PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Web Design

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Curriculum writing committee:

JoAnne Yanko

Grade Level: 9-12

Date of Board Approval: __July 14, 2022_____

Course Weighting: Web Design

Major Projects (approximately 3 per marking period)	**35%**
Class Activities/Quizzes (approximately 25 per marking period)	**55%**
Participation	**10%**
Total	**100%**

Curriculum Map

Overview: One Semester/2 Marking Periods .5 Credits

This is a one semester project-based course that provides students with a foundational understanding of web design coding concepts. Students will learn the guidelines for creating in XHTML and CSS. Using the technology provided, students will create basic pages and websites containing various elements that focus on structure and browser compatibility. Students will complete work in various formats including individual hands-on activities, quizzes and large-scale projects. Work will be done in the classroom setting, relying heavily on successful independent work skills.

Goals:

<u>Marking Period One -Goals:</u> To create basic web pages in XHTML and add styles through CSS.

Understanding of:

- **How the Internet works**
- **Basic web design guidelines**
- **Evaluation of site design through examples**
- **Text and Image elements and their attributes**
- **Hyperlinks**
- **Tables**

<u>Marking Period Two -Goals</u>: To create a personal website.

Understanding of:

- **Color usage on web pages**
- **Special characters**

- **Page validation**
- **Good layout and page design**
- **Forms and databases**
- **Protocol of posting to the Internet**
- **Usability, navigability, and compatibility of a personal website**

Big Ideas:

Unit 1: Getting Started: What is the Web?
Unit 2: XHTML: Structuring Websites
Unit 3: CSS: Styling Websites

Big Idea # 1: CIT Technologies: Computer technology is a data management and communication tool essential for business and personal productivity, problem solving, and decision making in the global world.

Essential Questions: What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?

Concepts: Computer Fundamentals
Competencies:

- Evaluate and select hardware and software to solve specific problems or tasks.

Concepts: Programming Development
Competencies

- Determine the life cycle of programming database systems and/or web page development to solve problems.
- Select the appropriate language or application development tool for specific tasks.

Concepts: Technology Applications
Competencies:

- Create, format, and edit various products using different productivity application tools to complete tasks.
- Evaluate the most appropriate technology devices and communication tools to deliver and share finished products for others to view and collaborate.

Unit 4: Creating a Homepage
Unit 5: Advanced XHTML and CSS
Unit 6: Designing User Interface

Big Idea #1: CIT Technologies: Computer technology is a data management and communication tool essential for business and personal productivity, problem solving, and decision making in the global world.

Essential Questions: What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?

Concepts: Computer Fundamentals
Competencies:

- Evaluate how emerging technology and society influences each other and how it transforms the quality of life, business processes, and relationships.
- Explain the importance of computer and technology certifications and various post-secondary education pathways.

Concepts: Technology Applications
Competencies

- Model digital etiquette and responsible social interactions related to use of technology.
- Model safe, legal, and ethical use of digital information and technology.

Textbook and Supplemental Resources:

No Textbook for Course
Online Curriculum from CodeHS: Web Design Matisse Course
Available at https://codehs.com/uploads/ae097682dfdf5249fce1a1a2bd471471

Curriculum Plan

<u>Unit 1</u>: Getting Started: What is the Web? Approx. 10 days

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)

NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: CodeHS unit on Introduction to the Internet which covers digital information, how to use RGB color coding, how data is transmitted over the World Wide Web, and the basic structure of websites/pages. Additional content includes purpose and process of using browsers.

