



Utah System of Higher Education
Web & Graphic Design
FY2023/30 Credits (900 Clock-Hours)

Web & Graphic Design			
Institutions: Davis, Salt Lake			
<i>Certificate of Program Completion (Catalog Year: 2023, 30 Credits/900 Clock-Hours Required, CIP 11.0801)</i>			
Core (21 Credits/630 Clock-Hours)		Credits	Clock-Hours
TEWG 1010	Introduction to Web & Graphic Design	3	90
TEWG 1020	Raster Graphics	3	90
TEWG 1030	Vector Graphics	3	90
TEWG 1040	Responsive Web Design I	3	90
TEWG 1050	Responsive Web Design II	3	90
TEWG 1060	Introduction to UX/UI	3	90
TEWG 1070	Content Management Systems	3	90
Electives (9 Credits/270 Clock-Hours)			
Davis Technical College			
TEWG 1100	Typography	2	60
TEWG 1110	Digital Publishing	3	90
TEWG 1120	Advanced UX/UI Design	3	90
TEWG 1130	Digital Video I	3	90
TEWG 1140	Digital Video II	3	90
TEWG 1150	eMarketing for Designers	3	90
TEWG 1160	Designing for the Real World	3	90
TEWG 1170	JavaScript Fundamentals	3	90
TEWG 1180	Modern JavaScript	3	90
TEWG 1190	Advanced JavaScript Frameworks	3	90
TEWG 1900	Web and Graphic Design Externship	2	90
TEWG 1800	Electronic Portfolio	3	90
Salt Lake Community College			
TEDG 1020	Digital Literacy	1	30
TEWG 1200	Design Fundamentals	2	60
TEWG 1210	Introduction to JavaScript	3	90
TEWG 1220	Web Animation	3	90



Utah System of Higher Education

Web & Graphic Design

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PROGRAM DESCRIPTION

The Web & Graphic Design program prepares students for entry-level employment in the diverse fields of web development, graphic design, and digital marketing. Students learn to develop websites using industry-standard programming languages, create both print and digital collateral using industry-standard visual design software, and implement effective marketing campaigns using industry best practices. Students create a diverse portfolio of work throughout the program that demonstrates their skills to potential employers.

Objectives:

- Manipulate raster images
- Create vector graphics and illustrations
- Apply foundational principles and processes to all visual designs
- Develop Responsive Websites (Mobile-First / Progressively Enhanced) using HTML, CSS, and JavaScript that will work on all devices and screen sizes
- Demonstrate server-side and client-side scripting
- Design dynamic User Interfaces and delightful User Experiences
- Optimize websites to load quickly and rank highly in search engines
- Develop custom themes for industry standard Content Management Systems (CMS)
- Establish an online Web & Graphic Design portfolio

COURSE DESCRIPTIONS

Introduction to Web & Graphic Design

3 Credits / 90 Clock-Hours

Introduction to Web & Graphic Design explores how storytelling empowers all effective digital marketing and online communication. Students will evaluate and elevate their online presence by creating professional emails, cover letters, resumes, portfolios, and social media accounts.

Objectives:

- Identify individual students' learning styles and present tools for active learning
- Define graphic design and web design
- Define the purpose of web and graphic design in digital marketing
- Describe the different types of digital marketing channels available
- Utilize storytelling in digital communication
- Create a resume, cover letter, professional bio, and personal statement
- Enhance and edit social media profiles to impress clients/employers
- Create a digital portfolio

Raster Graphics

3 Credits / 90 Clock-Hours

Raster Graphics explores fundamental and advanced features of industry-standard image editing software for graphic design. Students will edit, enhance, repair, modify, and combine images with text and shapes to create graphics for web and print.

Objectives:

- Explain the basic concepts associated with raster images, digital color spaces, and file formats
- Define image composition and its main goals

- Define & recognize principles of composition in graphics: balance, contrast, motion, emphasis, scale, pattern, unity
- Edit, alter, enhance, repair, combine, and manipulate digital images
- Adjust size, resolution, and file formats based off the intended final context (print vs web)
- Use selection tools and shortcut keys
- Work with and organize layers
- Create a digital portfolio of completed work

Vector Graphics

3 Credits / 90 Clock-Hours

Vector Graphics explores fundamental and advanced features of industry-standard vector illustration software for graphic design. Students will edit, enhance, repair, modify, and combine images with text and shapes to create graphics for web and print.

