CS 55.11 Course Outline as of Fall 2015

CATALOG INFORMATION

Dept and Nbr: CS 55.11 Title: JAVASCRIPT, JQUERY, AJAX
Full Title: Programming Webpages with JavaScript, jQuery and AJAX
Last Reviewed: 1/26/2015

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	CIS 54.13

Catalog Description:
JavaScript is a cross-platform, object-based scripting language. This course provides a solid foundation in JavaScript and shows students how to create scripts and incorporate them into webpages. Projects include writing Javascript and jQuery programs that manage dynamic content and webpage elements such as image slideshows; menus, tabs and panels; form controls and dialogues. Students will also create data-driven web elements using AJAX and API interfaces to web services such as maps and social media.

Prerequisites/Corequisites:
Course Completion of CS 50.11B OR Course Completion of CS 50A

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: JavaScript is a cross-platform, object-based scripting language. This course provides a solid foundation in JavaScript and shows students how to create scripts and incorporate them into webpages. Projects include writing Javascript and jQuery programs that

manage dynamic content and webpage elements such as image slideshows; menus, tabs and panels; form controls and dialogues. Students will also create data-driven web elements using AJAX and API interfaces to web services such as maps and social media. (Grade Only)
Prerequisites/Corequisites: Course Completion of CS 50.11B OR Course Completion of CS 50A
Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
IGETC:	**Transfer Area**			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1998	Inactive:	Fall 2019
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of the course, students will be able to:
1. Analyze and customize Javascript code.
2. Write JavaScript, jQuery, and AJAX code that selects and manages document elements, validates form data, creates interactive elements, accesses server data.
3. Apply appropriate user experience and interactive design concepts to custom websites.
4. Demonstrate JavaScript scripting skills in a variety of student-designed projects.

Topics and Scope:

1. Introduction to JavaScript
   a. SCRIPT and NOSCRIPT tags
   b. Placing JavaScript on a webpage
   c. Using variables
2. JavaScript Fundamentals
   a. Using functions
   b. Operators
   c. Conditionals and loops
3. Putting JavaScript to Work
   a. Events
   b. The navigator object
   c. Cookies and local data
   d. JavaScript timers: SetTimeout and SetInterval
4. The Document and Window Objects

a. Properties and methods of the DOM (Document Object Model)
b. Uses and best practices

5. Arrays
   a. JavaScript arrays
   b. Properties and methods of arrays
   c. Associative arrays
6. Working with Numbers and Dates
   a. The math object
   b. The number object
   c. The date object
7. Working with Strings
8. Working with Forms
   a. Accessing the form element
   b. The form object
   c. Accessibility
   d. Validation
   e. Using form-based navigation
   f. Form widgets in libraries and HTML5 (Hypertext Markup Language 5)
9. Working with Dynamic Data
   a. Asynchronous JavaScript and Extensible Markup Language (AJAX), Extensible Markup Language (XML) and JavaScript Object Notation (JSON)
   b. Dynamic data using jQuery
10. Introduction to jQuery
    a. What is jQuery
    b. Downloading data using jQuery
11. jQuery: Styling Elements
    a. Selecting elements
    b. Reading and setting Cascading Style Sheets (CSS) properties
    c. Classes
    d. Adding and removing elements
    e. Modifying content
12. jQuery: Animating Elements
    a. Easing
    b. Animated navigation
    c. Scrolling
    d. Resizing
13. jQuery: Images and Slideshows
    a. Simple custom lightbox
    b. jCrop
    c. Crossfading
14. jQuery: Navigation
    a. Collapsible menus
    b. Accordions
    c. Tabs
    d. Panels

Assignment:

Students will:

1. Create 6-8 original JavaScripts and incorporate them into a website.
2. Download, customize and integrate 3-4 existing JavaScript components into the website.
3. Download and deploy the jQuery library in 2-3 webpage features.

4. Create a unified website incorporating all class projects and materials.
5. 6-10 unit exams.
6. Reading approximately 25 pages per week

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

JavaScript programming assignments and website projects	Problem solving 50 - 70%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

6-10 unit exams	Exams 20 - 40%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation	Other Category 0 - 10%

Representative Textbooks and Materials:
JavaScript: A Beginner’s Guide (3rd edition), Pollock, John McGraw-Hill: 2010 (Classic)
jQuery: Novice to Ninja, Castledine, Earle and Sharkie, Craig, Sitepoint: 2010 (Classic)
JavaScript: The Definitive Guide (6th edition) Flanagan, David, O'Reilly and Associates: 2010 (Classic)