



El Camino College  
COURSE OUTLINE OF RECORD – Official

<b>Course Acronym:</b>	CIS
<b>Course Number:</b>	133
<b>Descriptive Title:</b>	Mashup JavaScript, jQuery and AJAX
<b>Division:</b>	Business
<b>Department:</b>	Computer Information Systems
<b>Course Disciplines:</b>	Computer Information Systems
<b>Catalog Description:</b>	<p>The fundamental concepts and structures of programming for the Web using client-side markup languages and the JavaScript programming language are covered. Students will develop web programs using conditional structures, variables, classes, objects, functions, events, arrays, windows, and forms. Standard documentation, testing and debugging techniques, used in the creation of eBusiness applications will be covered. Additional topics include an introduction to jQuery, XML and JSON data structures, and AJAX technologies used in web services.</p> <p>Note: Letter grade or pass/no pass option.</p>
<b>Prerequisite:</b>	Computer Information Systems 13 with a minimum grade of C or equivalent experience
<b>Co-requisite:</b>	
<b>Recommended Preparation:</b>	
<b>Enrollment Limitation:</b>	
<b>Hours Lecture (per week):</b>	3
<b>Hours Laboratory (per week):</b>	3
<b>Outside Study Hours:</b>	6
<b>Total Course Hours:</b>	108
<b>Course Units:</b>	4
<b>Grading Method:</b>	Letter Grade and Pass/No Pass
<b>Credit Status:</b>	Credit, degree applicable
<b>Transfer CSU:</b>	Yes
<b>Effective Date:</b>	05/21/2007
<b>Transfer UC:</b>	No
<b>Effective Date:</b>	
<b>General Education: ECC</b>	
<b>Term:</b>	
<b>Other:</b>	

<b>CSU GE:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>IGETC:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>Student Learning Outcomes:</b>	<p><b>SLO #1 Fundamental Concepts of Client-Side Programming</b></p> <p>Students will demonstrate their ability to bring excitement to web pages using the fundamental components in the JavaScript programming language, including form data validation techniques, event handling using functions, timers, and control structures, repetitive programming methods, objects and object models, and the jQuery library.</p> <p><b>SLO #2 Incorporating Data in Client-Side Programs</b></p> <p>Students will demonstrate their ability to incorporate client side data storage and transmission techniques using cookies, hidden form fields, querystrings, eXtensible Markup language (XML), JavaScript Object Notation (JSON), and Asynchronous JavaScript and XML (AJAX).</p> <p><b>SLO #3 Developing a Software Application for the Web</b></p> <p>Students will demonstrate the ability to create an e-commerce website that includes a fully functioning shopping cart and checkout/payment process, using a web development approach that incorporates planning, designing, coding, testing, and publishing to a web server.</p>
<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. Design and develop websites and web programs using standard documentation techniques.</li> <li>2. Design and code web pages using markup languages, scripting language, and web services.</li> <li>3. Assess programs using logic and syntax verification, testing and debugging techniques.</li> <li>4. Create an e-business application using program development methodology.</li> </ol>
<b>Major Topics:</b>	<p><b>I. The Web Programming Environment (2 hours, lecture)</b></p> <p>A. Browsers</p> <p>B. Editors</p> <p>C. Web Servers</p> <p><b>II. Markup Languages (6 hours, lecture)</b></p> <p>A. HTML 5</p> <p>B. Elements</p> <p>C. Attributes</p> <p><b>III. Cascading Style Sheets (4 hours, lecture)</b></p>