Objectives:

- Examine the formal elements of design: line, shape, color, and texture
- Use colors and shapes to design signs and symbols
- Create illustrations with drawing tools
- Work with type, layers, gradients, blends, and patterns
- Use brushes, effects, clipping masks, and graphic styles
- Explore creating images with distortions, gradient meshes, envelopes, and blends
- Use design concepts and tools to create branded marketing materials
- Create a digital portfolio of completed work

Responsive Web Design I

3 Credits / 90 Clock-Hours

Responsive Web Design I introduces the latest HTML/CSS techniques to create custom mobile-first responsive websites that automatically scale and adjust their content and layout to fit any screen size.

Objectives:

- Create responsive web pages with HTML5
- Configure text, color, and page layout with Cascading Style Sheets
- Configure images and videos on web pages
- Explore new CSS3 properties
- Design web pages with best practices
- Design web pages with accessibility, usability, and search engine optimization considerations
- Obtain a domain name and a web host
- Publish web pages to the internet using FTP (File Transfer Protocol)
- Develop a high-quality personal portfolio site

Responsive Web Design II

3 Credits / 90 Clock-Hours

Responsive Web Design II introduces the basics of website templating to create a website structure that is easy to maintain. Students will explore advanced CSS techniques and JavaScript libraries to add interactivity and advanced functionality to a website.

Objectives:

- Understand the purpose of a website template and how to create it
- Utilize CSS3 to style web content
- Improve workflow with CSS Preprocessors

- Utilize JSON & JavaScript to organize data
- Develop a high-quality personal portfolio site

Responsive Web Design II

3 Credits / 90 Clock-Hours

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- Utilize JSON & JavaScript to organize data
- Develop a high-quality personal portfolio site

Introduction to UX/UI Design

3 Credits / 90 Clock-Hours

Introduction to UX/UI Design teaches students the research and design processes necessary to create high-quality user experiences (UX). Students will use industry-standard tools to design and prototype user interfaces (UI) that are intuitive and easy to use.

Objectives:

- Define UX/UI design process from idea to deliverable
- Define Gestalt Principles
- Conduct user interviews and data synthesis
- Explore ideation processes and user empathy
- Create a storyboard, user flow, and paper prototypes
- Conduct UI analysis
- Create wireframes and prototypes
- Create site maps and effective navigation using information architecture best practices
- Create design system and UI style guides
- Understand the value of grids in creating professional designs
- Create low, mid, and high-fidelity wireframes and prototypes
- Conduct usability tests and employ an iterative design process
- Create a case study

Content Management Systems

3 Credits / 90 Clock-Hours

Content Management Systems (CMS) introduces the process for transforming a static site into a dynamic CMS theme. Students will install the CMS locally, modify content, style the site using CSS/JS, and migrate the CMS to a live internet server.

Objectives:

- Setup a development environment
- Identify the primary components that make up a CMS theme
- Utilize CSS Preprocessing and JavaScript to add styling and functionality
- Create a custom child theme
- Identify and install essential plugins
- Migrate the site to a live internet server

NON-ALIGNED (ELECTIVE) COURSES

Davis Technical College

Typography

2 Credits / 60 Clock-Hours

Typography introduces the history and principles of using type and words as design elements. Throughout this course, you will study the history of letter forms and fonts as well as various techniques for printing documents.

Objectives:

- Identify and discuss the major technological advances in the history of printing.
- Discuss font styles and families and how they have evolved over time.
- Create wood or potato block letters and use them for printing images.
- Apply typesetting terminology and techniques to documents.
- Design a custom family of font styles.
- Identify the principles of effective typography and font usage.
- Create documents that utilize fonts and letter forms as major design elements.

Digital Publishing

3 Credits / 90 Clock-Hours

Digital Publishing examines the basic features of industry standard software – working with tools and palettes to work to place graphics as well as text. Throughout this course, you will explore how to set up new documents with master pages, work with colors and gradients, import and link graphics, draw with vectors, adjust typography, edit text, create tables, work with XML, export to PDF, and color management. Additionally, you will be introduced to transparencies, blending modes, feathered edges, and drop shadows.

Objectives:

- Identify and work with the workspace.
- Set up a document.
- Work with objects, color, and flowing text.
- Edit text and work with typography and styles
- Create tables, import and modify graphics, work with transparency.
- Printing and exporting.
- Create PDF files with form fields.
- Create a fixed-layout ePub and publish online.

Advanced UX/UI Design

3 Credits / 90 Clock-Hours

Advanced UX/UI Design is designed for students to use the knowledge and skills gained from the Introduction to UX/UI Design course to create applications. Students will use industry-standard tools to design and prototype User Interfaces (UI) that are intuitive and easy to use. Upon course completion, students will have three full case studies for their portfolio.

