Florida Department of Education
Student Performance Standards

Course Title: **Foundations of Web Design**
Course Number: **9001110**
Course Credit: **1**

Course Description:

This course is designed to provide students with opportunities to acquire and apply foundational skills related to web design.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
01.0	Demonstrate proficiency in website planning and the design process. – The student will be able to:		
01.01	Define information architecture.		
01.02	Discuss the importance of information architecture to web design and development.		
01.03	Conduct a client interview to determine the business purpose and needs.		
01.04	Conduct a competitive analysis.		
01.05	Identify stages in the web design process and describe the activities comprising each stage.		
01.06	Define the site structure by creating a content map, storyboard, and associated wireframes.		
01.07	Create a global site map.		
01.08	Discuss the legal and ethical issues related to web design.		
01.09	Describe accessibility and its implications on web design.		
01.10	Create a web site mock-up for client approval.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
02.0	Develop markup language structures. – The student will be able to:		
02.01	Define common markup languages and their usage.		
02.02	Examine emerging and new markup languages.		
02.03	Determine browser support and appropriate usage of markup languages (existing and emerging).		
02.04	Identify common DOCTYPES (e.g., Strict, Transitional and Frameset) and describe their appropriate use.		
03.0	Create basic webpages. – The student will be able to:		
03.01	Create basic webpage structures using common markup elements and attributes.		
03.02	Incorporate list structures in a webpage (i.e., ordered, unordered, definition, nested).		
03.03	Incorporate link structures in a webpage (i.e., external, internal, email).		
03.04	Research and incorporate web color usage principles in a webpage.		
04.0	Incorporate images and graphical formatting on a webpage. – The student will be able to:		
04.01	Describe usage guidelines (e.g., format types, size, relevance) for integrating images and graphics onto a webpage.		
04.02	Compare and contrast standard image formats used in webpage design.		
04.03	Incorporate graphics into a webpage design.		
04.04	Create and incorporate image maps in a webpage.		
04.05	Optimize images and graphics for use in a webpage.		
05.0	Create a basic table structure. – The student will be able to:		
05.01	Describe how tables are used in web design.		
05.02	Discuss the advantages and disadvantages of incorporating tables in a webpage design.		
05.03	Define and modify table structures for the presentation of tabular information.		
05.04	Create accessible tables using standard table elements and attributes.		
06.0	Incorporate form structures in a webpage. – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
06.01	Create an accessible form using common elements, including form, fieldset, legend, textarea, select, option, button, and input (radio, checkbox, submit, reset, image, password, hidden).		
06.02	Describe and diagram the relationship between XHTML forms and server-side technologies.		
06.03	Compare and contrast the GET and POST methods for forms handling.		
06.04	Define form validation and describe how it is accomplished.		
06.05	List popular server-side technologies often used to process content sent from XHTML forms.		
06.06	Use labels with form elements.		
06.07	Connect a XHTML form to a server-side script for processing.		
07.0	Describe frame structures and their usage. – The student will be able to:		
07.01	Explore frame and iframe structures and support issues.		
07.02	Describe appropriate uses of iframes.		
07.03	Incorporate frame structure in a webpage.		
08.0	Use Cascading Style Sheets (CSS). – The student will be able to:		
08.01	Define CSS and describe its importance in web design.		
08.02	Compare and contrast existing and emerging CSS versions.		
08.03	Determine browser support and appropriate usage of CSS (existing and emerging versions).		
08.04	Explain "document flow" and describe its implications on web design.		
08.05	Recognize and use element selectors, ID selectors, class selectors, pseudo-class selectors, and descendant selectors.		
08.06	Explain how inheritance and specificity affect CSS rule conflicts.		
08.07	Use inline styles, embedded style sheets, and external style sheets.		
08.08	Use the link and import methods to connect to an external style sheet.		
08.09	Use CSS shorthand techniques to create efficient and concise style sheets.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
08.10	Apply basic CSS properties (background, border, clear, color, float, font, height, line-height, list-style, margin, overflow, padding, position, text-align, text-indent, width, z-index, padding).		
08.11	Use CSS to style tables (e.g., borders, width, spacing, alignment, background).		
08.12	Use CSS to enhance the appearance and usability of an XHTML form.		
09.0	Examine web design technologies and techniques. – The student will be able to:		
09.01	Compare and contrast common authoring tools.		
09.02	Compare and contrast client-side and server-side technologies.		
09.03	Define e-commerce types and usage.		
09.04	Describe database connectivity relative to websites.		
09.05	Identify technologies to enhance user experience.		
10.0	Describe the process for publishing a website. – The student will be able to:		
10.01	Explore domain name selection principles.		
10.02	Identify process to registering a domain name.		
10.03	Compare and contrast hosting providers, features, and selection criteria.		
10.04	Describe the various means for uploading website files (e.g., FTP, web-based tools).		
11.0	Describe how website performance is monitored and analyzed. – The student will be able to:		
11.01	Identify issues related to website maintenance.		
11.02	Use webpage validation tools.		
11.03	Describe website performance metrics (e.g., visits, time-on-page, time-on-site) and discuss their design implications.		
11.04	Demonstrate knowledge of accessibility problems and solutions.		
11.05	Examine indexing, page ranking, basic Search Engine Optimization techniques.		
11.06	Explore common website analytic tools.		
12.0	Create an informational website. – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
12.01	Use GUI (Graphical User Interface) web authoring software to create a multi-page informational website.		
12.02	Use image-editing software to enhance website designs with simple graphics.		
12.03	Use animation software to enhance website designs.		
12.04	Enhance the website using client-side technologies (rollovers, check plug-ins, pop-up windows).		
12.05	Demonstrate efficient, consistent web site development practice (use of templates, snippets).		
13.0	Demonstrate language arts knowledge and skills. – The student will be able to:		
13.01	Locate, comprehend and evaluate key elements of oral and written information.		
13.02	Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.		
13.03	Present information formally and informally for specific purposes and audiences.		
14.0	Demonstrate mathematics knowledge and skills. – The student will be able to:		
14.01	Demonstrate knowledge of arithmetic operations.		
14.02	Analyze and apply data and measurements to solve problems and interpret documents.		
14.03	Construct charts/tables/graphs using functions and data.		

