

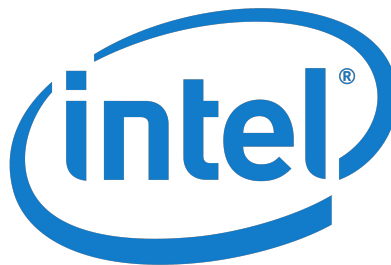


CYBER SECURITY BOOT CAMP

Student Projects

Session 7

Sponsored by:



YELLOW CIRCLE INC
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Teacher Lesson Plan

Session Name:

Student / Team projects

Summary:

This session is a capstone assignment for students who have completed all six sessions of cyber security boot camp. Students will work in teams (5 students each team) and select one project from provided list to complete and then present their project overview to class and instructor.

Time Allotment:

75 minutes

Learning Objectives:

Students will learn to work in a team environment to select, research, develop, and deliver a project/presentation on a selected topic as a team project. Teacher will provide all student groups with topics that they can choose from to do their final project on. List will have 20 topics, each team can select 3 of their favorites, and teacher will then select one for them to work on.

Supplies:

- Notepad to take notes
- Projects list (Print)
- Laptop / computer with Internet access to research topic of selected project
- (Optional) - Laptop to create slides

Learning Activities:

- (2 - 5 minutes) - Teacher Introduction

Introduce yourself to students if you are new to the classroom. If you are continuing from a previous session, start with welcome back.

- (2 - 5 minutes) - Volunteer Introductions

Introduce any new volunteers that might be present. Teachers will be provided with a quick bio of each volunteer who are helping in the classroom. Only new volunteers need to be introduced.

- (5 minutes) - Session overview

This is the final session of this cyber security boot camp, and students have learned a lot in just two days. Now is the time for all of you to show me and other students in class what you have learned, and how it will impact your approach to being secure on the Internet at your home, in school, in public places, and eventually at a work. Explain to students that they will work as a team, and each team will have five students. All teams will be given a list of topics that they can select from to do their final student projects. This will involve reflecting back to all the sessions, research on the Internet, dividing workload among themselves, and then coming up with a verbal presentation for the class, teachers, and volunteers.

- (5 minutes) - Video : PBS / CrashCourse on Cyber Security

<https://youtu.be/bPVaOLJ6ln0?t=60>

- (2 minutes) - Project Selection

Pass the sheets to all teams with provided project list.

- (5 minutes) - Project Selection / Assignments

Let students discuss and determine their top 3 projects that they are interested in. After they select their three projects, teacher will randomly / or based on team performance during other sessions will select one of the three projects that students will work on.

- (20 minutes) - Student Project Activity

Teams work on their projects, they can use Google Slides, or paper to develop their presentation. Give students time warning at 10 minutes, 5 minutes, 1 minute.

- (25 minutes) - Student Project Presentations

Each team will have 5 minutes to present their project. Slides are optional.

- (5 minutes) - Teacher Feedback

Teacher will provide feedback to each team for about 1 minute. Also, hand out additional raffle tickets to students who are presenting before they go back to their seats.

- (2 minutes) - Session Feedback

Have volunteers distribute feedback form to students, and give them a few minutes to fill out the survey.

Volunteers to collect feedback forms and save them for event manager.

- (2 minutes) - What's next?

Inform students to head back to cafeteria for snacks / break, and closing ceremony for raffles, prizes, giveaways.

1. Is Instagram secure?
2. What is Replay Attack?
3. What is a Keylogger?
4. Home Networking and Wi-Fi?
5. What is Blockchain and Bitcoin?
6. What is the difference between Application, service and platform from an architecture and security perspective?
7. What is application signing and digital signature?
8. What is Ethical Hacking?
9. What is a database and how do we secure databases?
10. What is reverse engineering?
11. What is DDoS and how can we stop it?
12. What is ransomware and in what way is it different from computer viruses?
13. What is Injection and cross-site scripting, SQL Injection XSS
14. What are web services and how different they are than websites (JSON and RESTFUL)
15. What is Cloud and how important is Virtualization?
16. What is Sandboxing and what is Honeypot?
17. What is an insider threat? Give examples and statistics?
18. How secure is iOS vs. Android?
19. What is a Firewall and what are the various types of Firewalls?
20. What is secure email? Are Webmail systems used today secure (Gmail, Hotmail, Yahoo mail) and why or why not?