Objectives:
Identify what web design is and articulate the difference between web design and development (DOK 1, 2)
Identify how websites have changed education, arts, and commerce (DOK 1, 2)
Reflect on why they are taking this course and develop their own learning objectives (DOK 3)
Describe how webpages appear on computer screens (DOK 2)
Explain that the internet is a network of networks (DOK 3)
Compare and contrast the different levels of censorship that different organizations/countries impose on the Internet (DOK 3)
Identify what a browser is and is not (DOK 1,2)
Explain the purpose of a browser and list several examples (DOK 1, 2)
Describe the process of visiting a webpage (DOK 1, 2)
Prove their knowledge of the basic Internet through a quiz (DOK 4)

Core Activities and Corresponding Instructional Methods:
Students will view video tutorials, watch sample exercises, answer open-ended questions, and complete short quizzes and activities based on the objectives. We will discuss concepts as a

class, view external examples, and go over activities to correct errors. Individual guidance will be offered to help correct errors.

All activities are online, part of the CodeHS Web Design Monet Course. Please visit. www.codehs.com for more information.

Assessments:

Diagnostic: participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Quizzes

<u>Unit 2:</u> XHTML: Structuring Websites **Approx. 20 days**

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)
NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: CodeHS unit on structuring web pages using XHTML. Additionally, defining elements, attributes, and values to apply formats. Inserting links to external websites and internal pages; accessing images within copyright laws and embedding those images into a page. Creating aesthetically pleasing color palettes based on the subject of the web page content. Two projects include creating a web page with text, images, links, and aesthetically pleasing colors and organization based on content of page.

Objectives:
Identify the purpose and application of XHTML. (DOK 1, 2)
Create a simple web page. (DOK 3, 4)
Differentiate the various parts of an XHTML page. (DOK 4)
Create a fully formed XHTML page. (DOK 3, 4)
Apply formatting tags in order to modify the appearance of text and make web pages look clear and aesthetically pleasing. (DOK 3)
Add and utilize hyperlinks to a webpage. (DOK 3, 4)
Embed an image into an XHTML page. (DOK 4)
Explain what copyright laws are and their importance. (DOK 2, 3)
Find images that are allowable for use in projects. (DOK 2)
Accurately attribute images for webpages (format) (DOK 3, 4)
Construct various types of lists on webpages. (DOK 4)
Create tables within a webpage. (DOK 3, 4)
Compare various ways of displaying information and choose the appropriate format. (DOK 3, 4)
Apply XHTML styling to make webpages appealing and unique. (DOK 3, 4)
Explain how colors are created and displayed on webpages. (DOK 2, 3)
Create unique colors using a color mixing tool. (DOK 3)
Coordinate appealing color palettes for webpages. (DOK 3, 4)

Core Activities and Corresponding Instructional Methods:

Students will view video tutorials, watch sample exercises, answer open-ended questions, and complete short quizzes and activities based on the objectives. We will discuss concepts as a class, view external examples, and go over activities to correct errors. Individual guidance will be offered to help correct errors.

All activities are online, part of the CodeHS Web Design Monet Course. Please visit. www.codehs.com for more information.

Assessments:

Diagnostic: participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Quizzes. Project #1: Vacation Page. Project #2: Fast Food Page

Unit 3: CSS: Styling Websites **Approx. 15 days**

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)
NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: CodeHS unit on utilizing CSS to style a web page. Various methods of implementing CSS to a page include inline, internal and external code. Formats will be applied to previously created activities in prior units (links available within the site). Project includes creating a personal page that includes favorite movies, books, shows, bands, foods, and hobbies that will be organized, include images, links, and basic formatting methods.

Objectives:
Describe how CSS adds styling to XHTML pages. (DOK 2)
Implement CSS tag selectors to select all elements of the same kind and apply the same style. (DOK 3, 4)
Apply CSS Class selectors to apply styling to XHTML units that share a specific class. (DOK 3, 4)
Apply CSS Selectors by ID to select a single element to format on a webpage. (DOK 3, 4)
Explain the order of precedence of CSS rules. (DOK 2, 3)
Explain why CSS allows rules to cascade.(DOK 2, 3)
Apply the order of precedence of CSS rules to achieve the desired styling of specific elements on the webpage. (DOK 3, 4)
Core Activities and Corresponding Instructional Methods:

Students will view video tutorials, watch sample exercises, answer open-ended questions, and complete short quizzes and activities based on the objectives. We will discuss concepts as a class, view external examples, and go over activities to correct errors. Individual guidance will be offered to help correct errors.