Florida Department of Education
Student Performance Standards

Course Title: **User Interface Design**
Course Number: **9001120**
Course Credit: **1**

Course Description:

This course provides advanced concepts used in interface design. The content includes principles of Human Computer Interface (HCI), advanced page design using Cascading Style Sheets (CSS), advanced HTML commands, multimedia applications, Internet/Intranet tools, and website promotion.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
18.0	Incorporate Human Computer Interface (HCI) principles of design. – The student will be able to:		
18.01	Describe the fundamental design principles of human computer interface.		
18.02	Differentiate between computer and human factors in screen/page design.		
18.03	Describe what is meant by an “intuitive” interface.		
18.04	Describe how typography, color scheme, and graphic usage are used to set website feel/tone for various types of websites (e.g., educational, entertainment, ecommerce).Identify and use the following design concepts: contrast, repetition, alignment, proximity, writing style.		
18.05	Identify and use the following design concepts: contrast, repetition, alignment, proximity, writing style.		
18.06	Define and establish logo, identity, and branding needed for an effective website.		
18.07	Evaluate the HCI features included on a webpage storyboard.		
18.08	Create a series of webpage storyboards that incorporate HCI design principles.		
19.0	Research and obtain information for use in designing the user interface. – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
19.01	Identify common user information needs, information gathering models, and methods for gathering user research.		
19.02	Define the primary audience and customer expectations and develop a rubric for defining user tasks and corresponding functionality.		
19.03	Describe target audience preferences based on demographics (e.g., gender, age, economic status, culture).		
19.04	Identify and use web analytic tools to shape an information architecture strategy (determine keywords).		
19.05	Apply the results of research and analytics to the design of a user interface.		
20.0	Create an intuitive interface using Cascading Style Sheets (CSS). – The student will be able to:		
20.01	Create CSS styles suitable for use on an intuitive webpage interface.		
20.02	Use element selectors, ID selectors, class selectors, pseudo-class selectors, and descendant selectors to create a table-less webpage design.		
20.03	Create a series of templates formatted exclusively using CSS.		
20.04	Use CSS syntax to configure and apply style sheets for multiple media displays (e.g., screen display and print).		
20.05	Create webpage templates using advanced CSS methods (e.g., create multi-column layouts, mimic client-side technologies, create faux columns).		
20.06	Differentiate among static, relative, absolute, and fixed positioning schemas.		
20.07	Use schemas to design a website: fixed, liquid, elastic designs.		
20.08	Recognize browser support for static, relative, absolute, and fixed positioning schemas.		
20.09	Identify and correct display issues in a web page using multiple browsers.		
21.0	Demonstrate proficiency creating a logical website file structure. – The student will be able to:		
21.01	Create an efficient, maintainable directory structure for a website, including the site root and subfolders for assets (e.g., images, templates, CSS).		
21.02	Demonstrate and use correct file paths for relative, site root relative, and absolute links.		
22.0	Create a CSS formatted informational website. – The student will be able to:		
22.01	Use GUI (Graphical User Interface) web authoring software to create a multi-page informational website.		
22.02	Create documented CSS style sheets for layout and appearance purposes.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
22.03	Incorporate methods used to drive traffic to the website, then engage and retain visitors.		
22.04	Apply standard optimization practices (e.g., keyword proximity; density; relevance; appropriate page titles, URLs, and headings, alt tags) to enhance search engine performance.		
22.05	Use standard design techniques to correctly display a website using multiple browsers (e.g., box model, hasLayout, Internet Explorer Conditional Comments (IECC)).		
