



Commonwealth  
Cyber Initiative  
NORTHERN VIRGINIA

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## **Commonwealth Cyber Initiative Cyber Traineeship Frequently Asked Questions (FAQs)**

### **What is the Commonwealth Cyber Initiative Cyber Traineeship?**

This program is part of a larger effort supported by the **Northern Virginia Node of the Commonwealth Cyber Initiative**, to develop data analytics and cybersecurity expertise in the Virginia workforce. Participants in this training program will receive instruction over the course of a 7-week, online experience. Participants in the program will also receive career placement support from the George Mason University and Northern Virginia Community College to facilitate connections with cybersecurity companies. This includes the potential to also participate in paid on the job training with a regional employer for an additional 12 weeks. The goal of the program is to train participants without previous cybersecurity experience, preparing them for an entry level role in the field of cybersecurity in Virginia. While a job in cybersecurity is not guaranteed, the program will advance participants towards the goal of finding employment in the field of cybersecurity.

### **What kind previous training or degree do I need in order to qualify to participate in this program?**

No previous experience is required. Participants must have completed a high school or equivalent degree. The program is suitable for anyone who is interested in entering a career in cybersecurity field, including those with a high school degree only, associates and Bachelor's degrees in non-technical fields such as the humanities, business, and/or the arts, transitioning military personnel, or career changers. However, candidates with some degree of technical acumen have more easily adjusted to the program curriculum.

### **I am not a US Citizen; can I participate in this program?**

No only US citizens may participate in the program as it is anticipated that successful graduates of the Traineeship will seek employment with US companies requiring candidates to undergo the security clearance process.

### **I live outside of Virginia; may I participate in this online program?**

No, only residents of Virginia may participate in this program as we are investing in expansion of the cybersecurity capability of the Virginia workforce.

### **What kind of training does the program provide?**

The training will include instruction and hands on training in the following topics:

- Professional Development Skills
- Resume Review and development
- Review of Cybersecurity career paths and positions
- Security Clearance Readiness
- Python



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- Data Analytics
- Database Design,
- Data Visualization
- SPLUNK
- Networking & Security
- Cybersecurity Fundamentals
- AWS

The following is a detailed schedule of the topics covered during specific weeks (may subject to change):

### **Data Analytics, Database Design, and SQL**

#### **Week 1**

- Introduction to Data
- Introduction to Data Analytics (Descriptive Analytics, Diagnostic Analytics, Predictive Analytics, Prescriptive Analytics)
- The importance of Exploratory Data Analytics and Storytelling
- Data Analytics components
- Introduction to Database, Database Design
- MySQL Workbench (Introduction and Installation)
- Create a connection (local and remote)
- Data Definition Language (Create, Insert, Alter & Truncate)
- Select Queries
- Sorting and Order by Wildcard characters
- Aggregate Functions
- Not NULL and NULL keyword and value
- Sub Query, Union and Distinct
- Introduction to PL/SQL
- Function
- Trigger

#### **Week 2**

- Database Design
- Case Study – Database
- Case Study – Database (Continued)
- Presentation of case study
- Python Fundamentals
- Python – Functions, loops, Recursions
- Lists, Dictionaries and Tuples
- Files, classes, functions and methods



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- What Is Data Visualization?
- Trends in Data Visualization—Storytelling
- Trends in Data Visualization—Interactive Graphics
- Explore the data visually (Histogram, Boxplots, Scatterplot, Moving average, Clusters, etc.)
- Devise the Problem, Challenge and/or Questions
- Visualization using Python

### **Week 3**

- The Regression Paradigm – Concepts
- Use Cases and implementation in Python
- Classification Paradigm – Concepts
- Use Cases and implementation in Python
- Optimization Paradigm – Concepts
- Use Cases and implementation in Python
- Recommendation Paradigm – Concepts
- Use Cases and implementation in Python
- Case Study – Data Analytics

### **Week 4**

- Data Analytics of log files
- Introduction of Splunk and setting of labs
- Getting started with Splunk
- Basic searching
- Using fields in searches
- Search fundamentals
- Transforming commands
- Creating reports and dashboards
- Creating and using lookups
- Learn the various data onboarding techniques
- Learn Reporting & Transforming commands in
- Field Extraction
- Event types
- Transaction
- Workflow action
- Create Alerts triggered on certain conditions
- Different Splunk Visualizations
- Create Reports with search results
- Create Dashboards with different Charts and other visualizations



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- Set permissions for Reports and Dashboard
- Create Reports and schedule them using cron schedule
- Splunk Case Study

## **Networking & Security**

### **Week 5**

- Basic OSI overview
- Wireshark introduction
- Wireshark Installation
- Wireshark Filters
- History of Malware
- How Malware Works
- Types of Malware
- Case Studies
- Intro to OSINT
- How to: Google Dorking