All activities are online, part of the CodeHS Web Design Monet Course. Please visit. www.codehs.com for more information.

Assessments:

Diagnostic: Participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Quizzes. Project #3: Homepage Version 1

Marking Period 2

<u>Unit 4</u>: Creating Your Homepage **Approx. 10 days**

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)
NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: Project includes utilizing the previously created personal web page. Additional formats will be added via internal CSS style sheet. Sections will be separated into individual pages and home page will now include navigation to individual pages. External hyperlinks will be added to each page that refers to students' favorites.

Objectives:
Create a multi-page website centered around a topic that includes various structural elements of a webpage. (DOK 3, 4)
Apply good styling technique to various text elements using good styling rules of XHTML and CSS. (DOK 3, 4)
Incorporate images related to the topic that do not violate copyright laws. (DOK 4)
Incorporate hyperlinks within the webpage to sources of information. (DOK 4)

Core Activities and Corresponding Instructional Methods:
Students will create a one-page website centered on a specific topic. They will research content using the Internet and structure the page according to the directions. Required elements will be inserted onto the page and proper styling will be applied to the page. (DOK 3, 4)
Assessments:

Diagnostic: Participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Project #4: Homepage Project Version 2 (added styles and formats)

Unit 5: Advanced XHTML and CSS **Approx. 25 days**

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)
NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: CodeHS unit on Advanced levels of XHTML and CSS will be explored. Students will use various methods of organizing information into a page using iFrames, Spans, tables, and divs. Project will require students to choose a previously created page and incorporate more advanced features learned in unit as shown.

Objectives:
Articulate why multi-page websites make sense from a user experience perspective and from a development perspective. (DOK 4)
Create multi-file websites that are divided for clarity and organization. (DOK 3, 4)
Define what an iFrame is, and explain their application in a website. (DOK 3)
Incorporate iFrames to embed within other websites. (DOK 4)
Apply divs (tags) to organize and style multiple elements at the same time. (DOK 3, 4)
Apply the span (Tag) to style multiple elements of inline text. (DOK 3, 4)
Synthesize (combine) CSS Selectors to style multiple selectors, parent/child selectors, and specific combinations of classes, ids, and tags. (DOK 4)
Articulate the importance of the DRY principle. (DOK 4)
Organize code by combining selectors and using divs. (DOK 2, 3)

Core Activities and Corresponding Instructional Methods:
Students will modify sample webpages by applying advanced styling techniques in both XHTML and CSS. Students will view video tutorials, watch sample exercises, answer open-ended questions, and complete short quizzes and activities based on the objectives. We will discuss concepts as a class, view external examples, and go over activities to correct errors. Individual guidance will be offered to help correct errors.
All activities are online, part of the CodeHS Web Design Monet Course. Please visit. www.codehs.com for more information.

Assessments:

Diagnostic: Participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Quiz. Project #5: Choice between Upgraded version of either Vacation Page or Fast-Food page (added formats and styles)

Unit 6: Designing User Interfaces **Approx. 10 days**

Standard(s):
PA Core Writing for Science and Technical Subjects: CC.3.6.11-12A, B, E, G
PA Core Reading for Science and Technical Subjects: CC.3.5.11-12.D, G
PA Core Business Computers and Information Technology: 15.4.12.A, B, G-K

Standards Addressed: (See Appendix for extended description)
NBEA Business Standards w/ PA Business Standards
R/W/S/L with IT: 2, 3, 5, 6, 7
ISTE Standards 1-4

Eligible Content: CodeHS unit on designing interactive features of a website such as forms and buttons. Students will design a sample plan for a website based on a fictional client situation. Students will also create the final project: Creating a multi-page site that links all projects from the semester. This will include a home page with text, images, and navigation, as well as several subpages that are the projects from previous units.