22.06	Integrate common multimedia and plug-ins as appropriate to enhance a website design.		
22.07	Use client-side technologies such as rollovers, check plug-ins, and pop-up windows to enhance the user interface.		
23.0	Demonstrate proficiency publishing, testing, monitoring, and maintaining a website. – The student will be able to:		
23.01	Recognize the relationship between local and remote site structure.		
23.02	Identify methods of acquiring a domain name, appropriate hosting, and search engine registry.		
23.03	Understand and implement strategies to measure website traffic and improve search engine analytics reports.		
23.04	Describe the use of standard web marketing technologies (e.g., blogging, podcasting).		
23.05	Describe how social media and social networking sites can be used for marketing purposes.		
23.06	Test websites using common resolutions, browsers, accessibility, and validation techniques.		
23.07	Use popular Internet browsers and tools as defined by W3C Browser Statistics (e.g., Mozilla Firefox (Web Developer Toolbar, ColorZilla, MeasureIt, Firebug), Internet Explorer 7/8) to display and troubleshoot websites.		
23.08	Explore standard practices for feedback and usability testing.		
23.09	Identify and incorporate standard security measures in a website.		
23.10	Identify and use online validation tools.		
23.11	Successfully change invalid markup to comply with standards.		
23.12	Build a webpage that successfully passes the W3C validation test at http://validator.w3.org .		
23.13	Write markup that facilitates accessibility.		
23.14	Use FTP to transfer files to a server.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	23.15 Set up an FTP connection to a remote site and reproduce the site structure on the server.		
24.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas. – The student will be able to:		
	24.01 Select and employ appropriate communication concepts and strategies to enhance oral and written communication in the workplace.		
	24.02 Locate, organize and reference written information from various sources.		
	24.03 Design, develop and deliver formal and informal presentations using appropriate media to engage and inform diverse audiences.		
	24.04 Interpret verbal and nonverbal cues/behaviors that enhance communication.		
	24.05 Apply active listening skills to obtain and clarify information.		
	24.06 Develop and interpret tables and charts to support written and oral communications.		
	24.07 Exhibit public relations skills that aid in achieving customer satisfaction.		
25.0	Solve problems using critical thinking skills, creativity and innovation. – The student will be able to:		
	25.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.		
	25.02 Employ critical thinking and interpersonal skills to resolve conflicts.		
	25.03 Identify and document workplace performance goals and monitor progress toward those goals.		
	25.04 Conduct technical research to gather information necessary for decision-making.		
26.0	Use information technology tools. – The student will be able to:		
	26.01 Use personal information management (PIM) applications to increase workplace efficiency.		
	26.02 Employ technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email, and internet applications.		
	26.03 Employ computer operations applications to access, create, manage, integrate, and store information.		
	26.04 Employ collaborative/groupware applications to facilitate group work.		
27.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment. – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	27.01 Describe the nature and types of business organizations.		
	27.02 Explain the effect of key organizational systems on performance and quality.		
	27.03 List and describe quality control systems and/or practices common to the workplace.		
	27.04 Explain the impact of the global economy on business organizations.		
28.0	Describe the importance of professional ethics and legal responsibilities. – The student will be able to:		
	28.01 Evaluate and justify decisions based on ethical reasoning.		
	28.02 Evaluate alternative responses to workplace situations based on personal, professional, ethical, legal responsibilities, and employer policies.		
	28.03 Identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace.		
	28.04 Interpret and explain written organizational policies and procedures.		

