

Cybersecurity Supplemental Program Resources



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Introduction

This document provides supplemental information for the Cybersecurity program of study. It may be updated or revised as the base program of study, or complementary programs, are updated, added, or removed. Please contact the appropriate Education Programs Professional with any questions.

The Program of Study includes the approved courses, complementary courses, alignment(s) to industry, postsecondary options, and additional information.

The Equipment List for the Cybersecurity program of study is included and, if applicable, additional items used only in the complementary course(s) are noted.

The Crosswalks and Alignments connect and support the Cybersecurity standards for the Information Technology program of study. Complementary course standards are not listed in the crosswalks and alignments.

Program of Study Information

The following program of study information sheet as well as the program structure tables for the courses are provided to be able to print separately for handouts. The information provided is based on the best available information at the time of this document and will be updated as appropriate.

Cybersecurity



The Cybersecurity program provides students with the foundational knowledge of operating systems, networking and network operations, industry protocols and practices for securing computing systems, computer forensic concepts, and emerging technologies in cybersecurity.

Information Technology Career Cluster

Information Technology is focused on building linkages in information technology occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

Postsecondary Options

Certificate/License

- CIT-Cybersecurity Digital Forensics (CSN)
- Computer Information Technology (WNC)
- Cybersecurity (WNC)

Associate Degrees

- CIT-Cybersecurity Compliance (CSN)
- CIT-Cybersecurity Digital Forensics (CSN)
- CIT-Cybersecurity Network Security (CSN)
- CIT-Cybersecurity (TMCC)
- CIT-Cybersecurity Technician (WNC)

Bachelor's Degree

- Information Systems (UNR)
- Computer Science & Engineering (UNR)
- Digital Information Technology (GBC)

Master's/Doctoral Degree

- Cybersecurity (UNLV, UNR)



For additional information on this cluster, please contact:

cteinfo@doe.nv.gov

Website: <https://doe.nv.gov/offices/craleo/cte>

Required Courses

- Cybersecurity I
- Cybersecurity II
- Cybersecurity II LAB

Complementary Courses

- Cybersecurity Advanced Studies
- Cryptography
- Ethical Hacking
- CTE Work Experience – Information Technology
- Industry-Recognized Credential - Cybersecurity

Work-Based Learning Opportunities

Job Shadowing / Internship / CTE Work Experience/ School-based Enterprise/ Apprenticeship Ready Programs

Career and Technical Student Organization



State Recognized Industry Certifications

Refer to the Governor's Office of Workforce Innovation's [Nevada Industry Recognized Credential List](#)

Aligned to Industry			
Occupation	Median Wage Per year	Annual Openings	% Growth
Information Security Analyst	\$102,600	19,500	35%
Computer and Information Systems Managers	\$159,010	48,500	16%
Computer Systems Analysts	\$99,270	44,500	9%
Computer Network Architects	\$120,50	11,800	4%
Computer Support Specialists	\$57,910	75,000	65%

Source U.S. Bureau of Labor Statistics 2022

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Program Structure for Cybersecurity

The core course sequencing is provided in the following table. Complementary Courses are available and provided later in this document. The following courses provides a completed program of study. The Lab is a complementary course available concurrently with the Cybersecurity II course.

Core Course Sequence (R) with Lab Course(s) (C)

Required/ Complementary	Course Title	Abbreviated Name	CIP Code	SCED Subject Area	SCED Course Identifier	SCED Course Level	SCED Unit Credit	SCED Course Sequence	SCED Course Number
R	Cybersecurity I	CYBRSECU I	11.1001	10	020	G	1.00	12	10020G1.0012
R	Cybersecurity II	CYBRSECU II	11.1001	10	020	G	1.00	22	10020G1.0022
C	Cybersecurity II LAB	CYBRSECU II L	11.1001	10	020	E	1.00	22	10020E1.0022

The complementary courses are provided in the following table. **The qualifying program of study must be completed prior to enrolling in the complementary course(s).** A program does not have to utilize the complementary courses for students to complete their program of study.

