



Cybersecurity Externship Program Guide

5 Days

8th-12th Grades

Experience.



Program Overview

In our innovative and engaging program, we take a holistic approach to preparing students for success. Students will get firsthand experience and insight into the world of cybersecurity, one of the most high-demand careers in the country. From fundamentals to real-world scenarios of cyber threats, students are guided by industry professionals in a program packed with dynamic workshops and behind-the-scenes virtual experiences. Participants engage in hands-on projects while gaining a comprehensive understanding of this cutting-edge industry, allowing them to:

- Explore the range of career paths in cybersecurity, computer science and engineering
- Get on the cybersecurity fast track by establishing a foundation of knowledge such as the importance of data protection, incident response and digital analysis.
- Build in-demand employability skills such as critical thinking, problem solving, confidence and collaboration.
- Earn digital badges at the completion of each daily scenario and a certificate of completion at the conclusion of the program.

Cybersecurity Daily Team Challenge

Become a member of an Elite Cybersecurity Task Force charged with investigating major cyber crimes. It is your job to protect our nation's infrastructure: communication, transportation, financial institutions and energy supply systems. Your industry professional team leader will challenge you and your team with real-life scenarios. Whether preventing cyber attacks from occurring or rectifying a cyber attack that has already happened, you will be fully immersed in a hands-on interactive learning environment, with each team member being assigned a vital role to play. To ensure an appropriate level of difficulty and maximize every student's potential for success, teams will be separated into age groups for each challenge.

DAY 1 – Protecting Critical Infrastructure Scenario

DAY 2 – Protecting Companies Scenario

DAY 3 – Protecting Citizens' Financial Data Scenario

DAY 5 – Final Project on Financial Crime

Why Cybersecurity?

Cybersecurity Pathways

One of the fastest growing job sectors in the U.S. is cybersecurity. According to multiple media outlets, a projected 3.5 million vacancies are expected in 2021, which is 350 percent growth since 2013. Opportunities within the field of cybersecurity are endless. All the industry needs is skilled talent. To meet the ever-evolving demands, companies are hiring students to fill these vacancies as more cybersecurity threats are recognized every day. Providing cybersecurity pathways at an earlier age is imperative for the industry, as it will enable students to achieve success in their personal and professional lives.

Pre-Externship Parent Webinar

Parents are invited to attend scheduled webinars to learn about how to help their child succeed during the externship as well as prepare for long-term success in the cybersecurity industry. We provide all the tools needed to help parents play a role in their child's success, including:

- Reviewing the parent handbook to get questions answered
- Discussing how to support students during and after class
- Providing expert insight about the cybersecurity industry



CYBERSECURITY by the Numbers

0%

The unemployment rate for cybersecurity professionals.

350%

Growth in the demand for cybersecurity professionals since 2013.

\$90K

Average salary for entry-level cybersecurity roles.

\$217K

Average salary for top cybersecurity roles.

1 IN 4

Qualified candidates in the cybersecurity job pool, showing a huge skills gap.

71%

Cybersecurity professionals have a bachelor's degree.

25%

Top cybersecurity roles require a master's degree or higher.

Meet the Team

Head Instructor



Joshua Bailey

Cybersecurity Teacher / Career and Technology Education, Judson ISD

Mr. Bailey is a passionate educator with 15 years of industry experience, currently teaching at Judson ISD in San Antonio. He specifically enjoys familiarizing students about the Cybersecurity profession by providing authentic learning opportunities so they can develop their knowledge and gain practical skills in the field.

Contributors



Chris Knox

Manager, Security Awareness and Analysis, CPS Energy

Mr. Knox is a 20-year veteran of the U.S. Air Force who has spent most of his career as an intelligence analyst. He has also worked as an independent training consultant and adjunct instructor with San Antonio College and is passionate about bringing out the best in people.



Tom Katsampes

Cybersecurity Audit and Compliance Manager, Delta Air Lines

Mr. Katsampes is an accomplished professional within the field of cybersecurity. In addition to being a veteran of the U.S. Army, Military Intelligence Branch, he has been working in the IT sector for over two decades, protecting companies with his unparalleled security skills.



Tom Ervin

Computer Scientist, Federal Bureau of Investigation (FBI)

Mr. Ervin has been supporting the FBI with his expertise in cyber forensics analysis for the past 18 years. He specializes in computer intrusions and the dissection of computer viruses/worms and helped to establish the FBI's first malicious code laboratory in Washington DC.



Davina Pruitt-Mentle

Lead for Academic Engagement for the National Initiative for Cybersecurity Education (NICE), National Institute of Standards and Technology (NIST)

Dr. Pruitt-Mentle is a seasoned academic and authority in the field of cybersecurity. She has spent the past 20 years conducting student and educator cyber awareness research and has been fundamental in developing programs to increase the cybersecurity workforce pipeline.



