Murrieta Valley Unified School District **REVISED: March 2016**
HIGH SCHOOL COURSE OUTLINE **REVISION**

Course Title: Web Design & Development I

Department: Business / Visual Media Arts

Course #: 7551

Grade/s: 10 - 12

Length of Course: Year

Prerequisite/s: Successful completion of one or more of the following: Multimedia Design I, Graphic Design I, Exploring Computer Science

UC/CSU (A-G) Req: (G) Elective

Brief Course Description: This course takes a multi-faceted approach that will prepare students for careers involving the development, design, maintenance and management process of building and publishing a website. Technical skills taught include the most recent technologies in web development: authoring and scripting languages, content creation, web management tools and digital media. Through development of contemporary web design projects, students develop problem-solving skills, artistic perception utilizing the elements of art and principles of design, critical and creative thinking, and self-reflection. This course provides a career-like environment that incorporates: teamwork, communication, cooperation, interpersonal and decision-making skills. In addition, this course is designed to provide the necessary skills and training to develop the necessary traits to be successful in a competitive and media-rich twenty-first century job market.

This course is aligned and articulated with MSJC's CSIS 115A. Students can earn 3 CSU/community college elective credits by passing the exit exam (pending approval 2015).

I. GOALS

The student will:

A. Demonstrate professional, ethical, and legal behavior consistent with applicable laws and regulations of the Arts, Media, and Entertainment Industry

B. Develop responsibility in the care and safe use of computers and other graphics equipment

C. Develop a college readiness level of effective oral, written and multimedia communication

D. Discuss, analyze and apply the elements of art and principles of design as it applies to visual communication

E. Explore careers through engagement with industry experts (guest speakers) in the arts, media, and entertainment fields

F. Develop individual career plans and a professional portfolio that includes design styles, projects, post-secondary education and employment opportunities

G. Compare and contrast text-based HTML editors to Graphical User Interface-based (GUI) HTML editors

H. Compare and contrast basic HTML markup language to programming languages

I. Compose Cascading Style Sheets (CSS) and apply styles to HTML elements

J. Evaluate, compare and contrast the methods used to enhance HTML based web pages by applying CSS elements for page structure versus using HTML tables

K. Compose an HTML document consisting of business form elements

L. Evaluate code to ensure validity, proper structure, meets industry standards and compatibility with browsers, devices and operating systems

M. Utilize FTP to publish web pages to a web server

N. Construct a Uniform Resource Locator (URL/domain name)

O. Identify and analyze complex problems as they relate to web design development, evaluate results and options, and review related information to implement the best solution

P. Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems

Q. Write critiques evaluating the purpose, intent and effectiveness of selected website designs

R. Identify similarities and differences of website designs based on focused markets

S. Describe the qualities that make a website design interesting based on concept, use of color and composition

T. Create the visual elements of a website using Adobe Photoshop and Illustrator to design and produce professional quality images, logos, documents and presentations incorporating design techniques and principles

U. Analyze a series of artwork, logos and graphic design pieces in web platforms to identify the use of art elements and the principles of design

V. View website examples and take notes on the psychological effect of colors, communicating with colors and symbolic meanings in various cultures

W. Evaluate examples of current and/or innovative website designs and research revolutionary designers

X. Develop design techniques utilizing a variety of tools

Y. Develop production goals and plans that include prioritization and organization

Z. Develop a website proposal that includes analysis, product requirements and targets a specific audience

AA. Collaborate, communicate, articulate, and actively listen to peers in the creation of a commercial website

II. OUTLINE OF CONTENT FOR MAJOR AREAS OF STUDY

Semester 1 (Web Development)

A. Introduction (AS 8.0, 8.2, 8.3, 8.4, 8.6, 8.7, 10.1; A5.0, 5.2, 5.4)
1. Course overview: expectations, requirements, classroom procedures, grading criteria and project rubrics
2. Care and safe use of equipment
3. State standards: CTA, VPA, ICT, Arts, Media, and Entertainment and ELA standards
4. Philosophy of art: aesthetics, self-motivation, creativity, cross-curricular benefits
5. Digital literacy and citizenship
6. Development of web design portfolio
7. Real-world application of course: Personal and professional