### **Week 6**

- Reconnaissance
- Knowledge bases
- The Sites of OSINT
- Network Review
- Network Ports
- Protocol and Services
- Identifying Malware and Malware symptoms
- Malware Scanning Applications
- Intro to Vulnerability Scanning
- Intro to PenTesting
- Tools for Ethical Hacking
- Intro to Kali Linux

## **AWS Basics**

### **Week 7**

- AWS Cloud concepts
- Security and compliance within the AWS Cloud
- Deploying an operating in the AWS Cloud
- AWS global infrastructure
- Core AWS services
- Billing, account management, and pricing models



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### **Will I be paid for the time I spend in this program?**

Yes, participants will be paid to participate full time in this program for 7 weeks. A \$7200 stipend will be paid to participants in two installments by the conclusion of the 7-week program.

### **What are the dates of the program and how much time will I need to devote to the training?**

This is a full-time, 7 hours per day, weekdays, June 12 – August 4, 2023 as well as a full-day, in-person orientation June 9, 2023. Participants may not miss any days of class or orientation and must ensure that they are available to fully participate in order to receive their stipend. June 19 (Juneteenth) and July 4 (Independence Day) will be observed holidays. August 2 – 4 will be held as makeup days, if needed. Additionally, some students will also be offered an opportunity to participate in 12 weeks of full time, paid work with a cybersecurity company following their 7 weeks of class time. This additional on-the-job training will be arranged with the employer but will take place approximately between August 7 – October 27, 2023. **If you fail to meet attendance requirements, you will be disenrolled from the program (including termination of stipend payments).**

### **Will I be required to take quizzes, and complete homework?**

Participants will be required to complete daily homework assignments both individually and in teams and some quizzes will be required to demonstrate mastery of the material. Participants should plan to devote time outside of the virtual classroom studying and completing homework as with any academic course.

### **Will I be able to work at another job while participating in the Traineeship program?**

No. The **Commonwealth Cyber Initiative Cyber Traineeship** is a fulltime experience. During the program, participants will not have time to participate in other employment. In addition to the 7 hours of daily class time, students will be expected to devote time outside of the virtual classroom studying and completing homework as with any academic course. Some students will also be offered an opportunity to participate in 12 weeks of full time, paid, on-the-job training with a cybersecurity company following their 7 weeks of class time.

### **How can I obtain a job in cybersecurity after I complete the 7-weeks of training?**

Some students will be offered an opportunity to participate in an additional 12 weeks of full-time, on-the-job training with a cybersecurity company, pending availability of positions. All students who are participating in the 7-week training program will receive assistance with resume development, interview preparation and connected with the vast network of cybersecurity companies in the region who are partners in the Northern Virginia Node of the Commonwealth Cyber Initiative to facilitate obtaining a suitable



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cybersecurity position. However, employment at the conclusion of the program is not guaranteed.

**Will I be required to participate in any in-person activities during the Traineeship?**

No, the program is entirely ONLINE.

**Do I need a computer and any specific access to technology?**

Yes, you will need access to a working computer. **It is a requirement of this program that course work be completed on a PC.** Reliable internet access and a Zoom-capable device are required. See [Zoom Class Requirements](#) for more details.

**What does the ideal candidate look like?**

It varies. You might be a seasoned professional looking to change careers. You might have recently graduated. While this program targets people who do not have formal exposure to cybersecurity, those who have some technical experience with computers might best be able to maximize the benefit of this program. **You must be looking to enter the workforce, in a fulltime capacity, at the conclusion of the program. Participants who intend to enroll as students at the conclusion of the program would not be ideal candidates.**

**How do I apply to this program?**

Interested applicants should submit:

- 1) **a cover letter** (limited to 400 words), detailing why they are interested in obtaining this training, your ability to participate in full time study for the dates of the program, and your goals for employment,
- 2) **a resume**, and
- 3) **a transcript** (unofficial is acceptable, however an official transcript will be required from those accepted into the program after acceptance is acknowledged) from your most recent educational institution

to [CCIApps@gmu.edu](mailto:CCIApps@gmu.edu) with the **Subject Line: Application to CCI Traineeship – LAST NAME – FIRST NAME**

Must include your LAST NAME and FIRST NAME in each of the name of each attached document file name (separate each word with a dash):

- Lastname-Firstname-Resume.pdf e.g., Johnson-Mary-Resume.pdf
- Lastname-Firstname-Cover-Letter.pdf e.g., Johnson-Mary-Cover-Letter.pdf
- Lastname-Firstname-Transcript e.g., Johnson-Mary-Transcript.pdf

**For full consideration, applications must be submitted by March 17, 2023. We intend to communicate decisions by April 28, 2023.**