PennState Behrend Continuing Education

Penn State Behrend

Accelerated IT Bootcamp

Fast-Track Your IT Career in Just 14 Weeks

The Penn State Behrend Accelerated IT Bootcamp, in partnership with ThriveDX, is a 14-week standalone bootcamp tailored for IT newcomers seeking a more flexible, immersive, and affordable path into the tech industry.

Delivered remotely through self-paced learning, this hands-on program enables you to go from beginner to job-ready, no experience or college degree required.

Overview

Format
Online
Self-Paced

Schedule
20 Hours per Week
Self-Directed Learning

Duration
14 Weeks
(280 Hours)

Certifications
Aligned with AWS Cloud* and CompTIA® Network+*

Opportunity
230,000 Open IT Support Positions in the U.S.**

Price
$5,995
Payment Plans & Funding Available

This non-credit, non-degree Accelerated IT Bootcamp is offered through the Continuing Education services of Penn State Beaver, Penn State Behrend, Penn State Greater Allegheny, and Penn State New Kensington.

*For details, please visit https://thrivedx.com/cybersecurity-program-disclaimers.

**Source: Cyberseek

Methodology

The non-credit, non-degree Penn State Behrend Accelerated IT Bootcamp, in partnership with ThriveDX, focuses on teaching the specific skills required for success. This is accomplished with:

Practical and theoretical knowledge delivered through hands-on, real-world labs and TDX Arena, our proprietary gamified learning platform.

Essential career-focused training–from teamwork to interview prep–embedded throughout the bootcamp.

Ongoing support from online facilitators provides guidance throughout the learners' journey.

Aligned with NICE/NIST Framework

The NICE/NIST Framework, developed by the National Initiative for Cybersecurity Careers and Studies (NICCS), is a nationally recognized resource to establish a common glossary for cybersecurity work and workers across public, private, and academic sectors.

The Penn State Behrend Accelerated IT Bootcamp curriculum aligns with the NICE framework to equip you with a foundational level of IT knowledge.

Upon completion, you can expect to qualify for entry-level IT roles such as:

- Network Operations Specialist
- Technical Support Specialist
- Cloud Engineer
- Cyber Defense Infrastructure Support Specialist

Bootcamp Syllabus

Intro to IT

Ideal for learners who are curious about the world of IT and want to become familiar with this exciting industry, this course is the best way for students to learn the fundamentals of IT, discover the different roles in the field, and learn how each makes an impact.

Topics Covered:

- Living in the digital age
- Information Technology
- Safeguarding the digital world
- A glimpse into the future

Week 1: Computer Foundations & GenAI

Gain an understanding of the bootcamp structure and flow, with practical guidance on how to excel in this journey. Learn the basics of computers and information technology (IT), understand the role of a network administrator, and dabble in artificial intelligence.

Topics Covered:

- The purpose, objectives, structure, flow, and practical recommendations of the bootcamp
- Fundamental concepts of computers
- Key skills and responsibilities of a network administrator
- Benefits of becoming a network administrator
- GenAI and its key characteristics

Week 2: Network Fundamentals

Immerse yourself in the world of networks and begin to speak their language. Learn to set the foundations of a network, its various models (OSI Model & TCP/IP Model), and how to communicate with them, from physical cabling to the application layer.

Topics Covered:

- Core networking foundations
- Network architectures, topologies, and communication networks
- The OSI Model
- The TCP/IP Model
- Network protocols and sniffers

Week 3: Network Administration

Dive deeper into networking and identify the tools that make up a network administrator's arsenal. Take control of data traffic and learn about switches, routers, and VLANs with a focus on designing, configuring, and troubleshooting networks.

Topics Covered:

- Network administration tools – Cisco Packet Tracer
- Configuration of virtual networks – IP and MAC addresses; subnetting
- Network components – switches, routers, and VLANs
- Controlling network traffic and unauthorized access using Access Control Lists (ACLs)
- Common troubleshooting techniques

Week 4: Windows System Administration

Explore the Windows operating system by learning how to configure a Windows Client and Server, control permissions, navigate the command line, automate network administrator tasks using PowerShell scripts, and guard systems with Microsoft Endpoint Security tools.