B. File Management, Computer Related Terminology and Electronic Communication (VPA 5.0, C6.1, 6.2, 6.5; AS1.0; A8.0, 8.5, 8.6, 8.7)
1. Cloud vs. desktop file management, backup procedures
2. File formats: jpeg, png, gif, tiff, bmp, pdf
3. Digital and print color: RGB, cmyk, grayscale
4. File sizes and resolution: kilobyte, megabyte, gigabyte, terabyte, dpi, ppi
5. Vector and pixel images
6. Print, web and portable device output
7. File transfer protocol (FTP management)
8. Security

C. History of the World Wide Web (A8.0, 8.5, 8.6, 8.7; AS10.1, 10.2, 10.3, 10.4)
1. Networks
2. Web pages and web servers
3. Web authoring and publishing applications

4. Content management
5. Current trends
6. Employment outlook

D. Creating an HTML Document and Content (C7.0, 7.1, 7.3, 7.4, 7.5, 7.6; RST.9-10.4, 11-12.4)
   1. Text
   2. Block-level elements (div, p, h1-h6, hr,)
   3. Inline elements (span, strong, em, a, img, button, input)
   4. Element attributes
   5. Navigation with lists
   6. Hypertext links
      a. Linked images and image maps
      b. Linking to internet resources
      c. Uniform Resource Locators (URLs)
      d. Site navigation
   7. Objects (graphics, images, embedded elements)

E. HTML Tables (RST.9-10.4, 11-12.4)
   1. Basic table
   2. Table head and body elements
   3. Table foot
   4. Caption element
   5. Table tips

F. HTML Forms (RST.9-10.4, 11-12.4)
   1. Form basics
   2. Organizing forms
   3. Choosing options

G. Cascading Style Sheets (CSS) Foundations (RST.9-10.4, 11-12.4)
   1. Adding CSS to a page
   2. ID selectors
   3. Advanced selectors
   4. Values and units
   5. Text, fonts and lists
   6. Box model
   7. Colors, backgrounds and borders
   8. Web typography
   9. CSS gradients
   10. Flexbox and multi-column layout
   11. Transitions and transforms
   12. Applying CSS to form elements

H. Exploring Web Structures (C7.0, 7.1, 7.3, 7.4, 7.5, 7.6; RST.9-10.4, 11-12.4)
   1. Planning and organizing a website
      a. Draw wireframes and build structure
      b. Create content containers
      c. Use HTML elements

   d. Include external CSS
2. Desktop, tablet, mobile platforms
   a. Media queries
3. CSS layout techniques

Semester 2 (Web Design)

A. Design Foundations (VPA 1.1, 1.2, 1.4, 2.1, 10.1; A4.0, 4.6)
   1. Design elements: proportion, balance, unity, space
   2. Types of design
      a. Information design: site message, audience, design, scope
      b. User experience (UX): interactivity, navigation, storyboard, site map
      c. Usability: human interaction design, accessibility
      d. Interface design (UI): site graphics, banner, navigation
   3. Great designers: critique

B. Aesthetic Foundations (VPA 1.1, 1.2, 1.4, 2.1, 3.0, 4.0, 10.1; A1.0, 1.2, 1.4, 1.5, 2.0, 2.1, 2.2, 2.6, 2.9, 4.0, 4.6)
   1. Elements of design
      a. Line, shape, form
      b. Space, balance, unity
      c. Color, texture, value
   2. Principles of art
      a. Harmony, contrast, emphasis
      b. Repetition, variety, scale
   3. Color theory
      a. Hue, saturation, lightness
      b. Color mixing
      c. Color meaning
   4. The art of critiquing

C. Brand Identity Basics (VPA 1.0, 3.0, 4.0, 5.0; SL.11-2.1, 11-12.2)
   1. What is the value and why?
   2. Who brands?
   3. Brand process
   4. Brand story and strategy
   5. Brand development and design
   6. Case studies and examples
   7. Guidelines
   8. Showcase work

D. Logo Design Basics (A2.0, 2.1, 2.2, 2.6, 2.9; SL.11-2.1, 11-12.2)
   1. Types of logos
   2. Successful logos
   3. Typical logo design process: Mind mapping, sketching, vectorising, adding color

E. Web Typography (A2.0, 2.1, 2.2, 2.6, 2.9; RST.9-10.4, 11-12.4)
   1. Introduction and terminology
   2. How to choose and use web fonts

