

# Cybersecurity

## Computing Systems

## Communication & Networking

- 1 Explain layers within the OSI networking model. [9-12.CS.COMM](#)
- 2 Create a diagram of a network utilizing appropriate network components. [9-12.CS.COMP](#)
- 3 Evaluate the risks and benefits of cloud computing. [9-12.CS.CC](#)
- 4 Compare and contrast the ports and protocols used for different services available online. [9-12.CS.PROT.1](#)
- 5 Identify the risks associated with the different services available online. [9-12.CS.PROT.2](#)
- 6 Develop a plan for risk mitigation that implements redundancy. [9-12.CS.LOSS](#)

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## Hardware

- 7 Identify methods of mitigating risk associated with connecting devices. [9-12.CS.HARD](#)
- 8 Analyze the vulnerabilities of Internet of Things devices. [9-12.CS.IOT](#)
- 9 Create a plan for hardening an operating system. [9-12.CS.OS](#)

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## Software

- 10 Compare the advantages and disadvantages of patching systems in real time. [9-12.CS.SOFT](#)
- 11 Describe the role of scripting in cyber attacks and cyber defense. [9-12.CS.PROG](#)
- 12 Discuss how software that exists on and across various platforms can be used to monitor, collect, and analyze information from those platforms. [9-12.CS.APPS](#)

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## Digital Citizenship

## Online Safety

- 1 Prepare a plan to raise awareness of the effects of cyberbullying. [9-12.DC.CYBL](#)
- 2 Examine the implications of both positive and negative digital footprints. [9-12.DC.FOOT](#)
- 3 Explain the importance of social identity and the implications of online activity regarding private data, long-term career impacts, and the permanence of digital data. [9-12.DC.PPI.1](#)
- 4 Explain the individual risks of a data breach to an organization housing personal data. [9-12.DC.PPI.2](#)

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## Ethics

- 5 Analyze the motives of threat actors. [9-12.DC.THRT](#)
- 6 Discuss the role that cyber ethics plays in current society. [9-12.DC.ETH](#)

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## Policy & Legal Issues

- 7 Compare and contrast local, state, federal, and international cyber laws and regulations for individuals and businesses. [9-12.DC.LAW](#)
- 8 Debate the importance of intellectual property laws. [9-12.DC.IP](#)
- 9 Differentiate between the various agreements that protect individuals and organizations in their digital environments. [9-12.DC.AUP](#)

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## Security

### Information Security

- 1 Explain various interactions between the CIA Triad and the three states of data [9-12.SEC.CIA](#)
- 2 Compare and contrast the concepts presented by access control principles, access control modules, and the principle of least privilege access. [9-12.SEC.ACC](#)
- 3 Formulate a plan to apply security measures to protect data in all three states. [9-12.SEC.DATA](#)
- 4 Distinguish the different types of attacks that affect information security for individuals and organizations. [9-12.SEC.INFO](#)
- 5 Discuss why and how we encrypt information and communication systems. [3-5.SEC.CRYP](#)
- 6 Discuss methods and the need for encrypting information when it is being exchanged, e.g., http vs; https. [6-8.SEC.CRYP](#)
- 7 Analyze how modern advancements in computing have impacted encryption. [9-12.SEC.CRYP](#)

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### Networking

- 8 Evaluate authentication and authorization methods and the risks associated with failure. [9-12.SEC.AUTH](#)
- 9 Evaluate Defense in Depth strategies that can protect simple networks. [9-12.SEC.COMP](#)
- 10 Analyze the different types of attacks that affect network security. [9-12.SEC.NET](#)

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### Physical Security

- 11 Analyze the different types of attacks that affect physical security. [9-12.SEC.PHYS](#)
  - 12 Justify the use of Defense in Depth and the need for physical access controls. [9-12.SEC.CTRL](#)
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## **Career Skills\***

### **Career Exploration**

- 1 Explore how career interests align with cybersecurity careers.
  - 2 Research future trends in cybersecurity.
  - 3 Describe how transferable skills relate to a future career.
  - 4 Develop a career portfolio (i.e, FBLA electronic career portfolio).
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### **Employability Skills**

- 5 Demonstrate working as a team.
- 6 Identify careers in the cybersecurity field
- 7 Demonstrate communication skills.
- 8 Discuss ethical behaviors in the workplace.
- 9 Demonstrate interpersonal skills.
- 10 Develop documentation for a job search in cybersecurity.