Unit 5: ADA Compliance (Grades 10-12)

Content Area: **Computer Science**
Course(s):
Time Period: **Marking Period 3**
Length: **3-4 Weeks**
Status: **Published**

Summary

The US congress passed the Americans with Disabilities Act in 1990 in order to prohibit discrimination based on disabilities and imposes accessibility requirements on public accommodations. This pertains to website development as a public space. In this unit, students will analyze best practices for website development with viewers with disabilities in mind and utilize tools to make decisions about those changes.

Revision Date: July 2026

In accordance with New Jersey's Chapter 32 Diversity and Inclusion Law, this unit includes instructional materials that highlight and promote diversity, including: economic diversity, equity, inclusion, tolerance, and belonging in connection with gender and sexual orientation, race and ethnicity, disabilities, and religious tolerance.

Information Literacy: This unit challenges students to locate, evaluate, and use information effectively. Information literacy includes, but is not limited to, digital, visual, media, textual, and technological literacy. Lessons may include the research process and how information is created and produced; critical thinking and using information resources; research methods, including the difference between primary and secondary sources; the difference between facts, points of view, and opinions, accessing peer-reviewed print and digital library resources; the economic, legal, social, and ethical issues surrounding the use of information.

8.1.12.CS.1	Describe ways in which integrated systems hide underlying implementation details to simplify user experiences.
8.1.12.CS.2	Model interactions between application software, system software, and hardware.
8.1.12.CS.4	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
8.1.12.IC.2	Test and refine computational artifacts to reduce bias and equity deficits.
8.1.12.IC.3	Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
8.1.12.DA.2	Describe the trade-offs in how and where data is organized and stored.
8.1.12.AP.4	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue.
8.1.12.AP.7	Collaboratively design and develop programs and artifacts for broad audiences by

	incorporating feedback from users.
8.1.12.AP.8	Evaluate and refine computational artifacts to make them more usable and accessible.
8.1.12.AP.9	Collaboratively document and present design decisions in the development of complex programs.
8.2.12.NT.2	Redesign an existing product to improve form or function.
CAEP.9.2.12.C.7	Examine the professional, legal, and ethical responsibilities for both employers and employees in the global workplace.
TECH.8.2.12.E.2	Analyze the relationships between internal and external computer components.

Essential Questions/Enduring Understandings

How does having a disability change the way you view a website?
What techniques can web designers employ to make sure their websites are viewable by all users?
What online resources are useful in website design to ensure compliance with ADA regulations?

Objectives

Students Will Know

- the criteria for making a website ADA compliant.
- how to run their website through a Web Accessibility Evaluation Tool and make adjustments based on the results.
- how to develop proper website structure so that an e-reader can properly read the website.

Students Will be Skilled At

- recognizing color contrast issues.
- developing proper ARIA attributes (Accessible Rich Internet Applications) for the HTML tags of the site.
- ensuring navigation is accurate, and links are non-redundant and not empty.

Learning Plan

Lecture and demonstration on ADA compliance and how to read reports from a Web Accessibility Evaluation Tool.

Analyze the CHS website and give recommendations to the webmaster team in order to make corrections on any errors (if any exist) or on the warmings that are not detrimental to the page but are recommended.

Analyze the student's own Long Term Project, develop a plan to correct anything resulting from the report, present findings and fixes to the class.

Assessment

Assessments

- Formative: Daily assessments using examples from class notes and CodeHS.com, AP Classroom/Albert Checks for Understanding
- Summative: Teacher-created assessments/projects and CodeHS Computer Science Projects, AP Classroom/Albert Unit Assessments
- Benchmark: Check for understanding benchmark assessments on CodeHS, AP Classroom/Albert/Khan Academy Diagnostics
- Alternative Assessments: Student-centered activities such as a doorbell coding project, game design projects, and other activities listed below:

- Create a website-based resume.
- Present the resume in a mock interview based setting.
- Receive feedback from rubrics and comments from students/teachers/administration.
- Make adjustments and complete self assessment.
- Answer the essential questions.

Complete performance tasks:

- Students will be able to concisely, accurately and effectively communicate suggestions to their peers to enhance their websites.
- Students will be able to design and modify their own websites that pass ADA compliance.

Materials

- Core instructional materials: Core Book List

Supplemental materials:

  - District Approved Textbook
  - HTML5 Resources
  - CSS3 Resources
  - Internet Access
  - Khan Academy
  - Codeacademy

- Codehs
- Computers

Integrated Accommodation and Modifications

Possible accommodations/modification for Web Design 2