3. Basic web typography
4. Laying out type for the web
5. Typographic site

F. Graphic Design Applications and Web Industry Careers (VPA 5.4; AS 1.0, 3.0, 3.1, 3.3, 3.4, 3.9, 10.4, 11.0, 11.2, 11.5; C6.3, A2.0, 2.1, 2.2, 2.6, 2.9)
1. Adobe Creative Suite (Illustrator, Photoshop)
2. Arts, media and entertainment careers
3. Industry certifications and degrees

G. Project Management (AS 2.0, 2.2, 2.3, 2.4, 2.5, 2.6; A5.5; VPA 2.0, 4.0, 5.0; C7.5, 7.6; RST.9-10.3, 11-12.3; WHST.11-12.4, 11-12.6, .11-12.7; SL.11-2.1, 11-12.2)
1. Problem solving: preparation, plan, perform, perfect
2. Design document: selection of graphics and color pallet
3. Production timeline
4. Design & development team: usability and team roles
5. Quality assurance
6. Client communication

H. Using Multimedia in Web Pages (C6.1, 6.2, 6.3, 6.4, 6.5)
1. Object data sources and MIME types
2. Working with parameters
3. Exploring digital video
4. Working with Flash
5. Introducing JAVA

III. ACCOUNTABILITY DETERMINANTS

A. Key Assignments
1. Reflect and write an essay on the proper use of vector and graphic images in a variety of media, how the audience of a website will affect its design and what steps you must take to ensure proper copyright laws have been followed in production of a variety of media.
2. Construct a web page using a text based HTML editor that follows the latest recommendations from the World Wide Web Consortium (W3C). Incorporate the following elements: a level 1 heading, a paragraph, an unordered list, an ordered list with diamond-shaped bullets, images, a table, a horizontal rule, a superscript, a subscript, a registered trademark symbol and a copymark symbol. Backgrounds, colors, highlights are all chosen to fit a student's personal style.
3. Construct an external style sheet that includes the following CSS rules: a body selector with a san-serif font-family of at least three fonts and a font size of 12 pixels; an h1 selector with a font size of 24 pixels, and a text alignment of horizontal center;
an h2 selector with a font size of 14 pixels and horizontal alignment set to left; an anchor selector with the text decoration set to none; an anchor pseudo-selector of hover with the text decoration set to underline.
4. Link the external style sheet to the HTML document using FTP. Publish both files to the specified web server.
5. Introductory color theory applied to a web page: Read *An Introduction to Color Theory for Web Designers*. Students compare the examples of common color schemes in this

tutorial (triads, complementary and analogous colors) explaining what type of color scheme and what colors were chosen for each web site example. Using a graphic organizer, students display websites that match the use of these color schemes, giving the URL address and citing what color schemes and colors were used.

6. Color the web page: Students re-design an existing web page that is drab and take the content (text and pictures) to redesign the page using one method of applied color theory such as triads, complementary colors, etc. Students manipulate background, text and graphical highlights used in the site and using CSS, which controls the presentation of the content.
7. Construct a website with “Your Music” as the theme: Using the HTML and CSS learned, students develop a music genre site complete with descriptions and pictures of four to five actual bands/singers from their favorite genre. The website must include: color theory, styling with shapes, repetition, contrast, and style to incorporate the intended theme. A written component will include style, colors, backgrounds and fonts used.
8. “A Weekly Look at Designs in the Making”: On a weekly basis, students will review "Dribble" to view works in progress by professional graphic artists. Weekly, students choose a favorite work and share specific details of the work and the artist. At semester’s end, students will choose a favorite designer and show a sampling of his/her works in various art forms at this site, recognizing the style in which this artist specializes and the many forms of artwork this artist represents
9. “The Concept of Precedence”: Read *9 Essential Principles for Good Web Design* by Collis Ta'eed. Students produce a document defining these terms and answering the following questions: 1.) Precedence, 2.) What defines precedence? 3.) Line spacing, 4.) Padding, 5.) White space, 6.) Alignment, 7.) What is an example of a page showing good alignment? 8.) What is one that shows little or no alignment?
10. “Compare and Contrast Typography Styles”: Students will view various works of professional web designers used by large business advertising agencies in large cities (West coast to East coast). What is the audience that is catered to? Why are these typefaces aligned with that specific industry? Is it appealing or not? What did you like or dislike? An online presentation will be created demonstrating the student’s analysis of the sites and is shared and discussed with peers.
11. “Rules for navigation”: Read *The Do’s And Don'ts of Website Navigation Usability*. Students summarize the main points of user navigation on a web site and what the designer can do to affect this. Students discuss what points were the most shocking or new to their experience.
12. “Final Project - Web Proposal and Design for a Business”: Students will complete each step of the design process, present proposal, revise proposal, develop a written critique of a peers’ proposal, write an essay to explain and justify decisions regarding revisions based on peer review.
13. “Portfolio and Career”: Students will assemble and artistically design a collection of their works into one website portfolio. This portfolio will include key assignments, design work, all web pages create using artistic expression, research of a web design career and written work that demonstrates mastery. This portfolio will be updated throughout the year. A variety of online presentation tools are allowed to showcase the portfolio.