Florida Department of Education
Student Performance Standards

Course Title: **Web Scripting Fundamentals**
Course Number: **9001130**
Course Credit: **1**

Course Description:

This course provides an introduction to scripting related to web development. The content primarily focuses on client-side scripting using JavaScript.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
29.0	Discuss the differences between server-side and client-side scripting. – The student will be able to:		
29.01	Describe the role scripting languages play in the creation of websites.		
29.02	Identify and describe the advantages, disadvantages, and primary uses of popular scripting languages (e.g., JavaScript, VBScript, Perl, PHP, JScript).		
30.0	Compare and contrast client-side scripting languages (JavaScript, VBScript, and ECMAScript). – The student will be able to:		
30.01	Describe the primary usage and limitations of JavaScript in a web environment.		
30.02	Describe how JavaScript blends with other web-authoring technologies (i.e., HTML, CSS, Server-side programming, Plug-ins).		
30.03	Describe the primary differences between JavaScript and VBScript.		
30.04	Describe the source, features, and common uses of ECMAScript.		
30.05	Explain why JavaScript use far exceeds VBScript for client-side scripting.		
30.06	Research resources available to advance JavaScript knowledge.		
30.07	Explore emerging trends and upcoming revisions related to JavaScript.		
31.0	Demonstrate understanding of the Document Object Model (DOM). – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
31.01	Describe the purpose of the Document Object Model (layout, objects, properties, methods).		
31.02	Describe how JavaScript uses the DOM to detect and manipulate elements on a webpage.		
32.0	Design, write, debug, and incorporate a JavaScript client-side script into a webpage. – The student will be able to:		
32.01	Write, analyze and explain JavaScript syntax.		
32.02	Describe usage of various data types.		
32.03	Describe how the use of decision-making logic (AND, OR) is employed in a JavaScript program.		
32.04	Create and use variables, operators, and expressions.		
32.05	Use common JavaScript events and event handlers (e.g., click, load, onClick, onLoad) to control program flow, appearance, or functionality.		
32.06	Understand and incorporate JavaScript arrays (e.g., array basics, types, usage, methods, sorting).		
32.07	Understand and incorporate JavaScript functions (e.g., using the DOM, pass a value, return value, create objects, work with classes, objects).		
32.08	Understand and incorporate JavaScript loops and conditions (e.g., loop basics, types, usage).		
32.09	Recognize, isolate, and correct common JavaScript errors (e.g., syntax, function errors, reserved word usage, unsupported DOM).		
32.10	Identify limitations related to obsolete JavaScript constructs and coding practices (e.g., Document.all, navigator.appName).		
32.11	Apply JavaScript best coding practices (i.e., properly documenting scripts, field naming conventions, writing understandable code).		
32.12	Use different methods to incorporate JavaScript onto a web page (e.g., <script> element, JavaScript statement block, external scripts).		
32.13	Troubleshoot and test incorporated script (i.e., functionality, browser usage, resolve known bugs).		
33.0	Incorporate basic JavaScript form validation and form handling (using pre-built validation scripts or online libraries). – The student will be able to:		
33.01	Identify and use form elements to solicit user input.		
33.02	Use JavaScript with HTML form controls.		
33.03	Validate web forms prior to submission.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
33.04 Use output commands to display processed data in an appropriately formatted form.		
34.0 Use advanced JavaScript techniques. – The student will be able to:		
34.01 Write JavaScript suitable for plug-in detection, image manipulation, and the creation of custom JavaScript objects.		
34.02 Use JavaScript to incorporate, create, update, and delete cookies.		
34.03 Describe the common security issues relevant to JavaScript.		
35.0 Demonstrate understanding of JavaScript accessibility issues. – The student will be able to:		
35.01 Describe the purpose of the Browser Object Model (BOM) and how it relates to JavaScript.		
35.02 Describe how obsolete constructs and coding practices affect browser function.		
35.03 Make webpages accessible and functional when JavaScript disabled or unsupported.		
35.04 Demonstrate ability to use XHTML, HTML, and CSS instead of JavaScript where appropriate.		
35.05 Demonstrate ability to determine which version of JavaScript specific browsers support and code program to meet acceptable standards.		
36.0 Select and modify appropriate library and pre-built JavaScript to incorporate into webpage. – The student will be able to:		
36.01 Explore common JavaScript libraries and describe the advantages and disadvantages of using libraries.		
36.02 Analyze pre-built library items to determine functionality.		
36.03 Explain how a library item achieves desired processing.		
36.04 Determine if pre-built script provides functionality required in an effective manner.		
36.05 Incorporate pre-built library items into web pages.		
36.06 Identify the restrictions related to using pre-built scripts (i.e.; copyright, processing, and length of script).		
36.07 Modify pre-built scripts to suit functionality requirements.		
36.08 Test and troubleshoot pre-built scripts and widgets incorporated into web pages.		