A. Declarations

B. Selectors

C. Properties

**IV. Program Development Life Cycle (4 hours, lecture)**

A. Methodology

B. Analysis and design

C. Business and technical specifications

D. Development documentation

E. Use Case testing

F. Debugging

**V. Fundamentals of JavaScript and jQuery (17 hours, lecture)**

A. Syntax

B. Variables

C. Functions

D. Events and event Listeners

E. Conditional structures

F. Decision statements

G. Iterations using loops and switches

**VI. Forms (6 hours, lecture)**

A. User Interface design

B. Form controls

C. Validation methods

**VII. Object Based Programming (6 hours, lecture)**

A. Base classes

B. Objects and Custom Objects

C. Properties

D. Methods

**VIII. XML and JSON Data Structures (3 hours, lecture)**

A. Syntax

B. Object literals

C. Extensible Style Sheet Transformations (XSLT)

**IX. AJAX (6 hours, lecture)**

A. Asynchronous Transmissions

B. Web Services

C. Data parsing methods

D. Parent and Child nodes

**X. The Web Programming Environment (1.5 hours, lab)**

A. Browsers

B. Editors

C. Web Servers

D. Host providers

**XI. Markup Languages (6 hours, lab)**

A. HTML5

B. Elements

C. Attributes

**XII. Cascading Style Sheets (4.5 hours, lab)**

A. Inline styling

B. Internal Styles

C. External Styles

**XIII. Javascript and jQuery (17 hours, lab)**

A. Syntax

B. Variables

C. Functions

D. Events and event Listeners

E. Conditional structures

F. Decision statements

G. Iterations using loops and switches

**XIV. Forms (4 hours, lab)**

A. Forms design

B. Transmission considerations

C. Form controls

D. Validation methods

**XV. Object Based Programming (6 hours, lab)**

A. Base classes

B. Intrinsic and Custom Objects

C. Properties

D. Methods

**XVI. XML and JSON Data Structures (3 hours, lab)**

A. Syntax

B. Object Literals

C. XSLT

**XVII. AJAX (6 hours, lab)**

A. Asynchronous Transmissions

B. Web Services

C. Data parsing methods

D. Parent and Child nodes

**XVIII. Designing and Developing eBusiness Web Sites (6 hours, lab)**

A. Requirements

B. Analysis and Design

	<p>C. Technical specifications</p> <p>D. Development</p> <p>E. Use cases and testing</p> <p>F. Debugging</p>
<b>Total Lecture Hours:</b>	54
<b>Total Laboratory Hours:</b>	54
<b>Total Hours:</b>	108
<b>Primary Method of Evaluation:</b>	3) Skills demonstration
<b>Typical Assignment Using Primary Method of Evaluation:</b>	Using a scripting language, create a purchase order form for a hardware store. Include selection lists for standard items such as hammers, wrenches, and other tools. Validate customer input accuracy code using Javascript and jQuery. Include verification that customers have filled out the required information such as billing and shipping information on the purchase order. Save the file as PurchaseOrder.html. Test and debug the program. Install on web server for evaluation. Submit code.
<b>Critical Thinking Assignment 1:</b>	<p>Your boss at the Savvy Shopper tells you that your Web site must be compliant with both the Microsoft and Chrome browsers. You are told that you can use any script that is compliant with ECMA Script (European Computer Manufacturers Association) Standards. Locate and document what JavaScript and jQuery features you can and cannot use in your site.</p> <p>Use the MSDN Online Library and other online resources to locate information about ECMA Script, JavaScript, and jQuery. Compare and contrast some of the features of each scripting language. Create a Web page that describes your findings.</p>
<b>Critical Thinking Assignment 2:</b>	<p>You have been hired as a consultant to create a multi-page Web site that maintains employee data. The information collected on one web page will be available to other web pages in the web site. You have decided to store the collected information in a custom object named employee.</p> <p>a. Create a Web page named customerForm.html. This web page will present a form to collect data. Validate that the form is properly completed, and create a custom object to store the user's name, address, email address, phone number, and department.</p> <p>b. The names of the properties should be: first, last, street, city, state, zip code, email address, phone and department. Create methods to both get and set the data.</p> <p>c. Create another web page named displayCustomer.htm that will display the employee information stored in the custom object.</p> <p>d. Upload to the web server and debug and test the Web pages. Submit code for evaluation.</p>
<b>Other Evaluation Methods:</b>	Homework Problems, Objective Exam, Other (specify), Performance Exams, Quizzes
<b>Instructional Methods:</b>	Demonstration, Group Activities, Lab, Lecture, Other (specify)

<b>If other:</b>	
<b>Work Outside of Class:</b>	Answer questions, Problem solving activity, Required reading, Skill practice, Study, Written work (such as essay/composition/report/analysis/research)
<b>If Other:</b>	
<b>Up-To-Date Representative Textbooks:</b>	David Flanagan, <i>JavaScript: The Definitive Guide 7<sup>th</sup> Edition</i> . O'Reilly, 2020.
<b>Alternative Textbooks:</b>	
<b>Required Supplementary Readings:</b>	
<b>Other Required Materials:</b>	Flash Memory Stick
<b>Requisite:</b>	Prerequisite
<b>Category:</b>	sequential
<b>Requisite course(s): List both prerequisites and corequisites in this box.</b>	Computer Information Systems 13 with a minimum grade of C or
<b>Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	<p><b>Computer literacy</b></p> <p><b>Demonstrate an understanding of the development and use of information systems in business.</b></p> <p>CIS 13 - Solve common business problems using appropriate information technology applications and systems.</p> <p>CIS 13 - Explain the development and use of information systems in business.</p>
<b>Requisite Skill:</b>	Equivalent experience
<b>Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable</b>	Demonstrate an understanding of the development and use of information systems in business.
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<b>each skill(s). If applicable</b>	
<b>Enrollment Limitations and Category:</b>	
<b>Enrollment Limitations Impact:</b>	
<b>Course Created by:</b>	Jacquelyn Thompson
<b>Date:</b>	09/01/2000
<b>Original Board Approval Date:</b>	02/20/2001
<b>Last Reviewed and/or Revised by:</b>	M. Chaban
<b>Date:</b>	10/10/2018
<b>Last Board Approval Date:</b>	12/19/2022