

**NEW YORK STATE EDUCATION DEPARTMENT  
MIDDLE LEVEL CAREER AND TECHNICAL EDUCATION  
COMPUTER SCIENCE AND INFORMATION TECHNOLOGY  
DIGITAL LITERACY AND CITIZENSHIP CONTENT MODULE  
UPDATED MAY 2023**



## MODULE DESCRIPTION

As our society grows and changes, learners need to develop the skills to safely navigate the digital world. Digital literacy and digital citizenship are vital components of digital fluency.

In this module, students will learn how digital literacy is a part of everyday life. Digital literacy includes both cognitive and technical skills. Students will learn how to create, share, and modify digital artifacts, and effectively collaborate with others to develop necessary skills for life.

Additionally, digital citizenship encourages positive decision-making skills to be safe and healthy online. Through digital citizenship, students will use multiple resources to curate a positive and effective digital footprint, communicate and collaborate online, and determine the validity of online information.

## GUIDING QUESTION

What knowledge and skills do students need to effectively and safely navigate the digital world?

## MODULE CONTENT

### 1. ERGONOMICS

#### STUDENTS WILL:

- a) Demonstrate proper keyboarding technique
- b) Develop speed and accuracy using a QWERTY keyboard
- c) Identify appropriate techniques to work effectively on a device
- d) Explain the characteristics of a computing environment that increases productivity and minimizes discomfort

### 2. EVALUATING DIGITAL RESOURCES

#### STUDENTS WILL:

- a) Evaluate search tools based on their credibility, effectiveness, and efficiency
- b) Conduct and refine digital searches relevant to learning goals
- c) Compare and contrast digital tools in order to select the appropriate tool relevant to the given learning objective(s)

### 3. COLLABORATING USING DIGITAL TOOLS

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**STUDENTS WILL:**

- a) Use a variety of digital tools to create and revise an artifact relevant to learning goals
- b) Use appropriate digital tools to publish artifacts to a platform
- c) Effectively communicate with others using digital tools
- d) Collaborate with others using a variety of digital tools to create and revise an artifact

### 4. SAFETY ON THE INTERNET

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**STUDENTS WILL:**

- a) Explain how actions in online spaces have consequences
- b) Understand how personal information can be compromised by methods of connectivity and storage of information
- c) Research and develop a plan to demonstrate how students can maintain a safe environment including the positive and negative impacts of implementing best security practices
- d) Describe actions to be taken to respond to security concerns using digital devices

### 5. DIGITAL FOOTPRINT

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**STUDENTS WILL:**

- a) Describe how personal decision-making impacts a student's digital footprint
- b) Identify the benefits and consequences of being connected 24/7
- c) Identify the benefits and consequences that apply when creating a balance of online behaviors

### 6. CAREERS IN CYBERSECURITY

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**STUDENTS WILL:**

- a) Explain roles and functions of individuals engaged in careers involving cybersecurity
- b) Investigate education, training requirements, and opportunities for career paths in cybersecurity fields
- c) Assess personal employability skills for careers in cybersecurity and evaluate personal suitability for such careers

## ILLUSTRATIVE ACTIVITIES BY THEME MODULE

These activities are intended to serve as examples of how the content in this module could be tied to each of the six middle level themes.

## CAREER AND COMMUNITY OPPORTUNITIES

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### **CAREER RESEARCH PROJECT**

Students will research careers in information technology using best research practices developed in this module. They will then develop computational artifacts to showcase their findings.

## COMMUNICATION AND INTERPERSONAL RELATIONSHIPS

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### **COMMUNICATION SCENARIOS**

Given a communications scenario, students will determine the most articulate and safe way to communicate to the chosen group while ensuring privacy using best practices.

## FINANCIAL AND CONSUMER LITERACY

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### **BEST PRACTICES GUIDE**

Students will design a best practices guide on how to protect personally identifiable information (PII) and finances when banking online or through an app in order to avoid negative consequences when using these tools in public and private spaces.

## HEALTH, SAFETY, AND WELLNESS

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### **CONNECTIVITY AND HEALTH**

Students will collaborate and research the impact of 24/7 digital access and how that can impact their mental and physical health. Collaborative groups will create a digital artifact that provides strategies to create a balance of online behaviors.

## PROBLEM SOLVING AND INNOVATION

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### **INQUIRY-BASED INVESTIGATIONS**

Students will engage in the problem-solving process by collecting and analyzing different sources and tools to determine credibility, effectiveness, and efficiency. Students will produce a digital artifact detailing the analysis.

## SUSTAINABILITY

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### **A SUSTAINABLE SCHOOL ENVIRONMENT**

Students will research how to maintain a safe and sustainable learning environment. They will create an artifact that details best practices to create a sustainable school.

