



The GenCyber Program

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The Mission of GenCyber

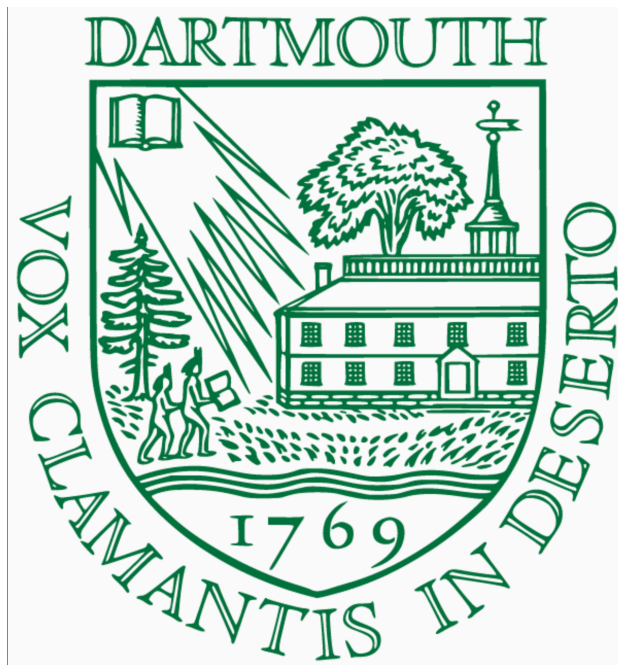
- *Provide a cybersecurity camp experience for students and teachers at the K-12 level.*
- *The primary goal of the program is to increase interest and educate students and faculty in the field of cybersecurity.*
- *The GenCyber Program strives to be part of the solution to the shortfall of skilled cybersecurity professionals by introducing students to the importance and threat of cybersecurity as it pertains to our country's national and economic security.*
- *GenCyber camps are open to all student and teacher participants at no cost.*
- *Funding is provided jointly by the National Security Agency and the National Science Foundation.*

GenCyber Program Sponsors:

The National Security Agency & The National Science Foundation



*The GenCyber Camp was hosted by the
Dartmouth Institute for Security, Technology, and Society*



GenCyber Camp Day One

- ***Day One focused on motives as well as targets for Cyber-Attacks.***
- ***Topics Included:***
- **Cyber-Threat Overview**
 - *Cyber-Attacks and Motives*
 - *Cyber Attack Impact*
 - *Cyber Attack Targets*
- **Basic Cyber-Attack Method**
 - *Reconnaissance*
 - *Identify Targets*
 - *Vulnerabilities & Exploits*
 - *Some of these attacks include DDoS, Ransomware, and Phishing*
- **Cyber-Defense Basics**
 - *Network Defense- Networks that are used to protect, monitor, detect incoming network attacks, intrusions, and disruptions.*
 - *System Defense- multiple layer of defense in case a layer fail to keep out the intruder*
 - *Data protection- is a way of protecting ones personal information*
 - *Regulations and the Law*
 - *User Awareness*

GenCyber Camp Day Two

- ***The second day concentrated on Network Defense***
- **Networking Basics**
 - *Network Addressing*
 - *Basic Routing*
 - *Name Resolution*
 - *Network Services (DHCP, DNS)*
- **Networking Defense- a number of protective measures taken to make sure the network is safe.**
 - *Access Control*
 - *Firewalls*
- **Intrusion Detection & Prevention- a network security program designed to identify any suspicious oncoming sites.**
 - *Signature-Based*
 - *Anomaly-based*
 - *Layer 7 inspection*
 - *Log Inspection*
- **Lab Work:** *Held group exercises in Network Discovery and Traffic Analysis*

GenCyber Camp Day Three

- ***On the third day discussion was centered on Server Defense.***
- **Cyber-security in Large Organizations**
 - *A guest speaker addressed the continuous threat of cyber-attacks in large corporations.*
- **Vulnerability Management**
 - *System Vulnerabilities*
 - *Patch Management*
- **Vulnerability Assessment**
 - *Proactive vulnerability scanning*
- **Lab Work:** *Web Application Security Exercise*

GenCyber Camp Day Four

- ***The fourth day covered aspects of Data Protection***
- **Data Protection Strategies**
 - *Data Risk Management*
 - *Data classification*
 - *Protection of data in transit*
 - *Protection of data at rest*
 - *Mobile Computing security*
- **Basic Cryptography**
 - *Symmetric encryption*
 - *Asymmetric encryption*
 - *Network encryption*
 - *Data encryption*
 - *Digital signatures*
- **LAB:** *Encryption Exercise*

GenCyber Camp Day Five

- ***The final day focused on Digital Investigations.***
- **Incident Response & Investigations**
 - *Incident Response planning*
 - *Digital forensics*
 - *Security regulations*
 - *Computer crime laws*
- **Human Factors in Cyber Security**
 - *Social Engineering*
 - *User Awareness Initiatives*
 - *Ethical computing*
- **Anatomy of an Attack**
 - *A review of the main stages of a cyber-attack and the cyber-defense necessary to counter the attack.*
- ***The camp experience concluded with all participants being broken down into groups for an interactive exercise that focused on lessons learned during the week.***

Conclusion

- *The GenCyber Program successfully accomplishes its goal of introducing the field of Cybersecurity to students from all over the United States. In the future, as cyber-threats continue to evolve, a new generation of cyber-specialists will be needed for both the national and economic security of our country.*

Questions?