

Unit 3: Web Design

Content Area: **Technology**
Course(s):
Time Period: **Marking Period 2**
Length: **12 blocks**
Status: **Published**

Course Description & Instructional Notes

In this unit, students will go through a high level introduction to HTML, CSS, and the processes involved in viewing web pages on the internet. Students will create several simple web pages using the CodeHS online editor to gain practice using the various features of HTML and CSS.

Prior Knowledge

none

Instructional Notes

The course utilizes a blended classroom approach. The content is a mix of web-based and physical activities. Students will write and run code in the browser, create websites and digital presentations, and engage in in-person collaborative exercises with classmates. Teachers utilize tools and resources provided by CodeHS to leverage time in the classroom and give focused 1-on-1 attention to students.

Technology Integration

Computer Science naturally integrates technology on a daily basis.

Enduring Understandings

Web designers create web pages using HTML and style them using CSS.

Webpages are called by the user using a URL and then a server responds and displays the webpage.

Essential Questions

How are web pages created?

How are web pages retrieved?

Student Learning Objectives

Students will be able to:

- Identify the purpose and applications of HTML
- Create their first simple web page
- Discern the various parts of an HTML page
- Create fully formed HTML pages
- Apply formatting tags in order to modify the appearance of text and make web pages look clear and aesthetically pleasing
- Add and utilize hyperlinks on their webpages
- Embed an image in HTML
- Incorporate different kinds of lists to their web pages
- Create tables in their web pages
- Explain the benefits of including tables on web pages
- Compare various ways of displaying information and choose the appropriate format
- Apply HTML styling to make their web pages more visually appealing and unique
- Describe how CSS adds styling to HTML pages
- Use CSS tag selectors to select all elements of the same kind and give them all the same style
- Use CSS class selectors to apply CSS styling to all HTML units that share a specified class
- Use CSS Selectors by ID to select a single element to format on a webpage
- Describe the process that occurs when typing in a URL, from sending a request and response over the Internet to viewing a webpage

Vocabulary & Learning Experiences

Vocabulary

HTML, HTML tag, Tag, HTML Lists, HTML Tables, Style Attribute, CSS, Selector, Class Attribute, id Attribute, URL

Planned Learning Experiences

Project: Create Your Own Website

Students will be developing their first digital artifact: a website. This website will start off as their own personal space to summarize their learning from the first two units, and as students progress through the course, they can keep adding links to their projects. By the end of the course this homepage will serve as their own personal portfolio website showcasing their work.

Resources

CodeHS

Code.org

Assessments

Formative

Think like a Computer Scientist Journal:

Students complete at least five journal entries based on teacher provided prompts that could include major topics, key points, vocabulary, syntax, and/or flowcharts/programming planning.

Quizzes embedded in CodeHS Modules and Code Review

Summative

Unit Quizzes (multiple choice only)

Student Choice Unit Project

NJSLS Standards

NJSLS Standards Copied and Pasted as well as linked.

[NJSLS Computer Science and Design Thinking](#)

8.2.12.ED.1: Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.

8.2.12.ED.4: Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.

8.2.12.ED.5: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).

8.2.12.ED.6: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).

8.2.12.NT.2: Redesign an existing product to improve form or function.

Additional NJSL Standards

NJSL Standards Copied and Pasted as well as linked.

Interdisciplinary Connections

NJSL Career Readiness, Life Literacies, and Key Skills

NJSL Companion Standards Grades 9-12 (Reading & Writing in Science & Technical Subjects)

9.4.12.DC.1: Explain the beneficial and harmful effects that intellectual property laws can have on the creation and sharing of content

9.4.12.DC.7: Evaluate the influence of digital communities on the nature, content and responsibilities of careers, and other aspects of society

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice

9.4.12.TL.3: Analyze the effectiveness of the process and quality of collaborative environments.

9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem

Modifications/Accommodations

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS

English Language Learners

- Personal glossary
- Text-to-speech
- Extended time
- Simplified / verbal instructions

Students Receiving Special Education Services

- Small group/One to one
- Additional time
- Review of directions
- Student restates information
- Space for movement or breaks

Advanced Learners

- Use of high level academic vocabulary/texts
- Problem-based learning
- Pre assess to condense curriculum

- Frequent breaks
- Extra visual and verbal cues and prompts
- Interest-based research
- Preferential seating
- Authentic problem-solving
- Homogeneous grouping opportunities

[WIDA Can Do Descriptors for Grade 9-12](#)

- Follow a routine/schedule
- Rest breaks

[WIDA Essential Actions Handbook](#)

- Verbal and visual cues regarding directions and staying on task

[FABRIC Paradigm](#)

- Checklists

[Wall Township ESL Grading Protocol](#)

- Immediate feedback

[Knowledge and Skill Standards in Gifted Education for All Teachers](#)

[Pre-K-Grade 12 Gifted Programming Standards](#)

[Gifted Programming Glossary of Terms](#)

*Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

Students with 504 Plan

Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.

[Considerations for Special Education Students 6-12](#)

[National Center on Universal Design for Learning - About UDL](#)

[UDL Checklist](#)

[UDL Key Terms](#)

At Risk Learners / Differentiation Strategies

Alternative Assessments Independent Research & Projects

Choice Boards Multiple Intelligence Options

Games and Tournaments Project-Based Learning

Group Investigations Varied Supplemental Activities

Learning Contracts Varied Journal Prompts

Jigsaw

Think-Tac-Toe

Cubing Activities

Exploration by Interest

Flexible Grouping

Goal-Setting with

| | | |
|----------------------|--|------------------------|
| Leveled Rubrics | Tiered Activities/Assignments | Students |
| Literature Circles | Tiered Products | Homework Options |
| Multiple Texts | Graphic Organizers | Open-Ended Activities |
| Personal Agendas | Choice of Activities | Varied Product Choices |
| Homogeneous Grouping | Mini-Workshops to Reteach or Extend | Stations/Centers |
| | Think-Pair-Share by readiness or interest | Work Alone/Together |
| | Use of Collaboration of Various Activities | |