## STANDARDS ADDRESSED

### NEW YORK STATE CAREER DEVELOPMENT AND OCCUPATIONAL STUDIES (CDOS) STANDARDS

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#### **STANDARD 1: CAREER DEVELOPMENT**

Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions

#### **STANDARD 2: INTEGRATED LEARNING**

Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings

#### **STANDARD 3A: UNIVERSAL FOUNDATION SKILLS**

Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace

### COMMON CAREER TECHNICAL CORE STANDARDS

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#### **CAREER READY PRACTICES**

1. Act as a responsible and contributing citizen and employee
2. Apply appropriate academic and technical skills
3. Attend to personal health and financial well-being
4. Communicate clearly and effectively with reason
5. Consider the environmental, social, and economic impacts of decisions
6. Demonstrate creativity and innovation
7. Employ valid and reliable research strategies
8. Utilize critical thinking to make sense of problems and persevere in solving them
9. Model integrity, ethical leadership, and effective management
10. Plan education and career paths aligned to personal goals
11. Use technology to enhance productivity
12. Work productively in teams while using cultural global competence

## NYS COMPUTER SCIENCE AND DIGITAL FLUENCY STANDARDS

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### **CYBERSECURITY**

- 4-6.CY.1: Explain why different types of information might need to be protected.
  - 7-8.CY.1: Determine the types of personal information and digital resources that an individual may have access to that needs to be protected.
  - 4-6.CY.2: Describe common safeguards for protecting personal information.
  - 7-8.CY.2: Describe physical, digital and behavioral safeguards that can be employed in different situations.
  - 4-6.CY.3: Describe trade-offs between allowing information to be public and keeping information private and secure.
  - 7-8.CY.3: Describe trade-offs of implementing specific security safeguards.
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### **DIGITAL LITERACY**

- 4-6.DL.1: Type on a keyboard while demonstrating proper keyboarding technique.
- 7-8.DL.1: Type on a keyboard while demonstrating proper keyboarding technique, with increased speed and accuracy.
- 4-6.DL.2: Select appropriate digital tools to communicate and collaborate while learning with others.
- 7-8.DL.2: Communicate and collaborate with others using a variety of digital tools to create and revise a collaborative product.
- 4-6.DL.3: Conduct and refine advanced multi-criteria digital searches to locate content relevant to varied learning goals.
- 7-8.DL.3: Compare types of search tools, choose a search tool for effectiveness and efficiency, and evaluate the quality of search tools based on returned results.
- 4-6.DL.4: Use a variety of digital tools and resources to create and revise digital artifacts.
- 7-8.DL.4: Select and use digital tools to create, revise, and publish digital artifacts.
- 4-6.DL.5: Identify common features of digital technologies.
- 7-8.DL.5: Transfer knowledge of technology in order to explore new technologies.
- 4-6.DL.6: Describe persistence of digital information and explain how actions in online spaces can have consequences.
- 7-8.DL.6: Explain the connection between the persistence of data on the internet, personal online identity, and personal privacy.
- 4-6.DL.7: Identify and describe actions in online spaces that could potentially be unsafe and harmful.
- 7-8.DL.7: Describe safe, appropriate, positive, and responsible online behavior and identify strategies to combat negative online behavior.

## RESOURCES

**Disclaimer:** Posting of resources on this form does not constitute an endorsement from the New York State Education Department nor does it imply that the following resources are mandatory or the only ones that can be used. Teachers and administrators ensure that resources align with local policies and are responsible for choosing the resources and have the final authority, in alignment with local policies, to choose and utilize the resources that best meet the needs of their students. Questions regarding compliance with [Education Law 2D](#) should be directed to your administrator and/or chief information officer.

### NYS COMPUTER SCIENCE AND DIGITAL FLUENCY (CS&DF) LEARNING STANDARDS

<http://www.nysed.gov/curriculum-instruction/computer-science-and-digital-fluency-learning-standards>

This webpage contains multiple resources for the CS&DF Standards. Including an excel version of the standards, glossary of terms, standards examples, as well as At-a-Glance documents by grade band.

### NYS SMART START GRANT RESOURCES

<http://www.nysed.gov/edtech/smart-start-grant-program>

This resource includes teacher-created artifacts curated through the Smart Start Grant cohorts that focus on computer science, engineering, and educational technology.

### NYS LEARNING TECHNOLOGY GRANT (LTG) RESOURCES

<http://www.nysed.gov/edtech/learning-technology-grants-ltg>

Resources include artifacts curated by multiple grant recipient districts that include personalized learning, technology integration, STEM activities, blended learning, computer science, and more.

### CAREER AND TECHNICAL EDUCATION TECHNICAL ASSISTANCE CENTER OF NEW YORK

<http://nyctecenter.org/>

The Career and Technical Education Technical Assistance Center (CTE TAC) operates under a state contract to assist the New York State Education Department (NYSED) in carrying out its

mission of improving the quality, access, and delivery of career and technical education through research-based methods and strategies resulting in broader CTE opportunities for all students.