Objectives:

- Define UX/UI design thinking process
- Conduct user interviews and data synthesis
- Demonstrate the skills of user empathy and ideation
- Create storyboard, user flow, paper prototype
- Conduct UI analysis
- Define Gestalt principles
- Describe information architecture while create site maps and navigation
- Create Design System and UI style guides

- Create low, mid, and high-fidelity wireframe and prototyping
- Conduct usability test and UI iteration
- Create case study summary and full case study
- Present projects orally

Digital Video I

3 Credits / 90 Clock-Hours

Students in this course will develop skills using industry standard software to capture and edit audio and video, add and manipulate transitions and effects, and export in a variety of different formats.

Objectives:

- Set up a project.
- Import and organize media.
- Edit video with essential techniques
- Work with clips and markers.
- Add video and audio transitions.
- Edit video with advanced techniques.
- Put clips in motion.
- Edit, mix, and improve audio.
- Add video effects
- Apply color correction and grading.
- Work with compositing techniques.
- Create new graphics.
- Export frames, clips, and sequences.

Digital Video II

3 Credits / 90 Clock-Hours

Students in this course will develop skills using industry standard software for digital post-production video effects. Students will practice using 2D and 3D tools to create compositing, animation, and effects as motion-graphics professionals, visual effects artists, web designers, and video professionals.

Objectives:

- Work with the After Effects interface and workspace.
- Create basic animation using effects and presets.
- Animate text, layers and multimedia presentations.
- Work with shape layers, masks and keying.
- Distort objects with the puppet tools.
- Correct color.
- Rotoscope with Roto Brush tool.
- Build 3D objects and work with 3D features.
- Work with advanced editing techniques.
- Render and output projects.

eMarketing for Designers

3 Credits / 90 Clock-Hours

Students will learn to effectively and affordably market products, ideas, and information using online shopping carts, email marketing, social networking, search engine optimization, crowd funding, video marketing, and printed collateral.

Objectives:

- Integrate an eCommerce Shopping Cart into an existing website.
- Create an Email Marketing Campaign.
- Utilize Social Networking Business Pages.

- Optimize a webpage for Search Engines.
- Develop a Crowd Funding Campaign.
- Script a Marketing Video.
- Implement Digital Conversion Metrics/Analytics.

Designing for the Real World

3 Credits / 90 Clock-Hours

Designing for the Real World explores what it is like to work in the customer-focused design industry. Throughout this course, you will develop brand identities (from concept to production) for clients in the fashion, tech, and/or restaurant industries. You will experience what it is like to work with real customers and practice responding to many of the most common customer requests. Upon completion of this course, you will have two case studies to add to your portfolio along with an intricate understanding of the difficulties that are involved in designing for real world clients.

Objectives:

- Facilitate a client consultation / discovery meeting.
- Create a proposal / quote / contract for client services.
- Manage multiple clients / projects simultaneously.
- Effectively communicate through project management software.
- Define a target audience with user profiles.
- Design business papers and a style guide.
- Create a website to a client's specifications and satisfaction.

JavaScript Fundamentals

3 Credits / 90 Clock-Hours

Students in this course will learn basic JavaScript programming concepts along with the syntax and techniques needed to build and modify simple web applications. Students will also learn to utilize the tools necessary to troubleshoot and debug JavaScript applications. Students will practice and build dynamically functioning applications using JavaScript.

Objectives:

- Define concepts and terms necessary to develop JavaScript applications.
- Identify and apply basic JavaScript concepts including control flow, functions, methods, object literals, the DOM, forms and arrays.
- Use functions and methods.
- Create real-world front-end applications with JavaScript.
- Identify errors in your code.

Modern JavaScript

3 Credits / 90 Clock-Hours

Students in this course will learn advanced JavaScript programming concepts along with the syntax and techniques needed to build and modify web applications. Students will practice and build dynamically functioning applications using modern JavaScript techniques. Students will also be introduced to jQuery and learn about its relation to JavaScript.

Objectives:

- Create more advanced real-world front-end applications with JavaScript.
- Create useful JavaScript driven UI components like popups, drop-downs, tabs, tool-tips & more.
- Apply modern, cutting-edge JavaScript features by using modern workflow (Babel & Webpack).
- Use real-time databases to store, retrieve and update application data.
- Use OOP (object-oriented programming) with JavaScript, working with prototypes & classes.
- Explain the basics of jQuery and its relation to the JavaScript library.

