

# Computer Security Essentials Curriculum Map

<u>Unit</u>	<u>Timeframe</u>
Introduction – cyber crimes, cyber laws, how systems are attacked, skills needed to defend systems, ethical hacking	August / September
Computer HW and SW – basic hardware building blocks and their functionality. Basic operating system building blocks and their functionality.	September
Networking Layers and Concepts – Discussion of what occurs at the physical, network, transport and application layers and how these layers interact.	September
OS Administration – Installation, bootup / shutdown, admin privileges, finding and manipulating files, installing and configuring software, daemons/services.	September / October
Authentication – Different authentication methods, good vs. bad passwords, storing and managing passwords	October
Vulnerabilities and Malware – Viruses, worms, Trojans, spyware, logic bombs, rootkits, backdoors, ransomware, antivirus software, anti-malware, patching.	October / November
Intrusion Detection and Prevention – Firewall configuration(stateful, stateless,etc.), IDSs, sandboxes, honeypots, IPSs	November
Web Security – Web vulnerabilities, scripting languages, web proxies, phishing, pharming, SQL injection, cross site scripting	November / December
Cryptography – ciphers, public vs private key encryption, digital signatures, certificates, hashes	December