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

Blown to Bits

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 NJSLS Standards

NJSLS Standards Copied and Pasted as well as linked.

Interdisciplinary Connections

NJSLS Career Readiness, Life Literacies, and Key Skills

NJSLS 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	Students Receiving Special Education Services	Advanced Learners
- Personal glossary	- Small group/One to one	- Use of high level academic vocabulary/texts
- Text-to-speech	- Additional time	- Problem-based learning
- Extended time	- Review of directions	- Pre assess to condense curriculum
- Simplified / verbal instructions	- Student restates information	
	- Space for movement or breaks	

- Frequent breaks

WIDA Can Do Descriptors for Grade 9-12

WIDA Essential Actions Handbook

FABRIC Paradigm

Wall Township ESL Grading Protocol

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

- Extra visual and verbal cues and prompts
- Preferential seating
- Follow a routine/schedule
- Rest breaks
- Verbal and visual cues regarding directions and staying on task
- Checklists
- Immediate feedback

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.

Considerations for Special Education Students 6-12

National Center on Universal Design for Learning - About UDL

UDL Checklist

UDL Key Terms

- Interest-based research
- Authentic problem-solving
- Homogeneous grouping opportunities

Knowledge and Skill Standards in Gifted Education for All Teachers

Pre-K-Grade 12 Gifted Programming Standards

Gifted Programming Glossary of Terms

Students with 504 Plan

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

At Risk Learners / Differentiation Strategies

Alternative Assessments
Choice Boards
Games and Tournaments
Group Investigations
Learning Contracts
Independent Research & Projects
Multiple Intelligence Options
Project-Based Learning
Varied Supplemental Activities
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	