Arizona State University

Cybersecurity

Bootcamp Brochure

In partnership with HyperionDev

Table of Contents

Overview

As cyberattacks grow in frequency and complexity, the **demand for skilled** cybersecurity professionals has never been greater. From expanding IT infrastructures to mobile applications and connected devices, organizations face evolving digital threats that require fast, strategic responses. With emerging technologies like generative AI and big data now fueling cybercrime, today's cybersecurity professionals must be equipped to match that pace, defending systems, identifying vulnerabilities and responding to incidents in real time.

Our Cybersecurity Bootcamp is designed to meet this challenge. Aligned with CompTIA standards, it prepares you to succeed in one of the most critical and fast-growing areas of technology.

You will learn to write secure code, manage networks, investigate breaches, and prevent attacks. Along the way, you will build critical thinking and technical skills that empower you to solve real-world challenges. Through hands-on projects and practical training, you will gain experience with industry-standard tools and workflows used by cybersecurity teams worldwide, preparing you to confidently enter the field.

Duration
3-6 Months,
Part-Time: 5-10 hours
Full-Time: 35-40 hours

Experience
None-Required

Format
Online, Self-Paced

Throughout this bootcamp, you will:

Work with real-world systems and tools

Use tools like Git, Bash and Linux to navigate system architecture, automate tasks, and manage secure environments.

Gain exposure to ethical hacking and forensics

Practice techniques like penetration testing and incident response while investigating threats through digital forensics.

Build a strong coding foundation

Learn Python and scripting fundamentals to write secure, functional code used in cybersecurity workflows.

Identify and respond to threats

Explore common vulnerabilities like SQL injection and XSS, and learn how to detect, prevent, and respond to cyberattacks.

1 Long Short-Term Memory (LSTM)
2 Gated Recurrent Unit (GRU) networks

Key tools and languages

By the end of the program, you'll be fluent in the technologies driving the cybersecurity industry, ready to deliver insights and build solutions confidently.

CompTIA-aligned to help you get certified

As part of the Cybersecurity Bootcamp, you'll gain the foundational knowledge and practical skills needed to help you prepare for the industry-recognized **CompTIA** certification exams like **CompTIA Security+** and **CompTIA CySA+**. CompTIA certifications are valued credentials, trusted globally across the tech industry, indicating that you are up to date with industry standards. Getting CompTIA certified will help you stand out to employers, open doors to more advanced roles and boost your career prospects.

Prerequisites

This is a beginner-friendly program with no formal prerequisites. Whether you're new to tech, looking to formalize and grow your existing skills, or a recent graduate ready to launch your career, this bootcamp is designed for you.

Not sure if this bootcamp is right for you? Our admissions team is here to discuss your background and learning goals and help determine whether the Data Science and Artificial Intelligence Bootcamp is the right fit.

What to expect

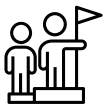
Our bootcamp experience is built on three core pillars:

- Personalized academic support
- A flexible, supported learning journey you can shape around your life
- Career services designed to get you hired

Whether you study part-time or full-time, you'll benefit from expert instruction, real-world projects and personal mentorship to help you build job-ready skills on your schedule.

A dedicated support team

You'll be backed by a dedicated team whose goal is to help you succeed, from your first module to your job search.



Academic mentors and facilitators

Industry experts review your work, provide detailed 1-on-1 feedback, and guide your understanding of key concepts. They'll help ensure you're learning and applying your skills effectively.

Career services coaches

Specialists who support your career development with job search strategies, interview prep, portfolio building and long-term planning. They're here to help you move confidently into the job market.

Flexible learning that fits your lifestyle

Life doesn't pause while you learn. That's why our bootcamp is designed with flexibility at its core. You'll have the freedom to work through self-paced lessons and exercises around your existing commitments. Our team is available 24 hours a day to provide you with support.

A well-rounded course experience

As a bootcamp participant, you'll engage in project-based learning designed to spark curiosity, build technical fluency and provide practical experience.

Throughout the bootcamp, you will:

- Explore new tools and concepts through self-paced online lessons.
- Reinforce your knowledge by completing hands-on tasks and exercises.
- Receive 1-on-1 human-led task reviews to check for understanding and real-world application.
- Participate in live facilitator-led lectures and interactive discussions to dive deeper into cybersecurity topics, industry trends and best practices.
- Build real-world projects that reinforce your learning and serve as portfolio-ready proof of your capabilities.

Our unique approach

Human-led feedback is the best way to learn—and we've built our entire model around it.

Code reviewed by humans, not machines

Forget AI feedback. Our expert code reviewers give real, quality input. They teach you best practices and help you think and code like a developer.

