DELAWARE VALLEY SCHOOL DISTRICT

PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Web Design/Development

Grade Level:
9-12

Date of Board Approval: _____2016_____

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Planned Instruction

Title of Planned Instruction: Web Design/Development

Subject Area: Business Education Grade(s): 9-12

Course Description:

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 1.0 and CSS 2.1. 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.

Time/Credit for the Course: One Semester/2 Marking Periods

Curriculum Writing Committee: JoAnne Yanko

Curriculum Map

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1. **Marking Period One -Overview with time range in days: XHTML and CSS Introduction (45 days)**

   Marking Period One -Goals: To create basic web pages in XHTML and CSS

   Understanding of:
   - **Basic web design guidelines**
   - **Evaluation of site design through examples**
   - **Text and Image elements and their attributes**
   - **Hyperlinks**
   - **Tables**

2. **Marking Period Two -Overview with time range in days: Enhanced XHTML and CSS (45 days)**

   Marking Period Two -Goals: 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**

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UNIT 1: XHTML and CSS

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.

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Unit 2: Design Principles

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: Law & Ethics
Competencies:

- Explain regulations and laws relating to technology: How to emerging technologies impact the quality of life?
- Evaluate how computer use affects privacy, safety, digital citizenship and personal security.

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.

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Curriculum Plan: Marking Period 1

Unit 1: **XHTML and CSS** **Time Range in Days:** **45 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

Overview: Students will use handouts, presentations, and various software programs to create basic pages in XHTML and CSS 2.1.

Focus Question(s):
What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?

Goals:
- **Identify basic web design guidelines**
- **Evaluate site design through examples**
- **Create and edit text and image elements and their attributes**
- **Create and edit hyperlinks and tables**

Objectives:
Identify and define terms associated with web design guidelines (DOK 1, 2)
Evaluate and compare various websites using a checklist of criteria (DOK 2, 3)
Create and edit various elements of a web page using XHTML and CSS 2.1 guidelines (DOK 2, 3)

Core Activities and Corresponding Instructional Methods:

Students will view presentations, receive handouts, and complete activities that correspond with the following concepts spread out over several weeks

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- **Lesson 1**
  - Define the development of XHTML
  - Identify the basic elements of a web page and describe the purpose of each
  - Create a basic web page using an XHTML skeleton
  - Create, open, edit, and save a web page in Notepad
- **Lesson 2**
  - Insert basic elements such as paragraphs, headings, lists, links, and comments into a web page
  - Insert images and image links to a web page
  - Generate thumbnail images in a photo editing application
  - Create thumbnail links to web pages containing the full size image
  - Insert basic navigation links for a multi-page website
- **Lesson 3**
  - Create basic tables in XHTML
  - Identify the importance of using CSS
  - How to create an internal CSS style sheet to format a web page
- **Lesson 4**
  - How to create advanced tables in XHTML
  - How to apply CSS styling to tables
- **Lesson 5**
  - Identify how CSS box models work
  - Create nested and side-by-side elements
- **Lesson 6**
  - Format additional CSS styling properties and techniques
  - Inserting special characters into XHTML
- **Midterm Exam** (end of marking period)

Assessments:

Diagnostic: participation in class discussions and presentations and response to questions and surveys

Formative: Completion of various activities throughout the unit

Summative: Quizzes, Midterm Exam

Extensions: Students will be encouraged to add personalization to their web pages using colors, images, and other styling techniques to enhance the aesthetics of their pages

Correctives: Students will have access to websites that provide step-by-step tutorials on implementing various XHTML and CSS elements

Materials and Resources:

- Curriculum provided through High School Web Design (highschoolwebdesign.com)
- Presentations and handouts
- Sample activities
- Computers
- Internet access
- Extended websites: www.html-color-codes.com , webmonkey.com, adobe.com, etc.

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Curriculum Plan: Marking Period 2

Unit 2: **Advanced XHTML and CSS** **Time Range in Days:** **45 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

Overview: Students will use handouts, presentations, and various software programs to create basic pages in XHTML and CSS 2.1.

Focus Question(s):
What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?

Goals

- **Understand and plan color usage on web pages**
- **Insert special characters**
- **Page validation**
- **Understand and implement good layout and page design**
- **Create forms and databases**
- **Understand and implement protocol of posting to the Internet**
- **Evaluate usability, navigability, and compatibility of a personal website**

Objectives

Create and edit various elements of a web page using XHTML and CSS 2.1 guidelines (DOK 3, 4)
Apply proper color palette techniques on various web pages (DOK 4)
Analyze, critique, and implement good page layout and design (DOK 4)
Create web forms and databases for web pages and user submission (DOK 4)
Analyze proper protocol for uploading web pages to the Internet (DOK 3, 4)

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Construct basic CSS Style Sheets for web pages (DOK 2)
Create a personal website with specific requirements to content and design (DOK 4)

Core Activities and Corresponding Instructional Methods:

Students will view presentations, receive handouts, and complete activities that correspond with the following concepts spread out over several weeks

- **Lesson 7**
  - Create and apply custom colors using Hex codes in CSS
  - Identify and implement web-safe font types and create alternate font fallbacks
  - Correctly validate documents for XHTML and CSS errors
- **Lesson 8**
  - Maintain organization of files within a website
  - Implementing external CSS Style Sheets
  - Inserting elements using absolute and relative positioning within a web page
  - Inserting and editing background gradients and images
- **Lesson 9**
  - Insert and embed video and audio within a web page
  - Create a web form
- **Lesson 10**
  - Create a color scheme for a website
  - Identify and implement concepts on how to register domain names, set up web hosting, and use FTP to post live files to the web
- **Lesson 11**
  - Posting to the Web
- **Lesson 12**
  - Creating a personal website

Assessments:

Diagnostic: participation in class discussions and presentations and response to questions and surveys

Formative: Completion of various activities throughout the unit

Summative: Quizzes, Personal Website

Extensions: Students will be encouraged to add personalization to their web pages using colors, images, and other styling techniques to enhance the aesthetics of their pages

Correctives: Students will have access to websites that provide step-by-step tutorials on implementing various advanced XHTML and CSS elements

Materials and Resources:

- Curriculum provided through High School Web Design (highschoolwebdesign.com)
- Presentations and handouts
- Sample activities
- Computers
- Internet access
- Extended websites: www.html-color-codes.com , webmonkey.com, adobe.com, etc.

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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 1-4
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

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Checklist to Complete and Submit with Curriculum:

_____ A hard copy of the curriculum using The template entitled "Planned Instruction," available on the district website

_____ Hard copies of all supplemental resources not available electronically

_____ The primary textbook form(s)

_____ The appropriate payment form, in compliance with the maximum curriculum writing hours noted on the first page of this document

_____ A USB/Flash Drive containing a single file that will print the curriculum in its intended sequence from beginning to end and all supplemental resources that are available in electronic format.

Each principal and/or department chair has a schedule of First and Second Readers/Reviewers. Each Reader/Reviewer must sign & date below.

First Reader/Reviewer Printed Name_____

First Reader/Reviewer Signature_____

Date_____

Second Reader/Reviewer Printed Name_____

Second Reader/Reviewer Signature _____

Date_____