Florida Department of Education
Student Performance Standards

Course Title: **Media Integration Essentials**
Course Number: **9001140**
Course Credit: **1**

Course Description:

This course provides in-depth instruction into techniques for integrating various forms of media onto webpages, with particular focus on XML and AJAX technologies and frameworks. Students should have a good understanding of JavaScript prior to taking this course.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
37.0	Incorporate graphics, animations, and video assets into a webpage design using conventional HTML techniques. – The student will be able to:		
37.01	Use the HREF tag to integrate a video file displayed in a new window.		
37.02	Use the EMBED tag to display a graphic animation or a video file as part of the webpage fabric.		
37.03	Discuss the limitations of conventional media integration techniques.		
38.0	Demonstrate understanding of XML vocabularies and documents. – The student will be able to:		
38.01	Understand XML vocabularies.		
38.02	Define well-formed and valid XML documents.		
38.03	Describe the basic structure of an XML document.		
39.0	Create and debug an XML Document. – The student will be able to:		
39.01	Create an XML declaration.		
39.02	Work with XML comments.		
39.03	Create XML elements and attributes.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	39.04 Work with character and entity references.		
	39.05 Describe how XML handles character data, parsed character data, and white space.		
	39.06 Work with XML parsers.		
	39.07 Understand how Web browsers work with XML documents.		
	39.08 Apply a style sheet to an XML document.		
	39.09 Create an XML processing instruction.		
40.0	Create and debug compound documents with Namespaces. – The student will be able to:		
	40.01 Understand compound documents & the problem of name collision.		
	40.02 Declare a namespace for an XML vocabulary.		
	40.03 Apply a namespace to an element.		
	40.04 Create a default namespace.		
	40.05 Apply a namespace to an attribute.		
	40.06 Declare a namespace within a CSS style sheet.		
	40.07 Apply a namespace to a style selector.		
	40.08 Use the escape character to apply a namespace to a selector.		
	40.09 Create a compound document containing XML and XHTML elements and attributes.		
41.0	Demonstrate ability to validate documents with a Data Type Definition (DTD). – The student will be able to:		
	41.01 Understand the principles of data validation.		
	41.02 Create a DOCTYPE.		
	41.03 Specify the content of an XML element.		
	41.04 Define the structure of child elements.		
	41.05 Describe how DOCTYPE changed from HTML4.01 to HTML5.		
42.0	Demonstrate ability to validate documents with XML Schema. – The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
42.01	Compare schemas and DTDs.		
42.02	Explore different schema vocabularies.		
42.03	Declare simple type elements and attributes.		
42.04	Declare complex type elements.		
42.05	Apply a schema to an instance document.		
42.06	Work with XML Schema data types.		
42.07	Derive new data types for text strings, numeric values, and dates.		
42.08	Create data types for patterned data using regular expressions.		
42.09	Explore different schema structures.		
42.10	Attach a schema to a namespace.		
42.11	Validate compound instance documents.		
42.12	Import one schema file into another.		
43.0	Demonstrate an understanding of Asynchronous JavaScript and XML (AJAX) and its implications for web developers. – The student will be able to:		
43.01	Identify the technologies that comprise AJAX and explain how they interact.		
43.02	Describe the purpose, advantages, disadvantages, and functions of AJAX.		
43.03	Describe how AJAX works and how it is used in the creation of websites.		
43.04	Identify AJAX requirements.		
43.05	Install and setup the AJAX Control Toolkit.		
43.06	Define appropriate use of AJAX in a web project.		
43.07	Identify AJAX Usability and Accessibility issues and their workarounds.		
43.08	Describe AJAX related browser compatibility issues and their workarounds.		
43.09	Explore popular AJAX applications currently on the Internet (auto-complete (Google), updating user content (Twitter), voting and rating (social bookmarking)).		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	43.10 Describe common security issues associated to AJAX.		
	43.11 Analyze the server-side implications of AJAX applications.		
	43.12 Explore methods for testing and maintaining an AJAX application.		
	43.13 Explore the future of AJAX and its implementation.		
44.0	Plan and implement a multi-page website that features graphics, pictures, and video galleries using AJAX techniques. – The student will be able to:		
	44.01 Research AJAX design principles and patterns (e.g., Observer, Command and MVC).		
	44.02 Research and compare popular AJAX frameworks, libraries, and toolkits (e.g., JQuery, DOJO, Prototype).		
	44.03 Identify and implement methods of using AJAX when JavaScript not available (e.g. progressive enhancement).		
	44.04 Update specific areas of a page with data from the server (e.g., server-login updated) without reloading the webpage.		
	44.05 Demonstrate the ability to output results in different formats (e.g., XML, JSON, alternatives to JavaScript).		
	44.06 Use AJAX to create form submission and validation (e.g. password strength check, email/URL validation).		
	44.07 Integrate a basic slideshow via lightbox using AJAX techniques.		
	44.08 Integrate optional video selections displayed using AJAX techniques.		

