7th Grade American Online School

COMPUTER SCIENCE CURRICULUM

Media Literacy, Data Awareness, and Creative Computing

Version May/2025

1. Introduction

The Role of Computer Science Education in 7th Grade

In 7th grade, students explore the digital world not only as users but as thoughtful creators and critical thinkers. This curriculum combines essential media literacy, responsible data handling, and foundational programming to foster digital fluency and ethical engagement. Students evaluate digital content, create visual stories, map geospatial data, and write their first lines of code. The journey culminates in the development of a small computing project based on the structure of storytelling and inquiry.

By the end of this course, students will:

✓ **Evaluate media for credibility, influence, and bias.**

✓ **Understand the role of data in personal, geographic, and social contexts.**

✓ **Apply digital organization and search strategies effectively.**

✓ **Protect personal data and understand digital privacy.**

✓ **Create a basic computer program or interactive digital product.**

✓ **Use computing as a tool for storytelling and social exploration.**

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2. Core Competence Areas

CS.1 Media Literacy and Digital Citizenship

Learning Outcomes

By the end of this course, students will be able to:

✓ **Critically analyze digital content for accuracy and credibility.**

✓ **Recognize media bias, persuasive design, and misinformation.**

✓ **Navigate online environments ethically and responsibly.**

Competencies

CS.1.A.1 – Evaluating digital content and sources.

- Analyze digital posts, videos, and news sites for truth, manipulation, and source reliability.
- Compare real vs. AI-generated content and identify red flags.

CS.1.A.2 – Understanding roles in digital culture.

- Reflect on digital habits, echo chambers, and personal influence.
- Discuss the impact of algorithms on information exposure.

CS.2 Data, Maps, and Information Literacy

Learning Outcomes

By the end of this unit, students will be able to:

✓ **Interpret and use geospatial data in real-world contexts.**

✓ **Organize, sort, and visualize data using digital tools.**

✓ **Understand how data is collected, shared, and stored.**

Competencies

CS.2.A.1 – Working with geographic and environmental data.

- Use platforms like Google Earth, ArcGIS, or GeoGuessr to explore global data..
- Create visual stories or reports based on geo-tagged information.

CS.2.A.2 – Organizing and interpreting information digitally.

- Search efficiently using Boolean logic and search filters.
- Categorize data sets using spreadsheets or simple databases.

CS.3 Digital Ethics and Data Protection

Learning Outcomes

By the end of this unit, students will be able to:

✓ **Explain how personal data is tracked, stored, and monetized.**

✓ **Apply principles of digital hygiene and secure practices.**

✓ **Reflect on online identity and digital boundaries.**

Competencies

CS.3.A.1 – Protecting identity and privacy online.

- Recognize phishing, insecure sites, and unsafe app permissions.
- Understand encryption basics and set strong passwords.

CS.3.A.2 – Making ethical decisions in the digital world.

- Explore digital footprints, reputation, and ethical sharing.
- Debate real-life scenarios around surveillance, consent, and cyberbullying.

CS.4 Creative Expression through Technology

Learning Outcomes

By the end of this unit, students will be able to:

✓ **Use digital media to tell structured stories or present data.**

✓ **Understand the structure of narratives and user experience in interactive formats.**

✓ **Connect computing with cultural expression and identity.**

Competencies

CS.4.A.1 – Designing a "Hero's Journey" using digital tools.

- Create an interactive story using platforms like Scratch, Canva, or Adobe Express.
- Map out key events using the hero's journey framework.

CS.4.A.2 – Blending story, visuals, and computation.

- Integrate music, animation, or code to enhance user interaction.
- Critique and revise digital stories through peer review.

CS.5 Computational Thinking and Programming Foundations

Learning Outcomes

By the end of this unit, students will be able to:

✓ **Understand the basics of variables, logic, and conditionals.**

✓ **Write simple programs using visual or block-based languages.**

✓ **Debug and improve code through iterative thinking.**

Competencies

CS.5.A.1 – Building first programs.

- Create animations, games, or simulations using Scratch, MakeCode, or Python Turtle.
- Use loops, events, and conditions to control behavior.

CS.5.A.2 – Designing purposeful computing projects.

- Design a mini-app or program based on a personal interest or need.
- Reflect on the problem-solving process and user impact.

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3. Assessment and Evaluation

Formative Assessments – Skills in Action

✓ **Fact-checking activities and search tasks.**
✓ **Scratch mini-challenges.**
✓ **Reflection journals and peer feedback.**

Summative Assessments – Project-Based Evidence

✓ **Geo-data story with presentation.**
✓ **Data privacy quiz or video PSA.**
✓ **Completed original program with explanation.**

Authentic Assessment – Real-World Connections

✓ **"Digital Life" self-audit and improvement plan.**
✓ **Design a user-friendly app or site layout.**
✓ **Hero's Journey interactive project with peer showcase.**

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4. Instructional Strategies for Online Learning

Inquiry and Ethics-Driven Learning

✓ **Ask, "How do we know what's true?".**
✓ **Use case studies to explore real digital dilemmas.**

Project-Based Learning (PBL)

✓ **Build projects, iterate, and reflect.**
✓ **Use design thinking frameworks to structure code and media work.**

Technology-Integrated Learning

✓ **Platforms: Scratch, Google Tools, Canva, Flipgrid.**
✓ **Simulations and ethical games: Interland, Common Sense Media.**
✓ **Audio/video tools: Audacity, Adobe Express, or Soundtrap.**