Topics Covered:

- Windows Client settings and the Command Prompt
- Installation, configuration, and management of Windows Server
- Control permissions using Active Directory and Group Policy
- Network communication using DNS and DHCP
- Writing and automation of basic PowerShell scripts

Week 5: Linux System Administration

Explore the Linux operating system and its foundations. Learn how to use the Linux command line, known as the Terminal, and how to navigate and manage the system using file manipulation techniques to control permissions and security implementations.

Topics Covered:

- Linux distributions and core components
- Navigation using the Terminal, Linux's command line
- User and group access
- Security policy enforcement
- Network configuration
- Network communication analysis

Week 6: Virtualization and Cloud Computing

Move beyond physical hardware and gain insight into virtualization and cloud computing. Learn how virtualization is implemented in networks, and familiarize yourself with virtual environments, cloud computing, and their respective security protocols.

Topics Covered:

- Virtualization concepts, technologies, and applications
- Virtual environments' networking and security aspects
- Cloud fundamentals and core services
- Cloud-secure architecture
- Cloud security tools and best practices

Week 7: Generative AI for IT Professionals

Explore the fascinating world of machine learning and artificial intelligence (AI). Gain insight into different AI learning methods and their processes, analyze trends, and review ethical considerations to identify current and potential impacts on the professional landscape.

Topics Covered:

- AI learning methods and their applications in machine learning
- AI's current and potential impact
- Ethical considerations related to AI implementation
- Emerging AI trends, their significance, and potential influence on professional landscapes
- AI and text-generation tools

Week 8: Cybersecurity Fundamentals

Explore the fundamentals of cybersecurity, along with popular frameworks (NIST and MITRE ATT&CK) used to empower organizations to build robust defenses against cyber threats, while identifying cybercriminals, their motivations, and methods.

Topics Covered:

- Cybercriminal types, methods, and motivations
- Popular industry frameworks (NIST and MITRE ATT&CK)
- Different types of vulnerabilities and exploits
- Common cyber threats
- Real-world incident analysis

Week 9: Information Security

Deep dive into infrastructure security, focusing on network security principles, cryptography, and best practices. Learn about crucial infrastructure components needing protection from network attacks and common models for secure infrastructure design.

Topics Covered:

- Vulnerabilities, exploits, and common cyber threats
- Key components of secure infrastructure design
- Cryptography strategies
- The CIA triad model
- Network security implementation
- Robust access design and authentication control

Week 10: Infrastructure and Network Security

Understand network security defense appliances, such as firewalls, virtual private networks (VPNs), and intrusion detection and prevention systems (IDS/IPS). Learn how to use these tools to monitor, secure, and enhance network robustness, including securing email communications.

Topics Covered:

- VPN protocol solution implementation
- Mail structure and security implications of mail relay systems
- Firewalls and IDS/IPS as critical defenses for network access control
- Scenario-dependent implementation of firewall rules
- IDS/IPS alerts and impact/severity evaluation

Week 11: Network and Monitoring Analysis

Learn how to dissect network traffic and troubleshoot by implementing effective network monitoring solutions for real-time and historical data analysis, using specialized tools like security information and event management (SIEM) and endpoint detection and response (EDR) for packet capture, protocol analysis, and flow analysis.

Topics Covered:

- Implementation of network monitoring solutions for real-time detection
- Network traffic analysis and troubleshooting
- SIEM and EDR platforms' capabilities
- SIEM and EDR applications
- Use of SOAR platforms for automation and coordinated incident response

Week 12: Incident Handling Fundamentals

Explore the world of security operations center (SOC) and incident response (IR) teams, organizations' guardians against cyber threats. Gain a comprehensive understanding of incident handling, mastering its key terminology, concepts, and techniques to empower you to effectively detect, analyze, and prioritize security incidents.

Topics Covered:

- Key concepts and terminology
- Roles and functions of IR teams and SOCs
- NIST SP 800-61 incident response framework
- Techniques and best practices
- Legal implications of data breaches, privacy protection, and evidence handling

Week 13: Incident Analysis

Take incident handling to a hands-on level. Practice the SOC analyst role and prove your skills in detecting and analyzing malware attacks. You'll familiarize yourself with various types of malware, practice static and dynamic malware analysis using tools like VirusTotal and Hybrid Analysis, and explore the Sysinternals Suite. Finally, you'll apply your knowledge in hands-on investigations, preparing you for a professional cybersecurity career.

