

Cybersecurity

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| Career Cluster | Information Technology |
| Course Code | 10108 |
| Prerequisite(s) | Foundations of Technology (recommended) Introduction to Information Technology (recommended) Computer Science Essentials (recommended) |
| Credit | 1 |
| Program of Study and Sequence | Web Development is an option inside the Networking Systems Pathway. |
| Student Organization | SkillsUSA, Future Business Leaders of America, CyberPatriots |
| Coordinating Work-Based Learning | Job Shadowing, Informational Interviews, Internships, Tours |
| Industry Certifications | None |
| Dual Credit or Dual Enrollment | TBD |
| Teacher Certification | Information Technology Cluster Endorsement; Networking Systems Pathway Endorsement; K-12 Educational Technology Endorsement; K-12 Classroom Technology Endorsement |
| Resources | |

Course Description:

Cyber security is an increasingly in-demand field in the Information Technology Cluster. In this course, student will look at the major ideas in the fields of cybersecurity or information assurance. The course design addresses the fundamental implications of technology, the history of securing information and the relationship to the evolution of technology, and the need to securely transmit and store information. This course will look at the ways computers, programs, networks, and people, are exploited by hackers, and what can be done to prevent or minimize the damage. Students will learn foundational cybersecurity topics including digital citizenship and cyber hygiene.

Course Standards

| INDICATOR # CYB 1 Explore to Cybersecurity Concepts | | |
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| <i>Webb Level</i> | <i>Sub-Indicator</i> | <i>Integrated Content</i> |
| Level 1: Recall | CYB 1.1 Define the importance of the cybersecurity industry. | |
| Level 1: Recall | CYB 1.2 Identify the role cybersecurity plays in personal usage | |
| Level 1: Recall | CYB 1.3 Identify the role cybersecurity plays in industry usage. | |
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| INDICATOR # CYB 2 – Establishing Trust Cybersecurity | | |
| <i>Webb Level</i> | <i>Sub-Indicator</i> | <i>Integrated Content</i> |
| Level 3: Strategic Thinking | CYB 2.1 Investigate the Confidentiality Integrity Availability (CIA) Triad – Security Models. | |
| Level 3: Strategic Thinking | CYB 2.2 Compare and contrast usability and security. | |
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| INDICATOR # CYB 3 Explore Data Security and Security Systems | | |
| <i>Webb Level</i> | <i>Sub-Indicator</i> | <i>Integrated Content</i> |
| Level 3: Strategic Thinking | CYB 3.1 Investigate encryption and encryption types. | |

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| Level 3: Strategic Thinking | CYB 3.2 Investigate how businesses utilize security systems. | |
| Level 3: Strategic Thinking | CYB 3.3 Compare and contrast public versus private wifi. | |
| Level 3: Strategic Thinking | CYB 3.4 Explore processes that maintain integrity of data. | |
| Level 3: Strategic Thinking | CYB 3.5 Investigate data breaches and its impact on business and customers. | |
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| INDICATOR # CYB 4 Examine risks, vulnerabilities, threats, and implications | | |
| Webb Level | Sub-Indicator | Integrated Content |
| Level 3: Strategic Thinking | CYB 4.1 Differentiate between threats, vulnerabilities, and attacks. | |
| Level 2: Skill/Concept | CYB 4.2 Utilize adversarial thinking | |
| Level 2: Skill/Concept | CYB 4.3 Describe common security related software vulnerabilities | |
| Level 3: Strategic Thinking | CYB 4.4 Explore social engineering techniques related to cybersecurity | |
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| INDICATOR # CYB 5 Examine legal and ethical issues related to cybersecurity | | |
| Webb Level | Sub-Indicator | Integrated Content |
| Level 3: Strategic Thinking | CYB 5.1 Compare and contrast ethical versus non-ethical hacking | |

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| Level 2: Skill/Concept | CYB 5.2 Understand confidentiality and the role it plays in cybersecurity. | |
| Level 1: Recall | CYB 5.3 Discuss the impact of unethical and illegal hacking on quality of life. | |
| Level 4: Extended Thinking | CYB 5.4 Evaluate how the role of value and ethics impacts laws and policy decisions | |
| Level 4: Extended Thinking | CYB 5.4 Evaluate how the role of value and ethics impacts laws and policy decisions | |

| INDICATOR # CYB 6 Explore Careers in cybersecurity | | |
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| <i>Webb Level</i> | <i>Sub-Indicator</i> | <i>Integrated Content</i> |
| Level 1: Recall | CYB 6.1 Identify personal interests and abilities related to cybersecurity careers. | |
| Level 3: Strategic Thinking | CYB 6.2 Investigate career opportunities, trends, and requirements related to cybersecurity careers | |
| Level 1: Recall | CYB 6.3 Identify skills needed for cybersecurity careers. | |