Florida Department of Education
Student Performance Standards

Course Title: **E-commerce & Marketing Essentials**
Course Number: **9001150**
Course Credit: **1**

Course Description:

This course provides instruction in the design, creation, marketing, and monitoring of e-commerce websites. Content also includes the associated security issues and methods.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
45.0	Demonstrate knowledge and skills necessary to setup a secure E-commerce site–The student will be able to:		
45.01	Compare and contrast popular pre-built shopping cart software (e.g., PrestaShop, Zend Cart).		
45.02	Compare and contrast hosting options available for use with shopping cart software (i.e., shared hosting or dedicated server).		
45.03	Discuss shopping cart vulnerabilities and best-practice preventative measures.		
45.04	Identify hardware and software necessary to install and setup pre-built shopping cart software.		
45.05	Install and configure necessary software (database, server) to run pre-built shopping cart software.		
45.06	Install and configure pre-built shopping cart software.		
45.07	Verify database and server connectivity.		
45.08	Test and troubleshoot setup/configuration issues.		
46.0	Identify security issues associated with E-commerce and discuss methods to mitigate risks. – The student will be able to:		
46.01	Describe the differences between Transaction Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL).		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
46.02	Explain transaction security.		
46.03	Identify security and payment processing issues involved in developing a site (e.g., SSL, Digital Certificates, SET Protocol, Cyber Cash).		
46.04	Demonstrate understanding of https and htaccess and their usage.		
46.05	Explore methods to obtain an SSL certificate and secure transactions.		
46.06	Compare and contrast the appropriateness of employing a merchant account or a payment gateway to handle online transactions.		
46.07	Discuss the process, advantages, disadvantages, and costs associated with opening a merchant account.		
46.08	Describe the process, advantages, disadvantages, and costs associated with using a payment gateway.		
47.0	Apply skills necessary to setup an E-commerce storefront. – The student will be able to:		
47.01	Setup and use an FTP (File Transfer Protocol) program to transfer files to a web server.		
47.02	Add business specific information to site storefront (e.g., logos, product images, descriptions).		
47.03	Setup back-end site administration functions and navigation.		
47.04	Setup a schema for incorporating shipping, handling, and processing fees based on carrier, geographical zones, and weight/price range.		
47.05	Experiment with various add-ons, themes, and modules available for customization.		
47.06	Customize shopping cart to suit client needs (e.g., modify fields, add buttons).		
47.07	Customize forms to accommodate client products and/or services.		
47.08	Setup Search preferences and functionality for products and/or services.		
47.09	Setup customer contact preferences and email notification functionality.		
47.10	Apply Search Engine Optimization (SEO) techniques to shopping cart pages.		
47.11	Test operation of shopping cart pages in multiple browsers.		
47.12	Troubleshoot issues and errors related to browser display and functionality.		
48.0	Employ techniques to enhance the value and profitability of an E-commerce website. – The student will be able to:		
48.01	Determine business goals for the E-commerce site.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
48.02	Identify the various types of advertising options in E-commerce (e.g., links, banner ads, affiliate programs, pop-up windows, viral marketing, newsgroup postings).		
48.03	Describe affiliate marketing and its implications for E-commerce websites.		
48.04	Analyze popular affiliate programs/networks and available payment schemes.		
48.05	Explain the differences, advantages, and disadvantages of CPM, PPC, and Pay per Sale/Lead.		
48.06	Determine appropriate affiliate program for target audience.		
48.07	Identify the method to join an affiliate program/network.		
48.08	Identify considerations/requirements of selecting an affiliate program.		
48.09	Determine appropriate number of affiliate programs necessary to suit client site.		
48.10	Determine the terms and conditions of sale, including warranties, after-sales service, and privacy assurances.		
48.11	Determine customer service options (e.g., e-mail, phone, fax).		
48.12	Create a site map.		
48.13	Create a Frequently Asked Questions (FAQ) page.		
48.14	Create a product/version comparison chart, where appropriate.		
48.15	Create feedback, review, survey, and recommendation pages.		
49.0	Develop evaluation and performance monitoring metrics and target goals for an E-commerce website. – The student will be able to:		
49.01	Research existing and emerging analytical, usability, SEO tools to improve customer satisfaction and site conversion rates.		
49.02	Describe web analytics tools and their features/functions.		
49.03	Use web analytics tools to determine optimum site keywords.		
49.04	Experiment with using advanced segments to view subsets of data (relating to purchasing habits, website usage, searches).		
49.05	Customize analytic reports using appropriate metrics (e.g., average per-visit value, bounce rates, time spent on page).		
49.06	Create more concise reports using advanced filters in web analytics tools.		
49.07	Use intelligence features of web analytics tools to discover patterns of usage and setup		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	corresponding alerts.		
49.08	Research popular mobile analytics tools (e.g., Motally) and their features.		
49.09	Interpret analytic report data and optimize website accordingly, if appropriate.		