Objectives:
Describe and define the steps in Design Thinking. (DOK 2)
Implement Design Thinking to create a product. (DOK 4)
Define and apply empathy in creating products. (DOK 2)
Identify accessibility issues in web design products. (DOK 2)
Define a problem related to user needs. (DOK 2, 3)
Create a composite character. (DOK 3)
Create and articulate Point of View Statements. (DOK 3, 4)
Ideate solutions to a problem relevant to their lives. (DOK 4)
Articulate the purpose of ideating, and strategies to make the ideation process work.
Create prototypes. (DOK 4)
Test and critique prototypes. (DOK 4)

Core Activities and Corresponding Instructional Methods:
Students will view video tutorials, watch sample exercises, answer open-ended questions, and complete short quizzes and activities based on the objectives. We will discuss concepts as a class, view external examples, and go over activities to correct errors. Individual guidance will be offered to help correct errors.
All activities are online, part of the CodeHS Web Design Monet Course. Please visit. www.codehs.com for more information.

Assessments:

Diagnostic: Participation in discussion posts

Formative: Completion of various activities throughout the unit

Summative: Quiz. Final Project: Combining all projects into multi-page website with interactive features.

Appendix

PA Core Writing for Science and Technical Subjects:

CC.3.6.11-12A: Write arguments focused on discipline-specific content.
CC.3.6.11-12B: Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
CC.3.6.11-12E: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
CC.3.6.11-12G: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

PA Core Reading for Science and Technical Subjects:
CC.3.5.11-12.D: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.G: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

PA Core Business Computers and Information Technology:
15.4.12.A: Apply the creative and productive use of emerging technologies for educational and personal success.
15.4.12.B: Evaluate the impact of social, legal, ethical, and safe behaviors on digital citizenship.
15.4.12.G: Create an advanced digital project using sophisticated design and appropriate software/applications.
15.4.12.H: Use programming languages to develop logical thinking and problem solving skills.
15.4.12.I: Compare and contrast programming languages; select most appropriate one to complete a specific task.
15.4.12.J: Create a complex computer program to solve a problem.

15.4.12.K: Evaluate advanced multimedia work products and make recommendations based on the evaluation.

NBEA Business Standards w/ PA Business Standards

Reading/Writing/Speaking/Listening with IT 2: Computer Architecture
Reading/Writing/Speaking/Listening with IT 3: Operating Systems, Environment, Utilities
Reading/Writing/Speaking/Listening with IT 5: Application Software
Reading/Writing/Speaking/Listening with IT 6: Input Technologies
Reading/Writing/Speaking/Listening with IT 7: Information Retrieval

ISTE Standards 1-6

ISTE – 1 Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology**.**

a. Apply existing knowledge to generate new ideas, products, or processes
b. Create original works as a means of personal or group expression
c. Use models and simulations to explore complex systems and issues
d. Identify trends and forecast possibilities

ISTE – 2 Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
b. Communicate information and ideas effectively to multiple audiences using a variety of media and format
c. Develop cultural understanding and global awareness by engaging with learners of other cultures
d. Contribute to project teams to produce original works or solve problems

ISTE – 3 Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information.

a. Plan strategies to guide inquiry
b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
d. Process data and report results

ISTE – 4 Critical Thinking, Problem Solving, and Decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and research.

a. Identify and define authentic problems and significant questions for investigations
b. Plan and manage activities to develop a solution or complete a project
c. Collect and analyze data to identify solutions and/or make informed decisions
d. Use multiple processes and diverse perspectives to explore alternative solutions

ISTE – 5 Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology
b. Exhibit a positive attitude toward using technology that supports collaboration, learning and productivity
c. Demonstrate personal responsibility for lifelong learning
d. Exhibit learning for digital citizenship

ISTE – 6 Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies