MT. DIABLO UNIFIED SCHOOL DISTRICT
COURSE OF STUDY

COURSE TITLE:	**Webpage Design**
COURSE NUMBER:	**009141**
CBEDS NUMBER:	**7220**
DEPARTMENT:	**Career Tech**
LENGTH OF COURSE:	**Year long**
CREDITS PER SEMESTER:	**5 credits**
GRADE LEVEL(S):	**11th**
REQUIRED OR ELECTIVE:	**Elective**

PREREQUISITES:

Required -	**None**
Recommended -	**Algebra I (recommended)**
	Coding and Gaming (recommended)

BOARD OF EDUCATION ADOPTION: (Date of Action Meeting)

COURSE DESCRIPTION:

This one-year course provides training in webpage design and coding using HTML/CSS, PHP and JavaScript in addition to a foundation in multimedia design as it relates to web design. The skills learning in this course will enhance existing jobs such as photographer, computer programmer, and content developer for the expanding market on the World Wide Web. Instruction includes webpage design, coding, computer graphics and multimedia authoring and presentation.

COURSE PURPOSE:

Webpage Design is an intermediate level course for students wishing to explore computer programming and webpage development, coding, and design. The purpose of the course is to prepare students to become pragmatic and analytical thinkers who are fluent in 21st century technological skills – as such the curriculum is tied very closely to real world applications and career options in computer programming and interactive design. Throughout the course students are asked to analyze problems in order to construct logical solutions based on concepts rooted in an understanding of fundamental computer science principles. Students will be asked to construct programs and applications in response to real and complex problems through project based learning. Students will also be expected to grow as collaborators in a technical context. Students will consistently participate in critiques, group projects and otherwise support one another. Upon completion of the Webpage Design course, students will demonstrate skill in using industry-standard development environments to design and program webpages as well as an understanding of computer science concepts that are translatable to many different programming environments and languages. Thus students who take this course are continuing to explore interactive design career pathways such as game design, software application design, website architecture and webpage design, mobile application development, and technical project management.

COURSE OUTLINE:

Unit 1: Orientation

The introductory unit provides students with an overview of the course, expected student learning outcomes, as well as the history, trends, and employment outlook in Web Design / Information Technology. Information in this unit will be presented by direct instruction from the teacher, student reading online materials (MrBenrud.com, CareerCruising.com) and classroom discussions. Learning will be assessed through a quiz, worksheets, journal entry in their online journal and through the creation of their Google Application account.

1. Course objectives, expectations, procedures
2. Introduction to website design
3. History of web design
4. Current trends in web design
5. Employment outlook / opportunities

Unit 2: Cloud Computing and Personal Portfolios

This will provide students with a basic understanding of cloud computing, advantages/disadvantages and the cloud computing resources that will be used throughout this course. The importance of personal portfolios for academic and career purposes will be discussed. How to use Google Sites to create and maintain an online portfolio will be demonstrated by the teacher. Importance of how information is organized and displayed (User Oriented Design) will be discussed and skills for organizing and displaying information will be practiced and peer critiqued during in class work sessions and reinforced by completion of key assignments: **Google Account Setup, Personal Portfolio Setup, All About Me Website Project.**

1. Cloud Computing, sharing permissions, collaboration
2. Useful Cloud Tools
3. Personal Portfolios
4. Google Sites
5. User Centered Design (UCD)

Unit 3: Hand coding basics of HTML, CSS, JavaScript and PHP

Students will learn the basic tags, syntax and elements for these commonly used languages in web design. Direct instruction from the teacher will be used as well as self-paced learning via Codecademy.com, online tutorials (Lynda.com) and various help forums. Understanding hand coding basics is essential to students' ability to complete more complex tasks later in the class and the pathway and also provides students a better understanding of web design and function. The following key assignments will provide students with opportunities to learn and practice essential skills and knowledge for hand coding and all pages created will be added to students ongoing personal portfolio: **Code Academy Account Setup, Sandbox Website Setup, File Transfer Protocol (FTP), Hand coding Basics in HTML, CSS, PHP and JavaScript**

1. Basic HTML tags and attributes
2. Basic CSS selectors and properties
3. Basic PHP and JavaScript coding

Unit 4: Introductory Standard Software

Students will learn to use industry standard software (Adobe Dreamweaver, Photoshop, Illustrator and Flash) to improve their efficiency while coding and incorporate more advanced features. Direct instruction, video tutorials and online help forums will be utilized. Not only do students need to learn to use current industry standard software, they also need to begin to develop the ability to make use of online tutorials and help forums. Since software changes quickly, this unit will allow students to practice self-directed learning as well as

collaborating with peers for problem solving. The first key assignments in this unit allow students to practice skills using the different software: **Dreamweaver and Photoshop Introduction, Web-page Elements and Basic Image Editing, Specific Dreamweaver and Photoshop Tutorials, Code Academy Lessons HTML/CSS.** In a larger project, **Online Photo Album Website,** students will put together all skills learned in the unit to create the final product.

1. Learn uses, workspace layouts, tools and basic skills in Adobe Dreamweaver, Photoshop, Illustrator and Flash.
2. Introduction to File Transfer Protocol (FTP) in Adobe Dreamweaver.

Unit 5: Discovering Online Learning Resources for Self-paced Learning

Students will learn to use the web to 'self-educate' in an area of personal interest that relates to web design. Building on practice in the previous unit, students will independently access online tutorials and help forums for instruction. The teacher will act as a facilitator and help with problem solving. From this unit on, students will be required to include evidence of self-paced, independent learning in every unit project. Key assignments for this unit provide multiple opportunities for students to use tutorials and forums for learning: **Self-selected Dreamweaver Tutorial, Self-selected Photoshop Tutorial, Help Forum Post, Codecademy PHP, Codecademy JavaScript**. In the final project for the unit, **Graphic User Interface (GUI) Project,** students will improve the Photo Album Website created in the previous unit by revising and adding features using new skills. Students will also document their use of self-directed learning resources.

1. Learn how to locate and use technical tutorials (video and written) for Adobe Dreamweaver, Photoshop, Illustrator, Flash and coding (HTML/CSS, PHP and JavaScript).
2. Learn how to locate and use help forums for Adobe Dreamweaver, Photoshop, Illustrator, Flash, and coding (HTML/CSS, PHP and JavaScript).
3. Learn proper forum etiquette.

Unit 6: Project Planning and Intermediate Coding

Students will learn about the importance of planning a web based project and the process for doing so. Teacher directed discussions will focus on strategies for planning and development and introducing the next level of coding skills. Key assignments will allow students to practice skills, continue to practice self-directed learning through online tutorials and forums, work with peer groups to problem solve and critique progress, and then put it all together in a unit project. Key assignments for this unit are: **Project Plan, Self-selected Code Tutorial, Self-selected Adobe Application Tutorial, Help Forum Post** and **Fan Website Project.**

1. Learn the importance of and how to develop a project plan for a web project that includes project objectives, wire-frame design, and target audience.
2. Learn compound selectors in CSS and learn IF and ElseIF in PHP and JavaScript

Unit 7: Data Collection and Retrieval Using Forms, PHP, and Database

Students will learn to use HTML forms, PHP and MySQL database to collect, store, retrieve and use data. Key assignments for this unit build necessary skills: In **Forms Introduction,** students create basic forms to collect data. In, **Project Plan,** students develop a project plan for the "Fan Website" project, and in **Help Forum Post,** students create a forum question asking for help with some aspect related to the current unit. After these skills have been mastered, students will complete the **Course Registration Website Project** which includes skills learned while also requiring students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums). Finally, this unit contains a key assignment targeting literacy skills related to the content area: **Position Paper on Pirating / Copyright Project:** Write a position paper explaining your thoughts on issues with Pirating and Copyright online.

1. Forms and form elements
2. Operators in PHP and JavaScript

3. Database connection, create table, insert, query and fetch.

Unit 9: Teamwork, Communication, and Project Management

Students will learn skills and strategies for building a strong team with good communication in-order to meet project deadlines. The key assignments in this unit, **Electronic Communication, Project Plan, Help Forum Post** require students to continue refining skills they have learned in the class while also demonstrating the ability to use online resources to communicate, and work as a team. The **Retail Website Group Project** requires students to put together multiple skills learned in the class and work successfully as a team to complete the assignment.

1. Communication tools and etiquette.
2. Team roles and responsibility.
3. Deadlines and quality control
4. Client Communication

Unit 9: Content Management Systems using Joomla

Students will learn skills and strategies for building a strong team with good communication in-order to meet project deadlines. Key assignments: **Project Plan** and **Help Forum Post** reinforce skills learned in previous units with new information presented in this unit. The **Travel Review Website Project** challenges students to complete a complex project using Joomla.

1. What a CMS is and how it is different from sites built using individual files for pages.
2. Features, templates and extensions in Joomla!
3. Advantages and disadvantages of using a CMS

Unit 10: Careers in Code

Student will explore career options in the fields of web design and information technology. Students will complete **Career Research** using CareerCruising.com, Salary.com and job search websites and **Lifestyle Research** use the Internet to research costs of housing, cars, insurance and other living expense. Using information gathered, students will complete the **Career and Lifestyle Website Project** as a culminating project demonstrating their computer and web design skills as well as showcase evidence of their post-secondary planning.

1. Understanding the daily routines, income scales, required education and skills for careers in Web Development and Information Technology.
2. Research living expenses and expected salaries in different cities around the country.
3. Developing a personal life plan and budget for your futures.

KEY ASSIGNMENTS:

Unit One Key Assignments

Basic Technology Pre-test: Used to evaluate a student's current skill set and level of computer knowledge.

Unit Two Key Assignments

Google Account Setup: Create Google Apps accounts based on classroom protocols and naming conventions.

Personal Portfolio Setup: Create a web site using Google Sites that will be used to display examples of their work, publish their unit journals, and share evaluations of the curriculum for the teacher's benefit.

All About Me Website Project: Create a five page web site using Google Sites that includes a photo gallery and writings about their personal history, current interests and future goals. Focus on organizing content for the 'user' not the designer, and include 100 – 200 word narrative in which students reflect and recount a before high school self-history, a 100 – 200 word narrative about interests and important personal beliefs now, and a 200 – 300 word narrative about future plans. Students select appropriate images to enhance text.

Unit Three Key Assignments

Code Academy Account Setup: Create an account on Codecademy.com.

Sandbox Website Setup: Set up root folder, create basic pages (images, formatted text and hyperlinks) in Dreamweaver and create a main menu to navigate between the pages.

File Transfer Protocol (FTP) connect your computer to the classroom server, upload (put) your Sandbox site and submit the URL.

Hand coding Basics in HTML, CSS, PHP and JavaScript: Learn basic HTML tags, CSS selectors, PHP and JavaScript syntax. Students will hand-code in text, hyperlinks, image tags, CSS styles, a PHP included navigation bar and a JavaScript pop-up window. Students will publish these pages in their Sandbox site, share them on their personal portfolio and write an evaluation of this assignment.

Unit Four Key Assignments

Dreamweaver and Photoshop Introduction: Learn the workspace layouts, tools and windows commonly used in these programs.

Web-page Elements and Basic Image Editing: Create pages, display rollover images (original and Photoshop edited), style pages using CSS and link them together.

Specific Dreamweaver and Photoshop Tutorials: Demonstrate ability to follow technical writing instructions to learn new application specific skills.

Code Academy Complete lessons one through four in the HTML/CSS course. 1) Introduction to HTML 2) HTML Structure: Using Lists 3) HTML Structure: Tables, Divs, and Spans 4) Introduction to CSS 5) CSS Classes and IDs 6) CSS Element Positioning

Online Photo Album Website Project: Create a nine image photo album website that utilizes JavaScript rollover images, external CSS document to control site-wide styling and a PHP included navigation file. Students will focus on design consistency, coding using CSS and PHP for efficient site maintenance and optimizing images for quick page loads and quality. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

Unit Five Key Assignments

Self-selected Dreamweaver Tutorial: Locate and complete a Dreamweaver tutorial.

Self-selected Photoshop Tutorial: Locate and complete a Photoshop tutorial.

Help Forum Post: Create a forum question asking for help with something related to Dreamweaver or Photoshop.

Code Academy: Complete lessons one and two in the PHP course. 1) Welcome to PHP! 2) Control Flow: If/Else.

Code Academy Complete lessons one and two in the JavaScript course. 1) Introduction to JavaScript 2) JavaScript Functions.

Graphic User Interface (GUI) Project: Use Adobe Photoshop and Dreamweaver to develop a header for photo album project that includes a custom logo and GUI navigation bar. Use the PHP include file in web photo album to replace the old text based navigation with the new GUI navigation. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

Unit Six Key Assignments

Project Plan: Develop a project plan for the "Fan Website" project that includes description of website objectives, wire-frame sketches and a description of target audience

Self-selected Code Tutorial: Locate and complete a php or JavaScript tutorial.

Self-selected Application Tutorial: Locate and complete a tutorial for any Adobe Application.

Help Forum Post: Create a forum question asking for help with some aspect related to the current unit.

Fan Website Project: Plan and create a multimedia website for anything that you are a "fan" of (movie, games, band, team, etc…). Pay close attention to the "target audience" when designing content and ensure that all site objectives in the project plan were met with the design. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

Unit Seven Key Assignments

Forms Introduction: Create basic forms to collect data and handle form data with PHP.

Position Paper on Pirating / Copyright Project: Write a position paper explaining your thoughts on issues with Pirating and Copyright online. Students must create an online form (10 question minimum) to survey at least 25 people re-grading their thoughts and experience with Pirating and Copyright online. Students must use data from their form and at least three additional sources (locate via web search) to support their position. Position papers will be a minimum of 1,200 words, have a work cited page, include on chart generated from form data and include at least three related images.

Project Plan: Develop a project plan for the "Fan Website" project that includes description of website objectives, wire-frame sketches and a description of target audience

Help Forum Post: Create a forum question asking for help with some aspect related to the current unit.

Course Registration Website Project: Create a course registration form to collect student information and course selection. Handler page must display form data that has been formatted using CSS. Must use the 'explode' function and have once variable that performs a calculation. Store registration data in a MySQL database. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

Unit Eight Key Assignments

Electronic Communication: Demonstrate ability to communicate via email, chat and collaboration tools during the project plan for the small group retail website.

Project Plan: Develop a project plan for the "Retail Website" project that includes description of website objectives, wire-frame sketches and a description of target audience

Help Forum Post: Create a forum question asking for help with some aspect related to the current unit.

Retail Website Group Project: Create a retail website that allows user to purchase a single product. Include form items (variables) that impact price and appearance of the product on the handler page. Use If. ElseIf and explode to display the appropriate image and price based on the form data. Store order data in a MySQL database. This project requires students to incorporate skills learned through self-directed learning resources (tutorials and/or help forums).

Unit Nine Key Assignments

Project Plan: Develop a project plan for the "Travel Review" project that includes description of website objectives, wire-frame sketches and a description of target audience

Help Forum Post: Create a forum question asking for help with some aspect related to the current unit.

Travel Review Website Project: Use the content management system (CMS) Joomla! 3.0 to create a travel review website that allows users to share reviews about particular destination, its restaurants, its hotels and its activities. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

Unit Ten Key Assignments

Career Research: Use CareerCruising.com, Salary.com and job search websites to research careers, jobs and expected salaries in the Web Design and IT professions.

Lifestyle Research: Use the Internet to research costs of housing, cars, insurance and other living expense. Use Google Spreadsheets to develop a budget based on your projected income and expenses.

Help Forum Post: Create a forum question asking for help with some aspect related to the current unit.

Career and Lifestyle Website Project: Use any tool (hand-code, Dreamweaver or Joomla) to create a web site that tells us about the career you've selected, the lifestyle you expect to have and that shows off the web skills you've developed throughout the year. This project requires students to incorporate skills learn through self-directed learning resources (tutorials and/or help forums).

INSTRUCTIONS METHODS and/or STRATEGIES:

Reading informational text: Throughout the course, students will access and read online technical information related to the skills they are learning. The instructor will model how to use the structures of the various online texts to access information efficiently and will provide questions and activities to assist students in developing strong reading comprehension skills.

All aspects of Common Core ELA: RST Grade 11 - 12 Reading Standards for Literacy in Science and Technical Subjects will be addressed in the context of this course with a special emphasis on the following:

- Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
- Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
- Integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem.
- Synthesize information from a range of sources into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
- By the end of grade 12, read and comprehend science/technical texts in the grades 11 - 12 text complexity band independently and proficiently.

Writing for a variety of purposes: Students will be doing reflective writing in journals throughout the course. In addition, many key assignments ask students to write for a specific purpose, including informative/explanatory text for web sites, arguments for design choices, and evaluations of online material. All aspects of Common Core ELA: Grade 11 - 12 WHST Writing Standards for Literacy in History/Social Sciences, Science and Technical Subjects will be addressed in the context of this course with a special emphasis on the following:

- Write informative/explanatory texts, including the narrations of… technical processes.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose and audience.
- Conduct short as well as more sustained research projects to answer a question or solve a problem. Narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- 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 in to the text selectively to maintain the flow of ideas, avoiding plagiarism and over reliance on any one source and following a standard format for citation.
- Draw evidence from informational texts to support analysis, reflection, and research.
- Write routinely over extended time frames and shorter time frames for a range of discipline specific tasks, purposes, and audiences.

Unit Vocabulary Words: Students will be introduced to industry vocabulary related to the topics covered in the unit.

Personal Portfolio Management: Students will regularly update their portfolio to include links to assignments (classwork, projects, tutorials and help forum posts), journal entries, and assignment reviews.

Reflective Writing (assignment review) – Students create a link to their work (classroom assignments and projects) and then write an evaluation of each assignment completed in class. The review includes what they liked/disliked, how it could be improved and other ways they can use the skills/technologies learned in the assignment. Reflective evaluations and analysis entries are approximately 100–200 words.

Journal Writing – Students are required to write one journal (blog) entry after every unit of the class is completed (approximately ten per year). Students summarize skills, strategies and tools they learned in addition to how they might use them later in life or school. Journal entries are approximately 500 words in length.

Forums and Tutorials – Students are required to complete online tutorials independently and request help via an online forum at least once during every unit, starting in unit four. Requests must be clearly written and provide sufficient detail. Tutorials must be accompanied by a 200-300 word evaluation of the tutorial. Additionally, every project from unit four on will require student to incorporate skills learned via tutorials and/or forums in their unit project.

Unit Quizzes - Online quiz used to check for understanding of the basic aspects of the unit. Vocabulary, identification and understanding of specific code and/or tools will be checked using these unit quizzes.

INSTRUCTIONAL MATERIALS:

Websites

Title	Affiliated Institution or Organization	URL
Lynda.com, Inc	Lynda.com, Inc	http://www.lynda.com/
Career Cruising	Career Cruising, Inc	http://public.careercruising.com/en/about/
Adobe TV	Adobe Systems Incorporated	http://tv.adobe.com/channels/
Adobe Communities	Adobe Systems Incorporated	https://forums.adobe.com/welcome
Tizag.com	Erack Network	http://www.tizag.com/
w3schools.com/php	Refsnes Data	http://www.w3schools.com/php/
GHS Technology Help	Grossmont Union High School District	https://sites.google.com/a/guhsd.net/technologyhelp/google-sites
Codecademy	Codecademy	https://www.codecademy.com/

Other

Title	Course material type
Adobe Dreamweaver	Software
Adobe Photoshop;	Software
Adobe Illustrator	Software
Adobe Flash	Software
Joomla Content Management System	Software
Google Applications	Software

For CTE Pathway Distinction:

Sequence of Courses: Interactive Design CTE Pathway

1) **Coding and Gaming**
2) **Webpage Design**
3) **Digital Innovation and Design**

Committee Members:

1. **Josie Kirkland, MDHS CTE teacher, Digital Safari Academy**
2. **Heather Fontanilla, Program Specialist for Career Pathways and Linked Learning**
3. **Katalina Gallo, MDHS VAPA teacher, Digital Safari Academy CTE teacher**
4. **Liane Cismowski, MDHS Principal**
5. **David Hevel, MDHS VAPA teacher**
6. **Erica Shaw, MDHS Social Studies teacher, Digital Safari Academy Lead Teacher**