

CSC207 – Linux for Security & Forensics

Syllabus

The class syllabus can be found [here](#)

Textbook

Click [here](#) for information on the required textbook for this class.

Course Format

This course will be taught entirely online using this website for course content distribution, as well as Engage for all homework and lab submissions. You will also be required to install and use [Virtualbox](#) on your personal computer in order to gain hands-on experience with the Linux command line, setting up networking services, and administering your environment.

Screencasts

All class lectures will be delivered in the form of a screencast that will be posted in the [CSC207 Lecture Video Archive](#).

Class Schedule – (*tentative*)

Week	Topics
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<p>Week 1:</p>	<p>Introduction</p> <ul style="list-style-type: none"> • <i>Chapter 1</i> <p>Virtual Machine Setup</p> <ul style="list-style-type: none"> • <i>ScreenCast 1</i> <p>CentOS 7 Installation</p> <ul style="list-style-type: none"> • <i>Chapter 2</i> • <i>ScreenCast 2</i> <p>Updating and Installing Software</p> <ul style="list-style-type: none"> • <i>Chapter 3</i> • <i>ScreenCast 3</i> <p>User Account Management</p> <ul style="list-style-type: none"> • <i>Chapter 4</i> • <i>ScreenCast 4</i> <p>Text Editors</p> <ul style="list-style-type: none"> • <i>vimtutor</i>
<p>Week 2:</p>	<p>Cloning Virtual Machines</p> <ul style="list-style-type: none"> • <i>ScreenCast 5</i> <p>Command Line</p> <ul style="list-style-type: none"> • <i>Chapter 5</i> • <i>ScreenCasts 6, 7, 8, 9, 10, 11</i> <p>Bash Scripting Basics</p> <ul style="list-style-type: none"> • <u><i>BASH Beginner's Guide</i></u> <ul style="list-style-type: none"> • <i>ScreenCast 12</i> <p>File Systems</p> <ul style="list-style-type: none"> • <i>Chapter 7</i> • <i>ScreenCast 13</i> <p>Cron Jobs</p> <ul style="list-style-type: none"> • <i>Chapter 8 (pgs 224-226)</i> • <u><i>CentOS – Configuring a Cron Task</i></u> <ul style="list-style-type: none"> • <u><i>Linux Cron Guide</i></u> • <u><i>Crontab – Quick Reference</i></u>

<p>Week 3:</p>	<p>Setting up a Basic Development Environment</p> <ul style="list-style-type: none"> • <i>ScreenCast 14</i> • NetHack Webpage <p>Kernel Configuration & Compilation</p> <ul style="list-style-type: none"> • <i>Chapter 9</i> <ul style="list-style-type: none"> • CentOS – Custom Kernel <ul style="list-style-type: none"> • <i>ScreenCast 15</i> <p>Proc File System</p> <ul style="list-style-type: none"> • <i>Chapter 10</i> <ul style="list-style-type: none"> • /proc from The Linux Documentation Project <p>Network Configuration</p> <ul style="list-style-type: none"> • <i>Chapter 12</i> • <i>ScreenCast 16</i>
<p>Week 4:</p>	<p>Final ScreenCast</p> <ul style="list-style-type: none"> • <i>ScreenCast 17</i> <p>Host Based Firewalls</p> <ul style="list-style-type: none"> • <i>Chapter 13</i> • Introduction to Firewallld <p>Local System Security</p> <ul style="list-style-type: none"> • <i>Chapter 14</i> • CentOS – System Hardening Guide <p>Network Security</p> <ul style="list-style-type: none"> • <i>Chapter 15</i> <ul style="list-style-type: none"> • Nmap Reference Guide • TCPDump Man Page
<p>Week 5:</p>	<p>DNS Service</p> <ul style="list-style-type: none"> • <i>Chapter 16</i> • CentOS BIND Docs

Week 6:	HTTP Service <ul style="list-style-type: none">• <i>Chapter 18</i>• Apache HTTP Secure Server Configuration• HTTPS – CentOS Wiki
Week 7:	SSH Service <ul style="list-style-type: none">• <i>Chapter 21</i>• Securing SSH – CentOS Wiki
Week 8:	Final Project & Documentation Due

Unix Commands

A list of common UNIX commands are summarized [here](#).

Labs

Students will engage in hands-on lab exercises that will provide them with experience using the Linux command line as well as setting up services and administering their individual environments. All students will be required to submit individual lab write-ups detailing the work performed in each exercise. Drop boxes will be provided in Engage with corresponding due dates. Late submissions will not be accepted!

All lab write-ups must consist of the following:

- Cover page
- Abstract
- Introduction
- Processes involved in completing the lab
- Screenshots of major steps to provide proof of lab completion
- Identification of any issues or delays as well as

- resolutions
- Conclusion
- References

Links

- [Utica College Computer Science Department Website](#)
- [Utica College Computer Science Department Virtualized Lab Environment](#)
- [Making a Persistent Kali Stick](#)
- [Accessing Computer Science Department Resources](#)
- [Central New York Hackathon](#)
- [Advanced Bash Scripting Guide](#)
- [Bash Programming Intro](#)
- [ICANN DNSSec Paper](#)