Florida Department of Education
Student Performance Standards

Course Title: **Interactivity Essentials**
Course Number: **9001160**
Course Credit: **1**

Course Description:

This course provides instruction on technologies and techniques for enhancing the interactivity of websites from both site visitor and administration perspectives. Also covered are methods for PDF forms handling and content management.

Abbreviations:
FS-M/LA = Florida State Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
50.0	Demonstrate an understanding of Content Management Systems (CMS) and their implications for web development. – The student will be able to:		
50.01	Describe the fundamental operation of a CMS.		
50.02	Describe the typical features of a content management system.		
50.03	Compare and contrast popular CMS applications (e.g., WordPress, Joomla).		
50.04	Describe how a content management system can be used to enhance website interactivity.		
50.05	Demonstrate proficiency installing and configuring content management systems and extensions/modules.		
51.0	Use CMS features, functions, and extensions/modules to create/enhance a website. – The student will be able to:		
51.01	Create a basic multipage website using a content management system.		
51.02	Enhance a webpage by using a content management system to incorporate images, animations, or video segments.		
51.03	Incorporate a blog feature into a website using a content management system.		
51.04	Demonstrate proficiency using CMS built-in security for website, password and database backup.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	51.05 Demonstrate proficiency using add-on modules, or plug-ins.		
52.0	Evaluate the suitability for and system requirements for a content management system. – The student will be able to:		
	52.01 Identify business goals and evaluate their suitability for a content management system.		
	52.02 Determine web hosting system requirements.		
	52.03 Create a schema for creating, deleting, and managing users and their permissions.		
	52.04 Discuss the value represented by templates in a content management system development environment.		
53.0	Demonstrate an understanding of multimedia applications and their implications for web designers. – The student will be able to:		
	53.01 Compare and contrast the leading multimedia development applications for website development (e.g., Adobe Flash, Microsoft Silverlight).		
	53.02 Describe those circumstances whereby multimedia may be used to add interactivity to a website.		
	53.03 Describe the limitations of multimedia development applications relative to website development.		
54.0	Create and incorporate interactive website components. – The student will be able to:		
	54.01 Create buttons, menus, and other components that feature a static, hover, and rollover effect.		
	54.02 Convert original artwork into an interactive component with associated script behavior.		
	54.03 Adjust the component properties including opacity, filter, rotation, and action.		
	54.04 Resize a multi-layer component to ensure uniform resizing of each layer.		
	54.05 Create scrolling images, panels, and lists for incorporating into a web design.		
	54.06 Create and incorporate animated banners, headers, and website introduction pages (e.g., Adobe Flash, Microsoft Silverlight).		
55.0	PDF document usage considerations. – The student will be able to:		
	55.01 Discuss the advantages and disadvantages of using PDF documents in a web site.		
	55.02 Research and discuss PDF document usage best practices.		
	55.03 Determine when it is appropriate to use PDF documents (e.g., brochure downloads, large reports, catalogs, interactive forms).		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
55.04	Compare and contrast the functionality of software applications used to create and process PDFs.		
55.05	Research and describe search engine optimization considerations related to the use of PDF documents.		
55.06	Research and discuss security issues related to PDF document usage in a web site (viruses, auto-open).		
55.07	Identify accessibility issues related to using PDF documents in a web site.		
56.0	Create, format, and manipulate PDF documents. – The student will be able to:		
56.01	List & describe the methods available for creating PDF documents.		
56.02	Create a PDF using a variety of software applications, multiple files, and web pages.		
56.03	Demonstrate ability to format, modify and enhance a PDF document.		
56.04	Describe the differences in PDF standards for document prepress data interchange and long-term archiving.		
56.05	Embed images, text, audio, video, and Flash content into a PDF document.		
56.06	Create and modify automatically generated and manual bookmarks in a PDF document.		
56.07	Add clickable links to a PDF document.		
56.08	Incorporate Find and Search methods to locate specific text in a PDF document.		
56.09	Describe the method used to search scanned documents (optical character recognition).		
56.10	Understand and correct color separation issues.		
56.11	Create and modify PDF documents using available tools to meet accessibility requirements (e.g., tags, reading order, forms, supplemental content for multimedia, text-to-speech).		
56.12	Export a PDF document in a different format.		
57.0	Display, distribution, and print considerations for PDF documents. – The student will be able to:		
57.01	Define file specifications use to generate smaller files for electronic distribution and on-screen display.		
57.02	Specify image downsampling and compression settings to generate a PDF file with a smaller file size.		
57.03	Identify and correct potential printing issues in a PDF document.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
57.04	Ensure a PDF document meets appropriate criteria for print or electronic distribution.		
57.05	Demonstrate ability to control flattening of a transparent PDF document and misregistration.		
57.06	Demonstrate color management techniques that affect on-screen display and printing.		
57.07	Discuss methods and tools used to review a PDF document (email, shared, tracking).		
58.0	Create and manage PDF forms. – The student will be able to:		
58.01	Create an interactive from using fields, form objects, and distribution methods.		
58.02	Distribute a form electronically and manage distributed forms.		
58.03	Demonstrate ability to redact content in a form to protect sensitive information.		
58.04	Preview, test, and modify an interactive form.		
59.0	Incorporate PDF security in a PDF document. – The student will be able to:		
59.01	Secure a PDF document using passwords, encryption, digital IDs and signatures.		
59.02	Creating Security Policies and Certificates for a PDF document.		
59.03	Enable usage rights for Adobe Readers.		
60.0	Demonstrate proficiency using HTML5 features and functions. – The student will be able to:		
60.01	Apply HTML5 APIs in web pages for interactivity (e.g., audio/video, drag & drop, drawing canvas).		
60.02	Apply HTML5 interactivity elements into web pages (i.e., <canvas>, <embed>, <audio>, <video>, <details> <input>).		
60.03	Utilize HTML5 fallback strategies to address browser support issues.		
60.04	Utilize HTML5 to define dynamic behaviors using JavaScript.		
60.05	Use HTML5 specification to manipulate text and images.		
60.06	Use HTML5 to create persistent data and single session storage (HTML 5 Local Offline Storage & Session Storage).		
60.07	Use HTML5 for media event handling (audio, video, embed, image).		
60.08	Use HTML5 event handling for window, mouse, and form events.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
60.09 Use CSS3 to style HTML5 (e.g., transitions, typography enhancements).		