Unit 6: Bootstrap & WYSIWYG Editors

Content Area: **Computer Science**
Course(s):
Time Period: **Marking Period 2**
Length: **15 Days**
Status: **Published**

Summary

Bootstrap is a framework that uses a grid system to more-easily generate the layout for a web page. There are several pre-built functionalities that can enhance the look and performance of your website. Students may wonder why they needed to spend so much time learning HTML and CSS when something like this exists, but they will see that their background knowledge is necessary to make change to the Bootstrap code, which will happen often.

WYSIWYG (What You See Is What You Get) Editors, such as Google Sites, offer a way to build websites with more of a click-and-drag approach. While this may be a quicker way to build a simple website, and may very well be adequate for the task at hand, WYSIWYG editors do not offer the flexibility you can achieve by coding the HTML/CSS directly. As a Web Designer, you must decide on the appropriate tool for the job at hand.

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	A computing system involves interaction among the user, hardware, application software, and system software.
P.4	Demonstrate creativity and innovation.
P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
P.6	Model integrity, ethical leadership and effective management.
L.KL.11–12.2	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
9.4.12.CT	Critical Thinking and Problem-solving
	Successful troubleshooting of complex problems involves multiple approaches including research, analysis, reflection, interaction with peers, and drawing on past experiences.
P.8	Use technology to enhance productivity increase collaboration and communicate effectively.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).
P.9	Work productively in teams while using cultural/global competence.
L.VL.11–12.3	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, including technical meanings, choosing flexibly from a range of strategies.
	Network security depends on a combination of hardware, software, and practices that protect data while it is at rest, in transit, and in use. The needs of users and the sensitivity of data determine the level of security implemented. Advanced attacks take advantage of common security vulnerabilities.

The design and use of computing technologies and artifacts can positively or negatively affect equitable access to information and opportunities.

Complex programs are designed as systems of interacting modules, each with a specific role, coordinating for a common overall purpose. Modules allow for better management of complex tasks.

Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.

Changes caused by the introduction and use of a new technology can range from gradual to rapid and from subtle to obvious, and can change over time. These changes may vary from society to society as a result of differences in a society's economy, politics, and culture.

Engineers use science, mathematics, and other disciplines to improve technology. Increased collaboration among engineers, scientists, and mathematicians can improve their work and designs. Technology, product, or system redesign can be more difficult than the original design.

The ability to ethically integrate new technologies requires deciding whether to introduce a technology, taking into consideration local resources and the role of culture in acceptance. Consequences of technological use may be different for different groups of people and may change over time. Since technological decisions can have ethical implications, it is essential that individuals analyze issues by gathering evidence from multiple perspectives and conceiving of alternative possibilities before proposing solutions.

Essential Questions/Enduring Understandings

Essential Questions:

- What does Bootstrap have in common with traditional HTML/CSS coding? How does Bootstrap extend your ability as a Web Designer?
- What are the pros and cons to WYSIWYG editors?

Enduring Understandings:

- Bootstrap is composed of all of the ideas we've learned about so far. Bootstrap extends our abilities by using pre-defined classes and other pre-defined code that you can incorporate into your work.
- WYSIWYG editors allow us to build simple sites more quickly, but you are often limited to the styles and themes provided by the editor. There may or may not be a way to interface with the HTML/CSS code directly.

Objectives

Students Will Know:

- how to access and incorporate the Bootstrap starter code needed to apply Bootstrap to their websites.

Students Will be Skilled at:

- editing Bootstrap code as needed to personalize the layout that Bootstrap provides.

- navigating a WYSIWYG user interface to construct a website.

Learning Plan

- Intro to Bootstrap
- Explain Jumbotron pages
- Introduce the Bootstrap Grid System
- Introduce basic Bootstrap "components," including page headers and buttons
- Discuss thumbnails and tables
- Discuss navigation
- Discuss drop-down Menus
- Educational Website
    - Students can work in groups to create a multi-page educational website using Bootstrap
- Show students how to use Google Sites
- Students complete Company Website
    - Students may work in groups to create a multi-page company website using Google Sites

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 involving real world applications shown below:
        - Educational Website Project
        - Company Website Project

Materials

- Core instructional materials: Core Book List
- Supplemental materials:
    - CodeHS (for remediation and differentiation as deemed appropriate)
    - Internet
    - Computers
    - Projection system for lecture
    - w3schools
    - Bootstrap example code