Progress without panic

Learning to code can be hard. That's why our on-demand mentors help you troubleshoot fast so you can keep your learning smooth and steady.

Build skills employers actually want

We teach you to write code that's clean, scalable and ready for the workplace. We simulate real-world environments that mirror what senior developers do, so you're job-ready faster.

Personalised mentorship

Guidance from academic coding mentors

Work one-on-one with experienced mentors who align with your learning goals. Receive tailored feedback through scheduled calls and ongoing email support to keep your progress on track.

A community that grows with you

Join a vibrant cohort of fellow career changers. Take part in live online lectures, tutorials, community chats and virtual meetups—designed to keep you motivated and supported every step of the way.

A safe space to learn and grow

Our human-led mentorship creates a trusting, supportive environment. Progress at your own pace, discuss challenges openly and overcome obstacles without fear of failure.

How we help you get hired

Learning job-ready skills is just the beginning. Our dedicated Career Services team supports your transition from learner to professional, whether you're entering a new industry, upskilling in your current role or pivoting to a new career path.

Throughout your learning journey, you'll gain practical tools and guidance to help you:

- Understand the job market and create a targeted job search strategy
- Develop a personalized and actionable career plan
- Build a strong professional brand, both online and offline
- Prepare for interviews with confidence and clarity
- Stay motivated with structured, ongoing support
- Navigate your first 90 days with expert guidance
- Gain access to our private alumni network with exclusive benefits

*HyperionDev 2024 Graduate Outcomes Report

Employer connections and industry exposure

We work with select hiring partners to offer networking opportunities through spotlight events, hackathons, and community initiatives. When there's a strong fit, we also share standout candidate profiles with partners, giving you the chance to get noticed for roles that align with your skills and goals.

Interview preparation

We simulate real-life interview scenarios to help you build confidence and refine your technique. Whether you're sharpening your general interview skills or preparing for a specific role, our coaches tailor sessions to align with the job description and expectations of the company you're interviewing with.

Goal-based guidance

A tailored career action plan is developed based on your unique background, career aspirations and current readiness. This plan is broken down into manageable weekly goals and tasks that you'll work through with your career coach, helping you stay focused and make measurable progress toward your job search objectives.

Job search material reviews

Career coaches provide personalized feedback on your resume, LinkedIn profile, cover letter, and technical portfolio on GitHub (where relevant), ensuring each aligns with current industry standards and showcases your skills to employers.

Syllabus outline

What you'll learn:

Level 1 - Python Basics for Cybersecurity

MODULE 01

Introduction to Cybersecurity and Programming

- Explore types of cybercrime, the impact of attacks and key roles in a cybersecurity team.
- Learn about compliance frameworks and how they guide organizational security practices.
- Plan your programs using pseudocode before diving into Python.
- Write your first Python program and start working with variables.
- Use strings and numerical data types to store and manipulate different kinds of data.
- Apply control structures (if, elif, else) and Boolean logic to guide program flow.
- Use logical operators for calculations and comparisons.

Capstone Project – Variables and Control Structures

Build an investment calculator using Python variables, input/output and decision-making structures.

MODULE 02

Programming Logic and Error Handling

- Use control structures such as while and for loops to repeat tasks and control program flow.
- Understand error types and implement error handling techniques for defensive programming.
- Manipulate strings and perform operations using Python's built-in string functions.

MODULE 03

Data Structures and File Operations

- Explore lists and how to organize data for processing.
- Read and write data from and to text files.
- Use dictionaries to store structured key-value data.

MODULE 04

Functions and Debugging

- Write modular code with built-in and user-defined functions.
- Debug programs using the Python stack trace.

Capstone Project – Lists, Functions, and String Handling

Apply functions, lists and string operations to build a useful text-processing program.

MODULE 05

Advanced Python and Object-Oriented Programming

- Work with 2D lists to manage more complex data.
- Handle unexpected errors with exception handling.
- Learn the principles of object-oriented programming (OOP) and define classes.
- Use inheritance to promote reusable and organized code.

Capstone Project – OOP

Create a simple object-oriented application that demonstrates core OOP concepts in a secure, modular way.

Level 2 - Systems, Tools, Hashing, and Ciphers

MODULE 06

System Architecture and Linux Tools

- Understand system architecture and how components interact in a software system.
- Set up a local virtual machine using Kali Linux, a popular distribution for cybersecurity professionals.
- Navigate the Linux terminal and write Bash scripts to automate tasks.
- Use cronjobs to schedule recurring security operations.