Shawn Saltsman

U.S. Army Intelligence Officer, Retired / MSIT Cybersecurity Student, University of Texas

Mr. Saltsman is a retired Chief Intelligence Officer with over 20 years of keeping Americans safe through his expertise in the tactical, strategic and cyberspace arenas. He thrives on encouraging professional development and using practical insight to find solutions to the most complex of situations.



Keith Rountree

Senior Technical Recruiter, Facebook

Mr. Rountree has spent over a decade championing technical and diversity recruiting for some of today's top tech companies. His ability to grasp the pulse of today's youth has made him a master of helping students to find a career that speaks to who they are.



Pierre Gutiérrez

Owner, Star State Consulting

Mr. Gutiérrez is an accomplished leader in multiple fields including Digital Forensics and Cybersecurity. Over his career, he has conducted criminal and civil cyber investigations for federal agencies and the private sector, successfully determining the root cause of incidents.

Daily Itinerary

Sample Itinerary from August Session

DAY 1 EXTERNSHIP INTRODUCTION AND CRITICAL INFRASTRUCTURE

Kickstart your journey into the world of cybersecurity by getting a quick program overview. Learn what it takes to protect critical U.S. infrastructure. Resolve a national cyber threat. Then call it a day.

Protecting Critical Infrastructure

Presented by CPS Energy, learn from a cyber professional tasked with ensuring the safety of our electricity and energy systems vital to our citizens' well-being and the economy.

Daily Cyber Challenge

Virtual espionage and a ticking clock are on the menu in today's scenario-based challenge. Students will have limited time to search through a U.S. official's computer and uncover any sensitive information leaks.

DAY 2 PRIVATE SECTOR

Get a behind-the-scenes look into what professional skills are required to achieve career success from a real-life cybersecurity team.

Protecting Companies

Presented by Delta Air Lines, learn how cybersecurity professionals safeguard their teams against foreign and domestic threats which affect their ability to survive.

Daily Cyber Challenge

Jump into the cybersecurity hot seat in a full motion video challenge where every decision has a consequence. Make the right choices and win. Make a wrong move and, well, it's game over.

DAY 3 FINANCIAL CRIMES

Presented by the Federal Bureau of Investigation (FBI), get a firsthand look into the mind of a cyber criminal. See how they infiltrate computer systems using various phishing methods and more importantly, how to defend against these stealth attacks.

Protecting Citizens' Financial Data

Discuss how to effectively mitigate risks to our families when threats emerge from a foreign nation and what is the American response from entities like the National Security Agency and the FBI.

Daily Cyber Challenge

Sharpen those critical thinking skills as teams will conduct a real-life cyber case study. Learn all about a recent cyber attack. Then discuss what could have been done to mitigate the damage or stop the hack in its tracks.

DAY 4 NATIONAL SECURITY AND CYBER CAREER EXPLORATION

Keep our nation safe by uncovering cybersecurity threats around the globe, which affect our nation and everyday life. Review case studies from professionals, covering the most common bad actors in cybersecurity, from black hats to insider threats.

Presented by the National Initiative Cybersecurity Education (NICE), delve more deeply into cybersecurity careers to see the entirety of this pathway to success. Find out how to get that first job in the industry and learn what talents provide the best advantages for a future as a cybersecurity professional.

Success in Big Tech Companies

Presented by Facebook, gain valuable insight on how to be successful in today's top tech jobs. From what companies are looking for in a candidate to the importance of diversity, get the full 360 on how to truly set your cyber career up for success.

DAY 5 SYSTEM HARDENING AND CRYPTOGRAPHY

Presented by the National Security Agency (NSA) Texas, discover the art of making codes (cryptography) and breaking codes/ciphers (cryptanalysis). Develop an understanding of the algorithms used to protect users online, be challenged to decipher an unknown cryptogram and learn all about system hardening.

Final Project Scenario

Five days and it all comes down to this. Students will get to showcase their newly acquired skills by taking control of a compromised computer system, then doing whatever it takes to secure it. Points will be awarded. The team that finishes with the most secure system will come out on top.

Online Course Requirements

- Any compatible computer
- Webcam
- Stable Internet connection

Your Tuition Includes

- Industry professional guest speakers and workshops
- Direct instruction daily, aligned to TEKS
- Five days of combined learning
- Parent Pre-Externship Introductory Webinar
- Digital badges and certificate of completion
- Service and support from

To Register:

www.experienceamerica.com/cybersecurity-virtual-externship

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