Advanced JavaScript Frameworks

3 Credits / 90 Clock-Hours

Advanced JavaScript Frameworks introduces the most popular JavaScript libraries that are used in Front-End Web Development. During this course, you will explore the capabilities of these frameworks and learn how to install, configure, and implement their most common design patterns. Upon completion of this course, you will be prepared to create dynamic web applications full of advanced functionality.

Objectives:

- Recognize the JavaScript framework ecosystem.
- Utilize NPM, Babel, and Webpack =.
- Develop highly reusable JavaScript components.
- Manage and update state within an application.
- Build and deploy a web application with a JavaScript framework.

Web and Graphic Design Externship

2 Credits / 90 Clock-Hours

The Web and Graphic Design externship experience helps you transition from a student into a professional role by allowing you to demonstrate the knowledge, skills, and professional attributes learned in the program while working in a professional setting. Students will gain professional exposure to the nature of new media and essential concepts of visual communication learned throughout the program.

Objectives:

- Observe the day-to-day routines of a professional facility.
- Develop and enhance professional skills and responsibility.
- Improve research and design skills.
- Acquire new knowledge and skills of digital media design process and practice.

Electronic Portfolio

3 Credits / 90 Clock-Hours

Advanced JavaScript Frameworks introduces the most popular JavaScript libraries that are used in Front-End Web Development. During this course, you will explore the capabilities of these frameworks and learn how to install, configure, and implement their most common design patterns. Upon completion of this course, you will be prepared to create dynamic web applications full of advanced functionality.

Objectives:

- Observe the day-to-day routines of a professional facility.
- Develop and enhance professional skills and responsibility.
- Improve research and design skills.
- Acquire new knowledge and skills of digital media design process and practice.

Salt Lake Community College

Digital Literacy

1 Credits / 30 Clock-Hours

In this course, students will learn to effectively use digital technologies, such as computers and the internet, to find, evaluate, create, and communicate information. Students will demonstrate their ability to complete basic computing tasks such as working with an operating system, creating and managing files and folders, and effectively utilizing internet searches and resources. Students will also be introduced to common terminology and file types that they will encounter in various digital media industries.

Objectives:

- Demonstrate proper file management including the use of cloud storage.
- Demonstrate basic knowledge of the operating system.
- Describe important facts about the internet and how it works.

- Demonstrate the ability to use various browsers and their development tools.
- Explain the various languages used for building websites and how they interact.
- Describe the tools used for web design/development.
- Explain the various tools commonly used by web and graphic designers.

Design Principles**2 Credits / 60 Clock-Hours**

Design principles are fundamental guidelines that help designers to make informed decisions about how to create effective and aesthetically pleasing designs. These principles are based on fundamental principles of visual perception, human behavior, and design theory. This course familiarizes students with the principles of design including the use of color, typography, and layout techniques. After completing the course students will be able to use the design principles and elements to effectively communicate a message or fulfill a specific goal.

Objectives:

- Demonstrate understanding of the design process.
- Describe the principles of design.
- Describe primary design elements.
- Use design tools and software to create and manipulate digital designs.
- Develop effective layouts using various layout techniques.
- Analyze and critique designs using visual vocabulary.

Introduction to JavaScript**3 Credits / 90 Clock-Hours**

In this course students will learn to the fundamentals of JavaScript, including its syntax and how to work with its major components, such as variables, data types, operators, functions, control structures, objects, and events. Students will also learn to utilize the tools necessary to troubleshoot and debug JavaScript code. After completing this course students will be able to incorporate JavaScript into a website to create interactive user experiences and simple web applications.

Objectives:

- Explain the key features of the JavaScript syntax.
- Demonstrate proper use of JavaScript syntax such as variables, data types, operators, control structures, functions, objects, and events.
- Use JavaScript to interact with the Document Object Model (DOM)
- Troubleshoot and validate JavaScript code using debugging specific tools and methods.
- Incorporate JavaScript into websites.

Web Animation**3 Credits /90Clock-Hours**

The Web Design Animation course introduces students to a variety of elements involved in website animation—more specifically animations created using HTML, CSS, JavaScript, and JavaScript libraries. Emphasis is placed on the proper use of these scripting and web languages and creating a variety of graphic objects that improve visual styling and interactivity to a website.

Also covered in this course is identifying and developing quality web page content such as navigation buttons and dynamic text effects that will enhance and add polish to your web design portfolio.

Objectives:

- Demonstrate an understanding of the principles of animation, such as timing, spacing, and easing.
- Create animations using web animation tools and technologies, such as CSS, JavaScript, and JavaScript libraries.

- Integrate animations into web design.