



## PLTW - Standards Alignment

Our programs are designed to empower students to thrive in an evolving world. As a part of this, we take standards alignment into account when developing and updating our curriculum. We define alignment as:

- Students complete a designated task(s) that demonstrates the outlined knowledge and/or skills of the specific standard or objective.
- Our multidisciplinary programs align to a variety of standards and provide districts and schools with the flexibility to tailor programs to meet their specific state or local requirements as needed.

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## Computer Science Teachers Association K-12 Computer Science Standards (3A)

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### Computing Systems

3A-CS-02 Compare levels of abstraction and interactions between application software, system software, and hardware layers.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

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### Networks and the Internet

3A-NI-04 Evaluate the scalability and reliability of networks, by describing the relationship between routers, switches, servers, topology, and addressing

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| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

3A-NI-05 Give examples to illustrate how sensitive data can be affected by malware and other attacks.

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| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

3A-NI-06 Recommend security measures to address various scenarios based on factors such as efficiency, feasibility, and ethical impacts.

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| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

## Computer Science Teachers Association K-12 Computer Science Standards (3A)

3A-NI-07 Compare various security measures, considering tradeoffs between the usability and security of a computing system.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |  |

3A-NI-08 Explain tradeoffs when selecting and implementing cybersecurity recommendations.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |  |

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### Data and Analysis

3A-DA-09 Translate between different bit representations of real-world phenomena, such as characters, numbers, and images.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |  |

3A-DA-10 Evaluate the tradeoffs in how data elements are organized and where data is stored.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## Computer Science Teachers Association K-12 Computer Science Standards (3A)

3A-DA-11 Create interactive data visualizations using software tools to help others better understand real-world phenomena.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

3A-DA-12 Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

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### Algorithms and Programming

3A-AP-13 Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |  |

3A-AP-14 Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |  |

## Computer Science Teachers Association K-12 Computer Science Standards (3A)

3A-AP-21 Evaluate and refine computational artifacts to make them more usable and accessible.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

3A-AP-22 Design and develop computational artifacts working in team roles using collaborative tools.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

3A-AP-23 Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

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### Impacts of Computing

3A-IC-24 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.

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| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

**Computer Science Teachers Association K-12 Computer Science Standards (3A)**

3A-IC-26 Demonstrate ways a given algorithm applies to problems across disciplines.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |  |

3A-IC-27 Use tools and methods for collaboration on a project to increase connectivity of people in different cultures and career fields.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

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### Computing Systems

3B-CS-01 Categorize the roles of operating system software.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

3B-CS-02 Illustrate ways computing systems implement logic, input, and output through hardware components.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

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### Networks and the Internet

3B-NI-03 Describe the issues that impact network functionality (e.g., bandwidth, load, delay, topology).

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

3B-NI-04 Compare ways software developers protect devices and information from unauthorized access.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |  |

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

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### Data and Analysis

3B-DA-05 Use data analysis tools and techniques to identify patterns in data representing complex systems.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

3B-DA-06 Select data collection tools and techniques to generate data sets that support a claim or communicate information.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |   |

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### Algorithms and Programming

3B-AP-10 Use and adapt classic algorithms to solve computational problems.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

3B-AP-15 Analyze a large-scale computational problem and identify generalizable patterns that can be applied to a solution.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

3B-AP-18 Explain security issues that might lead to compromised computer programs.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

3B-AP-22 Modify an existing program to add additional functionality and discuss intended and unintended implications (e.g., breaking other functionality).

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

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### Impacts of Computing

3B-IC-25 Evaluate computational artifacts to maximize their beneficial effects and minimize harmful effects on society.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

3B-IC-28 Debate laws and regulations that impact the development and use of software.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |   |

## NICE Cybersecurity Workforce Framework

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A0001 Identify systemic security issues based on the analysis of vulnerability and configuration data.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0003 Determine the validity of technology trend data.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |   |

A0005 Decrypt digital data collections.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |  |

A0010 Analyze malware.

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| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## NICE Cybersecurity Workforce Framework

A0011 Answer questions in a clear and concise manner.

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|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

A0012 Ask clarifying questions

|         |  |  |  |
|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

A0013 Communicate complex information, concepts, or ideas in a confident and well-organized manner through verbal, written, and/or visual means.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0014 Communicate effectively when writing.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## NICE Cybersecurity Workforce Framework

A0015 Conduct vulnerability scans and recognize vulnerabilities in security systems.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0019 Produce technical documentation.

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

A0021 Use and understand complex mathematical concepts (e.g., discrete math, boolean algebra)

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0025 Accurately define incidents, problems, and events

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

## NICE Cybersecurity Workforce Framework

A0026 Analyze test data

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

A0027 Apply an organization's goals and objectives to develop and maintain architecture

|         |  |  |  |
|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

A0030 Collect, verify, and validate test data

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0035 Ability to dissect a problem and examine the interrelationships between data that may appear unrelated.

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

## NICE Cybersecurity Workforce Framework

A0040 Translate data and test results into evaluative conclusions

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

A0041 Use data visualization tools

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0042 Develop career path opportunities

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0043 Conduct forensic analyses in and for both windows and unix/linux environments.

|         |  |  |  |
|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

## NICE Cybersecurity Workforce Framework

A0048 Apply network security architecture concepts including topology, protocols, components, and principles (e.g., application of defense-in-depth).