Required/ Complementary	Course Title	Abbreviated Name	CIP Code	SCED Subject Area	SCED Course Identifier	SCED Course Level	SCED Unit Credit	SCED Course Sequence	SCED Course Number
C	Cybersecurity Advanced Studies	CYBRSECU AS	11.1001	10	020	E	1.00	11	10020E1.0011
C	Cryptography	CRYPTO	11.1001	10	055	E	1.00	11	10055E1.0011
C	Ethical Hacking	ETHICAL HACK	43.0404	10	108	E	1.00	11	10108E1.0011
C	Industry Recognized Credential - Cybersecurity	IRC CYBRSECU	11.1001	10	999	E	1.00	11	10999E1.0011
C	CTE Work Experience - Information Technology	WORK EXPER CYBRSECU	99.001	10	298	G	1.00	11	10298G1.0011

CIP Code – Classification of Instructional Programs (CIP) Codes

SCED – School Courses for the Exchange of Data that populates the State Infinite Campus System and the System for Accountability Information in Nevada (SAIN)

Course Descriptions

Cybersecurity I

Prerequisite: None

This course covers the fundamentals of computer hardware and software, as well as topics in safety procedures, design, maintenance, and repair, and an understanding of emerging technologies in this field. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install and configure an operating system with peripherals, and troubleshoot using system tools and diagnostic software.

Cybersecurity II

Prerequisite: Cybersecurity I

This course is a continuation of Cybersecurity I. This course provides advanced cybersecurity students with computer forensics and incident handling, general theory on networks, and network troubleshooting. Students will learn to develop and execute an incident response plan, document an incident, determine investigative objectives, describe methods to trace offenders and use appropriate tools for computer forensics. Methods for deciphering encrypted data and a working knowledge of hard drive configuration are also covered. The appropriate use of technology and industry-standard equipment is an integral part of this course.

Cybersecurity II LAB

Prerequisite: Concurrent enrollment in Cybersecurity II

This course is designed to expand the students' opportunities for applied learning. This course provides an in-depth lab experience that applies the processes, concepts, and principles as described in the classroom instruction. The coursework will encourage students to explore and develop advanced skills in their program area. The appropriate use of technology and industry-standard equipment is an integral part of this course.

Cybersecurity Advanced Studies

Prerequisite: Completion of Cybersecurity Program of Study

This course is offered to students who have completed all content standards in a program and desire to pursue advanced study through investigation and in-depth research. Students are expected to work independently or in a team and consult with their supervising teacher for guidance. The supervising teacher will give directions, monitor, and evaluate the students' topic of study. Coursework may include various work-based learning experiences such as internships and job shadowing, involvement in a school-based enterprise, completion of a capstone project, and/or portfolio development. This course may be repeated for additional instruction and credit.

Cryptography

Prerequisite: Completion of Cybersecurity Program of Study

This course is offered to students who have completed all content standards in the Cybersecurity program of study. This course explores the field of ciphers and encrypted messages, as well as deciphering encrypted messages. Students will understand the historical context of cryptography and how it is used today especially in cybersecurity and computer forensics.

Ethical Hacking

Prerequisite: Completion of Cybersecurity Program of Study

This course is offered to students who have completed all content standards in the Cybersecurity program of study. This course explores the field of ethical hacking. Students will learn about the stages of an attack, the tools and techniques used at each stage of an attack, how to perform a penetration test, and how to report the findings. Students will also learn concepts of shell scripting and Python scripting that are useful to ethical hackers.

Industry-Recognized Credential – Cybersecurity

Prerequisite: Completion of Cybersecurity Program of Study

This course is offered to students who have completed all content standards in a program of study and desire to pursue an Industry-Recognized Credential that aligns with the standards and skills associated with the Cybersecurity Program of Study. This course is designed to expand the students' opportunities to pursue certification aligned with employment standards in the industry aligned with this program of study. The supervising teacher will provide instruction aligned with the certification requirements, monitor progress toward certification, and provide the students with appropriate testing or certification opportunities associated with the intended Industry-Recognized Credential that is the subject of the course. This course may be repeated for additional instruction and credit.

CTE Work Experience – Information Technology

Prerequisite: Completion of Level 2 course in the qualifying program of study

This course is designed to expand the students' opportunities for applied learning. This course provides an in-depth CTE work experience that applies the processes, concepts, and principles as described in the classroom instruction. This course will encourage students to explore and develop advanced skills through work-based learning directly related to the program of study. The course must follow NAC 389.562, 389.564, 389.566 regulations.

Equipment List

This recommended list is based upon a classroom size of 25 students. All costs are estimated and may be adjusted once verified and justified by districts with current quotes. No specific equipment vendor or brand names are endorsed due to various possibilities, but school districts should consult with stakeholders to ensure industry-recognized equipment and software are purchased. The intent of this list is to provide school districts with guidance on the equipment needed to implement the state standards for a Cybersecurity program.

