Intro to Cybersecurity

Introduction

If you've ever wanted to know if hacking in real life is really like how it is in the movies, this is the course for you. From hooded vigilantes to white-collar officials, the world of hacking is wide and diverse in fiction, but just how much of that can be applied to real life? This set of **6 mini workshop sessions** is intended to give students an introduction to the world of cybersecurity. **These classes are aimed towards students with no prior experience**, and will provide them a foundation in operating Linux, exploiting websites, cryptography, steganography, and OSINT(Open Source Intelligence). **The courses will also feature a hand-on lab for each topic**, which the students may continue to work on outside of the lecture.

If you have questions about this workshop, please email **fweefwopcyber@gmail.com**.

Instructors and TAs

Fweefwop Cybersecurity Club

BayCyber League 3rd place, CSAW CTF 14th in High School bracket. PicoCTF 34th National , CyberPatriot XII & XIIIPlatinum

Arthur Perng

Monta Vista High School
- National Cyber Scholarship Finalist
- National Science Olympiad Champion
- AIME Qualifier
- USACO Gold

Eric Ju

Monta Vista High School
- National Science Olympiad Champion
- National Cyber Scholarship Semi-finalist

Ryan Tan

Monta Vista High School
- Member of Fweefwop Cyber Club
- Monta Vista Robotics Team

Elli Stoyanova

Lynbrook High School
- National Cyber Scholarship Semi-finalist
- USACO silver

Joshua Zhang

Monta Vista High School
- National Cyber Scholarship Semi-finalist
- AIME Qualifier
- USAPhO semifinalist

Julian Yang

Monta Vista High School
- Bay area regional cyber contest finalist

Anish Bayyapu

Monta Vista High School
- Two time National Science Olympiad Champion
- National Cyber Scholarship Finalist
- AIME Qualifier
- USACO Silver

Michael Smith

Monta Vista High School and Stanford Online HS
- Two time National Science Olympiad Champion
- Science Olympiad Medalist since 2017

Workshop Structure
❏ Each workshop lasts for 1 hour and 30 minutes
❏ Video recordings available for any missed workshops upon request.
❏ Each workshop will be composed of a 45 minute lecture and 45 minutes of lab work time
❏ Intended audiences are middle schoolers who want to learn basic skills about cybersecurity

Schedule
Dates: 6/22, 6/24, 6/26, 6/29, 7/1, 7/3
Workshop hours: 5:00-6:30 PST
Video recordings available for any missed workshops.

Registration
Register through this form: https://forms.gle/9xDhQbAJKdxPfKbY7

Tuition
The cost for the entire workshop series is **$50**. Video recordings for missed workshops are available upon request.

Please make all contributions via Zelle or PayPal to stemboostdonations@gmail.com. If you need an alternative arrangement, please email stemboost.org@gmail.com.

Proceeds will be donated to local hospitals via the Valley Medical Center Foundation.

Requirements
For most labs, a computer running Windows, Mac OS, or Linux is required. In addition, you must install VirtualBox before the session, which you can do by clicking here.

Preliminary Schedule

Date	Topic
6/22/21 (Tue)	**Introduction to Linux** Lying at the heart of every cybersecurity expert is Linux, the operating system that holds it all together. Compared to other systems such as Windows and MacOS, linux provides the user-friendliness and reliability needed by programmers. In this workshop, students will learn how to use Linux and the command line, as well as how to navigate a computer's files without the typical File Explorer or Finder.
6/24/21 (Thu)	**Web Exploitation 1** Ever wondered how hackers get access to private files and websites on the Internet? Then this course is just for you. Learn all about the secret and not-so-secret tools that cunning hackers can use to gain unauthorized access on sites, become admin, and manipulate the website to their liking.

6/26/21 (Sat)	**Web Exploitation 2** Do you want to learn the secrets behind bypassing logins, obtaining unauthorized access, and breaking into the internet? In this course, you will build upon the skills you learned in the previous Web Exploitation class, and use those skills to break into websites and more!
6/29/21 (Tue)	**OSINT: Crawling through social media** How do hackers figure out your location? How about your email? Learn this and more in our OSINT workshop, covering all sorts of exposed information, from social media to pictures.
7/1/21 (Thu)	**Steganography** Everything is not as it seems! Very often information can be hidden in various forms of media, and knowing how to extract it is key. This workshop focuses on extracting information from where there seemingly isn't any.
7/3/21 (Sat)	**Cryptography** In 2020, there were 2,200 cyberattacks each day. Most of these attacks were a result of weak encryption systems. If you have no idea what encryption is or you are curious what cryptosystems are responsible for keeping you safe on the internet, then you'll learn a lot in this course!