MODULE 07

Web Technologies and Cybersecurity Principles

- Understand web development principles.
- Develop web pages using HTML and enhance accessibility with semantic HTML.
- Apply CSS for styling and layout improvements.
- Understand the basics of password hashing and encryption.
- Explore Public Key Infrastructure (PKI) and man-in-the-middle (MITM) attacks.

Capstone Project – Ciphers

Create a custom cipher program to demonstrate your understanding of encryption techniques and secure communication.

Level 3 - Databases, Networks, and Forensics

MODULE 08

XSS Vulnerabilities and Secure Databases

- Investigate cross-site scripting (XSS) vulnerabilities and their impact.
- Compare relational and NoSQL databases and their security implications.
- Apply normalization to design structured relational databases.
- Learn SQL and SQLite to manage and query databases securely.
- Explore SQL injection vulnerabilities and how to prevent them.

Capstone Project – Databases

Design a secure, interactive database system that stores and retrieves sensitive information.

MODULE 09

Network Security and Ethical Hacking

- Learn how to secure servers and monitor activity through logging.
- Gain practical experience with penetration testing tools and techniques.
- Understand the phases of ethical hacking and secure system evaluation.

MODULE 10

Digital Forensics and Incident Response

- Study how digital forensics specialists uncover and interpret cybercrime evidence.
- Learn the stages of incident response and how to handle breaches effectively.
- Explore key ethical hacking tools for reconnaissance, scanning, exploitation, and post-exploitation.

Capstone Project – Cybersecurity Case Study

Apply your knowledge to a real-world cybersecurity case study involving threat investigation, incident analysis, and reporting.

*DISCLAIMER: Please note that the content and sequence outlined in this curriculum are subject to change. While we aim to cover all topics listed, specific content may be modified, added to, or omitted based on educational needs, industry developments, or instructional requirements. This flexibility is designed to provide the most current and valuable educational experience possible. By enrolling in this course, you acknowledge and accept these potential modifications.

Potential Career Paths

After completing your bootcamp, you can pursue cybersecurity roles in various positions such as:

Penetration Tester

Penetration Testers simulate cyberattacks to uncover system weaknesses and help organizations strengthen their defenses.

Cybersecurity Analyst

Cybersecurity Analysts monitor systems, identify threats and implement security measures to prevent cyberattacks.

Digital Forensics Analyst

Digital Forensics Analysts collect and analyze digital evidence to investigate breaches and support legal investigations.

Cybercrime Investigator

Cybercrime Investigators trace illegal online activity and recover digital evidence to build cases against cybercriminals.

86%

Tech Industry Transition*

86% of our graduates move into new roles in the tech industry, while 14% apply their new tech skills in other industries.

*HyperionDev 2024 Graduate Outcomes Report

Participant Success Stories

Join an international community of +13,000 alumni.

Mark
From Musician to Junior Developer

After years as a musician, Mark shifted careers and enrolled in the Web Development Bootcamp. With no prior tech experience, he quickly discovered a passion for coding and landed a role as a Junior Web Developer at MOHARA just two months after completing the course.

Rana
From Cybersecurity Bootcamp to IT Analyst

Rana used the Cybersecurity Bootcamp to build technical confidence and break into tech. After completing the course, she landed an IT Analyst role in London, where she applied skills from projects like cross-site scripting to real-world security challenges.

Eustoachio
From Civil Engineering to Web Development

After 20 years in civil engineering, Eustoachio Di Paola was ready for a change. A Web Development Bootcamp gave him the skills and confidence to turn his passion for tech into a business. Now, he runs Web Arto, a platform that empowers artists to build their own websites—showing that with the right training and support, it's never too late to start something new.

Technical requirements

- Participants will need **access to the Internet and a computer**.
- We recommend that you **use the Google Chrome browser** when accessing the online learning platform. Although this is not a requirement, we've found that this browser performs best for easy access to course materials.
- The Cybersecurity Bootcamp also requires **downloading additional software and resources**. During your program, these additional software and resource requirements will be communicated to you.
- You will **use the free trial versions** during your time on the course and will not need to purchase additional software licenses.

Take the next step toward your tech career

Whether you're just exploring or ready to dive in, we've got an option for you:

Book a call

Chat with our admissions team about your goals, course fit, and financing options.

Enroll Now

Ready to start? Head straight to the course page and kick off your application.

Arizona State University is partnering with online education provider HyperionDev to offer a portfolio of high-impact, outcomes-focused online programs. Please note that course contents shown here are subject to change without prior notice. These programs are provided by HyperionDev and quality assured by Arizona State University to leverage their thought leadership in technical practice developed over decades of expertise.