CTE Classroom Equipment

Total: \$5,700

QTY	ITEM DESCRIPTION	UNIT	TOTAL
1	Vertical File Cabinet (lockable)	\$400	\$400
2	Storage Cabinets (36" x 12" x 72") (lockable)	\$400	\$800
1	Presentation Equipment (e.g. Interactive whiteboard (IWB), or other interactive display system with software and accessories)	\$3,500	\$3,500
1	Networkable Laser Printer (black/white or color)	\$1,000	\$1,000

Program Equipment

Total: \$70,600

QTY	ITEM DESCRIPTION	UNIT	TOTAL
25	Student Computers	\$1,000	\$25,000
1	Teacher Computer (enhanced memory/storage, download capable)	\$2,500	\$2,500
1	Technology Storage/Charging System	\$2,000	\$2,000
15	Integrated Service Routers	\$2,000	\$30,000
6	Rackmount Patch Panels w/12 ports	\$600	\$3,600
15	PC Assembly Kits	\$500	\$7,500

Instructional Materials

Total: \$3,000

QTY	ITEM DESCRIPTION	UNIT	TOTAL
25	Student Textbooks Approved CTE Instructional Materials list can be found here .	\$100	\$2,500
1	Teacher Textbook Edition and Resources	\$500	\$500

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Instructional Supplies

Total:

\$17,575

QTY	ITEM DESCRIPTION	UNIT	TOTAL
5	Open Frame Networking Racks (hold 6 devices)	\$450	\$2,250
1	Cat6 Bulk Cable (unshielded twisted pair (UTP), 1000 ft. roll)	\$450	\$450
15	8-10 Port Switches (rack mountable)	\$200	\$3,000
1	Cat5e Bulk Cable (unshielded twisted pair (UTP), 1000 ft. roll)	\$175	\$175
15	Anti-static Screen Wipes	\$150	\$2,250
15	Network Antivirus Software	\$100	\$1,500
1	Wireless Access Point/Network Device	\$100	\$100
5	Digital Multimeters	\$100	\$500
15	Network Technician Tool kits (to include 3-in-1 crimping tool, UTP/STP wire stripper and cutter, punch down tool, LAN cable tester, tone and probe)	\$100	\$1,500
15	VGA Cables (various lengths/endings)	\$100	\$1,500
5	Electric Blower/ Dusters	\$100	\$500
15	PC Technician Toolkits	\$75	\$1,125
15	Mounting Brackets	\$30	\$450
25	Anti-Static Wristbands	\$25	\$625
25	Anti-Static Work Mats	\$25	\$625
25	Safety Goggles	\$5	\$125
Various	Computer Accessories (cases, covers, etc.) (optional)	\$600	\$600
Various	Assorted RJ45 Accessories (connectors, inline couplers, punch down keystone jacks, etc.)	\$300	\$300

Other

Total:

\$0

QTY	ITEM DESCRIPTION	UNIT	TOTAL
N/A	N/A	\$0	\$0

Category Totals:

Classroom Equipment	\$5,700
Program Equipment	\$70,600
Instructional Materials	\$3,000
Instructional Supplies	\$17,575
Other	\$0

Estimated Program Total **\$96,875**

Crosswalks and Alignments for Program of Study Standards

Crosswalks and alignments are intended to assist the teacher make connections for students between the technical skills within the program and academic standards. The crosswalks and alignments are not intended to teach the academic standards but to assist students in making meaningful connections between their CTE program of study and academic courses. The crosswalks are for the required program of study courses, not the complementary courses.

Crosswalks (Academic Standards)

The crosswalks of the Cybersecurity Standards show connections with the Nevada Academic Content Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Cybersecurity program connect with and support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the Nevada Academic Content Standards in English Language Arts, Mathematics, and Science.

Alignments (Mathematical Practices)

In addition to connections with the Nevada Academic Content Standards for Mathematics, many performance indicators support the Mathematical Practices. The following table illustrates the alignment of the Cybersecurity Standards Performance Indicators and the Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Cybersecurity program connect with and support academic learning.

Alignments (Science and Engineering Practices)

In addition to connections with the Nevada Academic Content Standards for Science, many performance indicators support the Science and Engineering Practices. The following table illustrates the alignment of the Cybersecurity Standards Performance Indicators and the Science and Engineering Practices. This alignment identifies the performance indicators in which the learning objectives in the Cybersecurity program connect with and support academic learning.