Topics Covered:

- Incident handling
- Incident response
- Sysinternals
- Online analysis tools
- Basic malware analysis

Week 14: Final Assessments

This is where everything in your bootcamp journey comes together, testing your knowledge and understanding of the topics and skills you've acquired to prepare you for your new career in IT.

Topics Covered:

- Encompassing final exam
- Final hands-on scenarios
- Practical preparation for technical interviews
- Beyond the bootcamp

Included in the Bootcamp

Hands-on Skills Training

Learn job-ready skills with dozens of unique labs and exercises. Technical skills, frameworks, and tools are taught through hands-on exercises in a safe virtual environment.

Flexible Learning

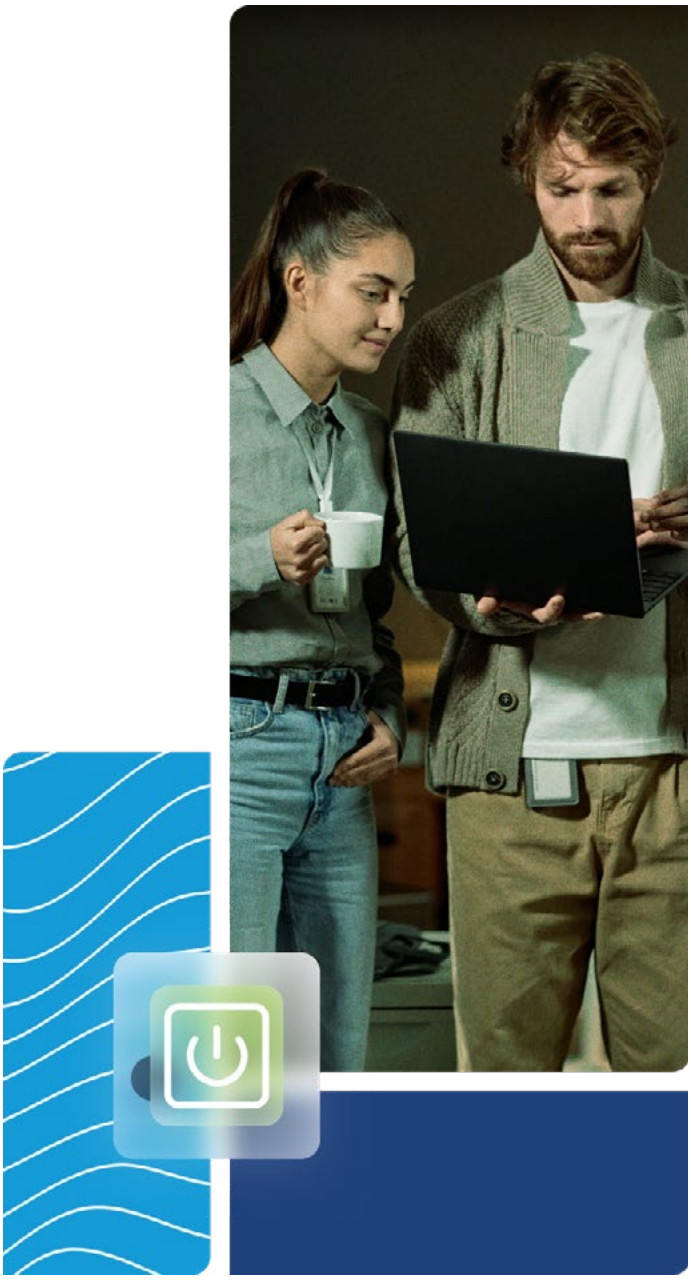
Our online platform allows you to study and practice at your own pace, whenever you want, wherever you are.

Career Services and Support

Get access to career support for guidance on the job-seeking process.

24/7 AI Assistance for Seamless Learning

Access the AI Assistant via TDX Arena round the clock, offering immediate support for cybersecurity queries and bootcamp-related assistance. No more waiting for human assistance. Get instant help whenever you need it.



The IT career of your dreams is only 14 weeks away when you sign up for our learn-from-anywhere bootcamp.

Contact our ThriveDX partners at 814-626-9251 for more information.