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0049 Apply secure system design tools, methods and techniques.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0052 Operate network equipment including hubs, routers, switches, bridges, servers, transmission media, and related hardware.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0055 Operate common network tools (e.g., ping, traceroute, nslookup).

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## NICE Cybersecurity Workforce Framework

A0058 Execute os command line (e.g., ipconfig, netstat, dir, nbtstat).

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0059 Operate the organization's lan/wan pathways.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0061 Design architectures and frameworks.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

A0062 Monitor measures or indicators of system performance and availability.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

## NICE Cybersecurity Workforce Framework

A0065 Monitor traffic flows across the network.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0067 Ability to adjust to and operate in a diverse, unpredictable, challenging, and fast-paced work environment.

|         |  |  |  |
|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

A0069 Ability to apply collaborative skills and strategies.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0070 Ability to apply critical reading/thinking skills.

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

## NICE Cybersecurity Workforce Framework

A0074 Collaborate effectively with others.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0080 Develop or recommend analytic approaches or solutions to problems and situations for which information is incomplete or for which no precedent exists.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |  |   |

A0083 Evaluate information for reliability, validity, and relevance.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

A0084 Evaluate, analyze, and synthesize large quantities of data (which may be fragmented and contradictory) into high quality, fused targeting/intelligence products.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## NICE Cybersecurity Workforce Framework

A0085 Exercise judgment when policies are not well-defined.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

A0086 Expand network access by conducting target analysis and collection to identify targets of interest.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0092 Identify/describe target vulnerability.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

A0093 Identify/describe techniques/methods for conducting technical exploitation of the target.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

## NICE Cybersecurity Workforce Framework

A0096 Ability to interpret and understand complex and rapidly evolving concepts.

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

A0097 Ability to monitor system operations and react to events in response to triggers and/or observation of trends or unusual activity.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0101 Recognize and mitigate cognitive biases which may affect analysis.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0105 Tailor technical and planning information to a customer's level of understanding.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

## NICE Cybersecurity Workforce Framework

A0106 Ability to think critically.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input checked="" type="checkbox"/> |   |   |

A0107 Think like threat actors.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0113 Determine whether a security incident violates a privacy principle or legal standard requiring specific legal action.

|         |  |  |  |
|---------|--|--|--|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |  |

A0120 Share meaningful insights about the context of an organization's threat environment that improve its risk management posture.

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|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |

## NICE Cybersecurity Workforce Framework

A0123 Apply cybersecurity and privacy principles to organizational requirements (relevant to confidentiality, integrity, availability, authentication, non-repudiation).

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input type="checkbox"/>            |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0124 Establish and maintain automated security control assessments

|         |  |   |   |
|---------|--|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |   |

A0126 Ability to track the location and configuration of networked devices and software across departments, locations, facilities and, potentially, supporting business functions.

|         |  |  |   |
|---------|--|--|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |  |   |

A0127 Ability to deploy continuous monitoring technologies and tools.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

## NICE Cybersecurity Workforce Framework

A0128 Apply techniques for detecting host and network-based intrusions using intrusion detection technologies.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input checked="" type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0155 Provide an assessment of the severity of weaknesses or deficiencies discovered in the system and its environment of operation and recommend corrective actions to address identified vulnerabilities.

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input checked="" type="checkbox"/> | Lesson 1.3<br><input checked="" type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input checked="" type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/>            | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0159 Interpret the information collected by network tools (e.g. nslookup, ping, and traceroute).

|         |   |   |   |
|---------|---|---|---|
| Unit 1: | Lesson 1.1<br><input type="checkbox"/>            | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input checked="" type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |   |   |

A0172 Set up a physical or logical sub-networks that separates an internal local area network (lan) from other untrusted networks.

|         |  |   |  |
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| Unit 1: | Lesson 1.1<br><input type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/>            | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/> | Lesson 2.5<br><input type="checkbox"/>            | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/> | Lesson 3.7<br><input checked="" type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/> |   |  |

## NICE Cybersecurity Workforce Framework

S0052 Use social engineering techniques. (e.g., phishing, baiting, tailgating, etc.).

|         |   |  |  |
|---------|---|--|--|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/> |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/> |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |  |

K0158 Know organizational information technology (it) user security policies (e.g., account creation, password rules, access control).

|         |   |  |   |
|---------|---|--|---|
| Unit 1: | Lesson 1.1<br><input checked="" type="checkbox"/> | Lesson 1.2<br><input type="checkbox"/> | Lesson 1.3<br><input type="checkbox"/>            |
| Unit 2: | Lesson 2.4<br><input type="checkbox"/>            | Lesson 2.5<br><input type="checkbox"/> | Lesson 2.6<br><input type="checkbox"/>            |
| Unit 3: | Lesson 3.6<br><input type="checkbox"/>            | Lesson 3.7<br><input type="checkbox"/> | Lesson 3.8<br><input checked="" type="checkbox"/> |
| Unit 4: | Lesson 4.9<br><input type="checkbox"/>            |  |   |