Crosswalks (Common Career Technical Core)

The crosswalks of the Cybersecurity Standards show connections with the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Cybersecurity program connect with and support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Cybersecurity Standards are crosswalked to the Information Technology Career Cluster™ and the Network Systems Career Pathway.

Crosswalk of Cybersecurity Program of Study Standards
and the Nevada Academic Content Standards

English Language Arts: Language Standards

Nevada Academic Content Standards		Performance Indicators
L.11-12.6	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	1.5.2

English Language Arts: Reading Standards for Informational Text

Nevada Academic Content Standards		Performance Indicators
RI.11-12.7	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.	3.2.4
RI.11-12.8	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).	3.1.2

English Language Arts: Reading Standards for Literacy in Science and Technical Subjects

Nevada Academic Content Standards		Performance Indicators
RST.11-12.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	4.2.2; 7.2.1
RST.11-12.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.	5.1.1, 5.3.1
RST.11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.	3.1.1; 5.5.2, 5.5.3; 7.1.4
RST.11-12.8	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.	3.2.4; 5.5.2, 5.5.3; 8.2.1

RST.11-12.9	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.	2.1.3, 2.1.4, 2.1.10, 3.1.1 3.2.1; 4.5.2; 8.4.1
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English Language Arts: Speaking and Listening Standards

Nevada Academic Content Standards		Performance Indicators
SL.11-12.1a	Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.	1.1.1, 1.1.2, 1.2.1, 1.2.4 1.4.2, 1.5.2
SL.11-12.1c	Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.	3.3.1
SL.11-12.2	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.	1.1.1, 1.1.2, 1.2.1, 1.2.4 1.4.2; 3.3.1; 6.2.2
SL.11-12.3	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.	3.3.1
SL.11-12.4	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.	1.1.1, 1.1.2, 1.2.1, 1.2.4 1.4.2, 1.5.2; 5.4.4; 6.2.2 6.2.8; 7.2.2, 7.4.1, 7.4.4 7.4.8, 7.4.9; 8.4.3, 8.5.2 8.6.5; 9.4.2, 9.4.4; 10.1.6 10.2.1, 10.3.1, 10.3.2 11.1.3
SL.11-12.6	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11–12 Language standards 1 and 3 on page 54 for specific expectations.)	9.4.4

English Language Arts: Writing Standards for Literacy in Science and Technical Subjects

Nevada Academic Content Standards		Performance Indicators
WHST.11-12.1	Write arguments focused on discipline-specific content.	2.1.6
WHST.11-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.	3.3.2; 5.4.4, 5.4.7, 5.4.10 5.5.3; 6.1.1, 6.2.7; 7.1.3 7.2.2, 7.4.9; 8.2.2, 8.4.7 8.5.4; 9.1.2, 9.2.6; 10.1.1 10.2.1, 10.4.1

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WHST.11-12.2a	Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.	8.5.4
WHST.11-12.2d	Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.	9.4.4
WHST.11-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	1.2.5, 1.4.1; 3.3.2, 5.3.4 5.4.4, 5.4.7, 5.5.2, 7.2.2 8.4.7, 8.5.4; 9.1.2, 9.4.4
WHST.11-12.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	1.4.4
WHST.11-12.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	1.4.5
WHST.11-12.7	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	2.1.2, 2.1.3, 2.1.4, 2.2.5 3.1.1, 3.1.2, 3.2.1; 4.5.2 7.4.1, 7.4.4; 8.6.6; 9.3.2 9.4.1; 10.1.6, 10.4.1
WHST.11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	1.1.2, 1.1.3, 1.4.2, 1.4.3 1.5.2; 2.1.2, 2.1.3, 2.1.4 3.2.4
WHST.11-12.9	Draw evidence from informational texts to support analysis, reflection, and research.	4.2.2; 5.3.4

Alignment of Cybersecurity Standards and the Mathematical Practices

Mathematical Practices	Cybersecurity Performance Indicators
1. Make sense of problems and persevere in solving them.	4.2.4, 4.3.2, 4.3.3, 4.5.1; 6.2.3
2. Reason abstractly and quantitatively.	6.3.4; 9.2.8, 9.2.9, 9.4.7 10.3.9, 10.4.6
3. Construct viable arguments and critique the reasoning of others.	7.4.4; 8.6.6
4. Model with mathematics.	6.2.3, 6.3.4; 10.3.5
5. Use appropriate tools strategically.	2.2.3; 6.1.3, 6.3.5; 7.2.1 7.2.6, 7.4.3; 8.1.5 8.6.1 - 8.6.4; 10.3.3, 10.3.4 10.3.7, 10.3.8
6. Attend to precision.	7.4.3; 9.1.4, 9.4.4
7. Look for and make use of structure.	3.2.5; 4.2.3; 6.1.4 - 6.1.6 6.3.6; 7.1.1, 7.1.2, 7.4.7 9.1.3, 9.4.3; 10.1.2, 10.1.3
8. Look for and express regularity in repeated reasoning.	3.4.7; 5.4.4; 9.4.3

