plug-ins or software libraries. In this course you will get an opportunity to examine the source code of several operating systems, look for weaknesses and implement defensive hardening techniques.

**Topics**

The following topics will be covered:

* Operating System Exploitation Basics
* Shellcode and operating system exploits
* Loadable Kernel Modules
* Windows and Linux Rootkits
* Bootkits -Firmware and Hardware Exploits
* Penetration Test tools for vulnerabilities assessment and exploits for linux environment
* Detection of Exploits
* Defenses and Hardening the OS
* Advanced exploitation

**Tips for Success**

* Practice using version control whenever it is appropriate.
* Actively participate in the labs and discussions.