

Glendale Unified School District

Middle School

July 11, 2023

Department:	Career Technical Education
Course Title:	Web Design 2
Course Code:	8878GV
Grade Level(s):	7-8
CTE Industry Sector:	Information and Communication Technologies
Pathway:	Software and Systems Development
School(s) Course Offered:	Roosevelt STEAM Academy
UC/CSU Approved (Y/N, Subject):	N/A
Course Credits:	5 per semester (a whole year course)
Recommended Prerequisite:	None
Recommended Textbook:	CodeHS Online Program ( <a href="http://codehs.com">codehs.com</a> )
Course Overview:	Web Design course is a project-based course that teaches students how to build their own web pages. The course is designed for complete beginners with no previous background in computer science. The course is highly visual, dynamic, and interactive, making it engaging for new students. In the broader course pathway, the Web Design course is a great starting place for a career.
Course Goals:	By the end of this course, students will be able to: 1. Explain how web pages are developed and viewed on the Internet 2. Analyze and fix errors in existing websites 3. Create their very own <i>multi page</i> websites.
Student Objectives:	This course provides a comprehensive introduction to web design and an

in-depth exposure to HTML and CSS to create live homepages to serve as portfolios of students' creations.

**Instructional Strategies:**

The course utilizes a blended classroom approach. The content is fully web-based, with students writing HTML and CSS in the browser. Teachers utilize tools and resources provided by the platform to leverage time in the classroom and give focused 1-on-1 attention to students. Each unit of the course is broken down into lessons. Lessons consist of video tutorials, short quizzes, example web pages to explore, and web design exercises in which students develop and publish their own web sites.

**Instructional Materials:**

Students write HTML and CSS code in the browser using the CodeHS online editor. Classes can choose to write code using either blocks or text. Due to the fact that different browsers treat HTML and CSS differently, student computers must be an up-to-date version of the Chrome browser

**Assessments:**

Each lesson includes at least one formative short multiple-choice quiz. At the end of each unit, students take a summative multiple-choice unit quiz that assesses their knowledge of the concepts covered in the unit.

**First Semester**

**Unit 1: Getting Started - What is the Web?**

(2 weeks/10 hours)

**Standards**

Anchor Standards: 2.8, 4.3, 5.1, 5.3, 5.4, 5.6,

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

Academic Standards: Language Standards 11-12.1, 11-12.2,

Reading Standards: 11-12.3, 11-12.7

Writing Standards: 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

**A. Objectives / Topics Covered**

- Course introduction
- Goal setting
- The Internet
- URLs
- How a web page gets to your computer

**B. Assignments / Labs**

**Example Exercises**

- Free Response: "When you think of the Internet, what comes to mind?"
- "What would you like to learn in this course?"
- Brainstorm something you would like to create "Wouldn't it be great if..."
- Why is the Internet often called "The Web"?
- Explain the steps it takes for a web page to get to your computer

- Class Activity: The Internet Then and Now
- Students investigate the capabilities of the Internet 20 years ago, 10 years ago, today, and looking forward to the future

### **Unit 2: HTML - Structuring Websites**

(8 weeks/40 hours)

#### **Standards**

Anchor Standards: 6.0, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9,

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6,

Academic Standards: Language Standards 11-12.1, 11-12.2

Reading Standards 11-12.3, 11-12.7

Writing Standards: 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

#### A. Objectives / Topics Covered

How do we build web pages?

Markup Languages

- HTML, HTML tags, HTML attributes, HTML elements
- The Anatomy of an HTML page
- Formatting text
- Hyperlinks
- Images
- Copyright fair use
- Lists
- Nesting tags
- Tables
- Styling with HTML
- HTML Colors

#### B. Assignments / Labs

Students create several web pages to practice each of the concepts above

Example exercises:

- Modify existing web pages using formatting tags to make text more readable
- Use links to create a web page linking to your 5 favorite websites
- Use links and images to create a personal library webpage showing your favorite books
- Use lists and images to create a flashy list article
- Use tables to create a personal calendar web page
- Use styling attributes to add style to your web pages

### **Unit 3: CSS - Styling Websites**

(4 weeks/20 hours)

#### **Standards**

Anchor Standards: 2.8, 4.0, 4.1, 4.2, 4.3, 5.1, 5.3, 5.4, 5.6, 10.1, 10.2, 10.4, 10.5

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

Academic Standards: Language Standards 11-12.1, 11-12.2

Reading Standards 11-12.3, 11-12.7

Writing Standards: 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

#### A. Objectives / Topics Covered

- How do we style web pages?
- CSS vs HTML
- CSS Selectors
- Selecting by tag
- Selecting by class
- Selecting by id
- The Cascade (order of selector precedence)

B. Assignments / Labs

Students create several web pages to practice each of the concepts above

Example exercises:

- Use CSS selectors to style your previous web pages
- Use CSS selectors to style new web pages
- Create a music library web page and use CSS to style each song in your table
- Use CSS styling to make several images fit together properly
- Explain the benefits CSS provides over styling with only HTML
- Identify CSS selectors and rules used on example web Pages

**Unit 4: Project - Create Your Homepage**

(2 weeks/10 hours)

**Standards**

Anchor Standards: 4.0, 4.1, 4.2, 4.3, 10.1, 10.2, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13,

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

Academic Standards: Language Standards 11-12.1, 11-12.2

Reading Standards 11-12.3, 11-12.7

Writing Standards: 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

A. Objectives / Topics Covered

- Combination of the concepts learned thus far
- Allow students to think creatively about the applications of the concepts they have learned
- Designing a web page from scratch

B. Assignments / Labs

- Students will build their own website about themselves. This site will be accessible on their own custom url on the platform site, and will be continually improved by the student as they continue on in the course. It will serve as a running portfolio of each creative project they create in the course.

**Unit 5: Advanced HTML and CSS**

(8 weeks/40 hours)

**Standards**

Anchor Standards: 4.0, 4.1, 4.2, 4.3, 10.1, 10.2, 10.4, 10.5, 10.8,

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

Academic Standards: Language Standards 11-12.1, 11-12.2 Reading Standards 11-12.3, 11-12.7

Writing Standards: 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

**A. Objectives / Topics Covered**

- Splitting your site into separate files
- Iframes and embedding
- <div>
- <span>
- Combining CSS selectors
- Special CSS selectors
- Reading documentation
- Avoiding repeated code
- Assignments / Labs
- Example exercises:
  - Use iframes to embed a video into your web page
  - Use iframes to embed a previous exercise into your web page
  - Use divs and spans to style groups of HTML elements

**Unit 6: Designing User Interfaces**

(6 weeks/30 hours)

**Standards**

Anchor Standards: 4.0, 4.1, 4.2, 4.3, 10.1, 10.2, 10.4

Pathway Standards: C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

Academic Standards: Language Standards 11-12.1, 11-12.2 Reading Standards 11-12.3, 11-12.7

Writing Standards 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

**A. Objectives / Topics Covered**

What makes an engaging interface?

- Various User Interface (UI) Design techniques
- Accessibility issues
- Lite sites
- Rapid prototyping
- User testing
- Assignments / Labs. Example Exercises:
  - Research existing user interfaces
  - Assess the user interfaces of various web sites
  - Design a website using paper prototypes, test these prototypes and get feedback from your peers, and improve your design before implementing it with code
- UI Design Project
- Find and present an article about a particular
- UI design technique
- Create your own live examples using this Technique

## **Unit 7: Final Project**

(2 - 3 weeks/10-15 hours)

### A. Objectives / Topics Covered

- Allow students to think creatively about the applications of the concepts covered in the course
- Scoping a project
- Designing a website from scratch
- Incremental development
- Creating and iterating on prototypes
- User testing
- Collaboration

### **Assignments / Labs**

- In this project, students work in teams to design, prototype, test, and develop a final website
- Brainstorm ideas for a final project
- Plan out milestones for incremental development
- Design the different pages you will create for this website
- Prototype your designs and improve them by getting feedback from users
- Create your final website

**Anchor Standards:** 4.0, 4.1, 4.2, 4.3, 10.1, 10.2, 10.4

**Pathway Standards:** C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

**Academic Standards:** Language Standards 11-12.1, 11-12.2 Reading Standards 11-12.3, 11-12.7

**Writing Standards:** 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

## **Unit 8: Optional Supplemental Materials (Remainder of school year)**

### **Objectives / Topics Covered**

- How the Internet works
- Internet hardware
- Internet addressing
- The Domain Name System
- Routing
- Internet protocols
- The story of viewing a website
- Impact of the Internet

### **Assignments / Labs**

- Sample exercises:
  - Free response:
    - How many unique addresses can be represented using an IPv4 address?
    - Explain the effect of switching from IPv4 to IPv6. Why is this switch necessary?
    - Identify subdomains of given domains according to the Domain Name System.

- Explain the benefit of the hierarchical nature of the DNS.
- Explain the benefit of redundancy in the Routing system.
- What is one activity, hobby, or field of interest in your life that has been affected by the Internet? What effect has the Internet had?
  - Create a website explaining the story of how websites are viewed on the Internet.

**Anchor Standards:** 8.6, 8.7, 8.8, 10.1, 10.2, 10.4, 10.8

**Pathway Standards:** C7.1, C7.2, C7.3, C7.4, C7.5, C7.6

**Academic Standards:** Language Standards 11-12.1, 11-12.2 Reading Standards 11-12.3, 11-12.7

**Writing Standards:** 11-12.2, 11-12.4, 11-12.6, 11-12.8, 11-12.9

Total Hours	Class Hrs	Lab Hrs
170	70	100