Alignment of Cybersecurity Standards and the Science and Engineering Practices

Science and Engineering Practices	Cybersecurity Performance Indicators
1. Asking questions (for science) and defining problems (for engineering).	4.4.7; 5.2.8; 8.4.6, 8.4.7
2. Developing and using models.	8.3.2, 8.4.2, 8.5.2; 10.3.5
3. Planning and carrying out investigations.	5.2.9; 6.3.3, 6.3.4; 9.2.4 - 9.2.10 10.3.8 - 10.3.10, 10.4.5
4. Analyzing and interpreting data.	2.1.5; 3.2.3, 3.2.5; 8.2.4 - 8.2.6
5. Using mathematics and computational thinking.	9.3.8, 9.4.7
6. Constructing explanations (for science) and designing solutions (for engineering).	2.1.8; 5.3.2, 5.3.3, 5.4.9; 7.1.5 7.3.1 - 7.3.7; 9.3.3, 9.3.4; 10.4.5 10.4.6
7. Engaging in argument from evidence.	9.3.6; 10.1.5, 10.2.6
8. Obtaining, evaluating, and communicating information.	3.3.2; 9.1.2, 9.2.1 - 9.2.3, 9.4.4 9.4.5

Crosswalks of Cybersecurity Standards and the Common Career Technical Core

Information Technology Career Cluster	Performance Indicators
1. Demonstrate effective professional communication skills and practices that enable positive customer relationships.	3.3.1; 4.1.2; 5.1.1
2. Use product or service design processes and guidelines to produce a quality information technology (IT) product or service.	2.2.2, 2.2.3; 4.2.3; 9.2.1 9.3.1, 9.4.7 - 9.4.8
3. Demonstrate the use of cross-functional teams in achieving IT project goals.	9.4.3
4. Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors.	3.1.1 - 3.1.5
5. Explain the implications of IT on business development.	3.1.5, 3.2.3, 3.3.3
6. Describe trends in emerging and evolving computer technologies and their influence on IT practices.	11.1.1 - 11.1.3
7. Perform standard computer backup and restore procedures to protect IT information.	2.2.3; 5.4.6
8. Recognize and analyze potential IT security threats to develop and maintain security requirements.	7.2.1, 7.2.10; 9.4.1 - 9.4.9
9. Describe quality assurance practices and methods employed in producing and providing quality IT products and services.	2.1.6, 2.1.9; 5.2.3, 5.3.2 5.3.3
10. Describe the use of computer forensics to prevent and solve information technology crimes and security breaches.	9.1.1 - 9.1.3, 9.2.1 - 9.2.10 9.3.1 - 9.3.6; 10.1.6 10.2.1 - 10.2.6, 10.3.1 - 10.3.9, 10.4.1
11. Demonstrate knowledge of the hardware components associated with information systems.	4.2.1 - 4.2.3, 4.3.2, 4.3.3 4.4.1 - 4.4.7, 4.5.1 - 4.5.3 5.5.1 - 5.5.5; 6.1.4 - 6.1.6 6.3.1 - 6.3.7; 7.1.5
12. Compare key functions and applications of software and determine maintenance strategies for computer systems.	5.1.3, 5.1.4, 5.2.4, 5.2.8 5.4.4; 6.2.10
Network Systems Career Pathway	Performance Indicators
1. Analyze customer or organizational network system needs and requirements.	6.1.2, 6.3.6; 7.4.2
2. Analyze wired and wireless network systems to determine if they meet specifications (e.g., IEEE, power, security).	7.1.1 - 7.1.5; 8.1.1 8.4.1 - 8.4.7
3. Design a network system using technologies, tools, and standards.	7.4.7; 8.6.1 - 8.6.6
4. Perform network system installation and configuration.	7.2.6, 7.4.3, 7.4.5 8.5.1 - 8.5.4
5. Perform network administration, monitoring and support to maintain a network system.	6.3.7; 7.3.1 - 7.3.7; 8.1.8 8.2.4 - 8.2.6