B. Assessment Methods
1. Teacher project evaluation: Established rubric: (content, craftsmanship, creativity)
2. Self and peer evaluation of projects
3. Technical exercises and code challenges
4. Written quizzes and tests on vocabulary, terms and web development concepts
5. Internet search assignments
6. Homework
7. Direct observation of participation, work habits and problem-solving methods
8. Comprehensive semester written final exam
9. Projects
10. Portfolio

IV. INSTRUCTIONAL MATERIALS AND METHODOLOGIES

A. Required Textbook(s)
None. The primary method of instruction is through lectures, blended learning activities and projects designed to reinforce curricular concepts. Lectures, exercises and resources for the course can be accessed on the course website and reviewed anytime.

B. Supplementary Materials
1. Graphics or photo imaging software: Adobe Fireworks; Adobe Illustrator; Adobe Photoshop
2. Web platform development software: Text editors (Codepen, Sublime Text 2, Dreamweaver) for Hypertext markup language HTML; CSS; Hosting Server (ie:Bluehost, GoDaddy, etc.)
3. Free online HTML course resources - Udemy.com
4. Subscription HTML/CSS Course Curriculum (TeamTreehouse.com)
5. Freeware / Open Source Programs
6. Free content management sites (Wix, Weebly, Google Sites, WordPress)
7. Library resources

C. Other Materials
Other instructional materials include a myriad of websites with up-to-date information about design, color and website coding. Examples include the following:
1. TeamTreehouse, W3Schools and HTMLdog for HTML and CSS coding for design, http://www.w3schools.com/, http://HTMLdog.com/, http://teamtreehouse.com
2. Adobe Kuler's site for color themes and color numbers, www.kuler.adobe.com
3. Design principles and lessons, www.cteonline.org
4. Color theory for web designers, http://webdesign.tutsplus.com/articles/designtheory/
5. anintroductiontocolortheoryforwebdesigners/
6. Principles of effective web design, http://uxdesign.smashingmagazine.com/ www.msu.edu/~glazered/tc801/graphic.HTML
7. A Journey Through Beautiful Typography In Web Design, http://www.smashingmagazine.com/2013/08/06/beautifultypographywebdesign/
8. Color wheel, http://en.wikipedia.org/wiki/Color_wheel
9. "Color Value", http://color.isabelmar.com/index.php?option=com_content&view=category&layout=blog&id=29&Itemid=60
10. Dribble web site, http://dribbble.com/

11. The What, Why and How of Textures in Web Design" by Chris Brown, http://webdesign.tutsplus.com/tutorials/visuals/thewhatwhyandhowoftexturesinwebdesign/
12. "10 Web Typography Rules Every Designer Should Know", http://www.webdesignerdepot.com/2009/02/10webtypographyruleseverydesignershouldknow2/
13. CSS Zen Garden: The Beauty in CSS Design http://www.csszengarden.com
14. "The Dos And Don'ts Of Website Navigation Usability", http://www.chromaticsites.com/blog/thedosanddontsofwebsitenavigationusability
15. http://www.webdesign.org/webdesignbasics/webtypography/page1.HTML

D. Instructional Methodologies
   1. Direct instruction and lecture
   2. Teacher demonstration, both class-wide and one-on-one
      a. Programming techniques
      b. Use of software
      c. Technical writing
      d. Internet research
   3. Individual work, including exploratory and research based projects
   4. Group work and presentations for collaborative learning