

MAT 175

WEB DESIGN : JAVASCRIPT+ JQUERY

CATALOG DESCRIPTION

This course introduces web design students to JavaScript and jQuery for interactive web development, including how JavaScript can be used in conjunction with HTML and CSS to add interactivity, animation, visual effects, and advanced functionality to web pages. Students explore interface design and core programming concepts in JavaScript and jQuery to create rich user experiences, manage dynamic content, create animation, and make web pages more interactive and intuitive. Students learn to design and script user interface elements common on websites, such as content sliders, interactive galleries, and more. Students also learn to use the HTML5 canvas element with JavaScript to draw, animate, and create interactive graphics for HTML5 games or web applications. Topics also include integrating and customizing jQuery plugins, working with AJAX, and using API interfaces to web services, such as maps and social media.

STUDENT LEARNING OUTCOMES

The MiraCosta faculty believe that students who complete one or more certificates or degrees are systematic, critical, creative thinkers and clear communicators who are intellectually curious, technically proficient, professional, and aesthetically literate. To that end, the faculty has identified seven Student Learning Outcomes (SLO's) that apply directly to the high-level skills you are expected to possess in the workforce: Technical Skills, Application of Discipline Skills, Critical Thinking and Problem Solving, Communication, Professional Behavior, Aesthetic Literacy and Appreciation, and Global Awareness and Responsible Citizenship.

To achieve this goal, you are expected to achieve competency in the following course-level Student Learning Outcomes, each of which help you achieve one or more of the above outcomes:

1. Plan, design, and produce user interfaces, websites, and/ or web applications that utilize JavaScript and jQuery programming techniques to enable advanced functionality, interactivity, animation, and/ or special effects.
2. Demonstrate understanding of JavaScript and JQuery scripting fundamentals.
3. Analyze and evaluate website applications for design, efficiency, and usability.

COURSE OBJECTIVES

Students will learn to:

1. Identify the capabilities of JavaScript and jQuery and their role in web design and the document object model.
2. Define and apply appropriate project programming techniques using JavaScript and jQuery in conjunction

Spring 2015

MiraCosta College

Section #2805

50% in OC4610 + 50% ONLINE

THURS, 5:30 P.M. – 9:20 P.M.

This is a hybrid online class. Students are required to attend 8 on-campus class sessions (every other week) on the following dates: 1/22, 2/5, 2/19, 3/5, 3/26, 4/9, 4/23, 5/7.

Instructor: Karl Cleveland

E-mail: kcleveland@miracosta.edu

Phone: 760.757.2121 x6365

Office Hours (OC4623):

THURS, 1:30 P.M. – 3:30 P.M.

Or by Appointment

Website: <http://karlcleveland.com/175>

<http://karlcleveland.com/175>

with HTML and CSS.

3. Write and troubleshoot JavaScript statements, commands, variables, operators, conditionals, loops, arrays, and functions.
4. Respond to user events using JavaScript and jQuery, creating interactivity.
5. Select and modify page elements and create special visual effects and animation using events and jQuery functions.
6. Utilize AJAX for dynamic content loading.
7. Utilize the HTML5 canvas element to draw, animate, and add interactivity to elements.
8. Utilize JavaScript libraries, toolkits, plugins, and APIs to add specialized functionality to web pages.
9. Develop and apply appropriate website or web application information architectures.
10. Design effective user interfaces.
11. Utilize software tools and development frameworks for efficient workflow.
12. Evaluate website applications for design, efficiency, and usability.

Design skills, design and development processes, personal expression, content development, project management, and trends in visual communication as they relate to programming and interactive media will be emphasized along with the learning of programming concepts and techniques.

READING + TUTORIALS

Required Online Video Tutorials

- Instructor created instructional videos (on the class website)

Required Online Interactive Tutorials

- codecademy.com/tracks/javascript
- codecademy.com/tracks/jquery

Optional Supplemental Video Tutorials

- Lynda.com instructional videos

Required Reading

- *JavaScript & jQuery: Interactive Front-End Web Development* by Jon Duckett (Wiley)
- Assigned web pages or web resources

Optional Reading

- *Form + Code in Design, Art, and Architecture: A Guide to Computational Aesthetics* by Casey Reas and Chandler McWilliams
- *Game Design with HTML5 & JavaScript* by Rex van der Spuy
- *HTML5 Animation with JavaScript* by Billy Lambert and Keith Peters
- *Dom Scripting: Web Design with JavaScript and the Document Object Model* by Jeremy Keith
- *JavaScript: The Definitive Guide* by David Flanagan
- *HTML5 Canvas for Games and Entertainment* by Rob Hawkes
- *JavaScript and jQuery: Training and Reference* by Zak Ruvalcaba and Mike Murach
- *jQuery Cookbook* by jQuery Community Experts
- *jQuery - Pocket Reference* by David Flanagan

The instructor can suggest other books and reference material.

Percentage	Points	Grade
90 – 100%	90 – 100	A
80 – 89%	80 – 89	B
70 – 79%	70 – 79	C
60 – 69%	60 – 69	D
00 – 59%	0 – 59	F

Grading Guidelines

A – Outstanding achievement; available only for the highest accomplishment.

B – Praiseworthy performance; definitely above average.

C – Average; awarded for satisfactory performance.

D – Minimally passing; less than average achievement for undergraduate students.

F – Failing.

An incomplete grade will only be granted for extenuating circumstances.

Lab Hours

Computer lab hours are available to students in the Library and Information Hub. The library is generally open:
M – TH, 8 a.m. – 9:30 p.m.
FRI, 8:00 a.m. – 3:00 p.m.
SAT, 10:00 a.m. – 5:00 p.m.

Attendance and Participation

Participation in class will be considered as part of your course grade. Students are expected to attend and be on time to every class and to participate in online activities and class discussions. If you decide to withdraw from the course, you must file the appropriate paperwork or risk receiving an “F” in the class.

Due Dates

All work is expected to be completed by the due dates. Late work may be lowered by one letter grade for each class meeting that it is late.

Prerequisites/Advisories

MAT 125 is prerequisite. MAT 165 is advised.

Classroom Rules

All students are expected to follow the rules of the computer lab. No food or drinks are allowed in the classroom. Cell phones and electronic devices should be turned off while in the classroom. No browsing the Internet, instant messaging, playing computer games, or writing e-mail during active classroom time.

CLASS MATERIALS

- Dreamweaver CC (or other web/code editor)
- USB Flash Memory Drive/Key
- A sketchbook or notebook

GRADING AND EVALUATION

Total Possible Points = 100

- Exercises: 40 points (40%)
- Final Game or App Project: 20 points (20%)
- Code Library: 15 points (15%)
- Code Quizzes: 5 points (5%)
- Online Participation, Activities, and Blogging: 12 points (12%)
- Overall Class Participation: 5 points (5%)
- Index Page: 3 points (3%)

Exercises/Applications (40 points)

Web application exercises will be assigned to provide hands-on experience with key concepts from course lectures and demonstrations. Exercises will often include both design (artistic) and technical (coding) elements and take 1-2 weeks of programming and production time.

Final Game or App Project (20 points)

Students will conceive, design, produce, and program (using JavaScript/jQuery) one robust game or interactive web application project that will require several weeks of programming and production time.

Code Library (15 points)

As the class progresses, students are expected to generate multiple sample scripts and/or code snippets that demonstrate code fundamentals or programmatic techniques. These will be largely technical explorations based on assigned tutorials or reading. Students will upload/store these scripts and sample files in their own *codeLibrary* folder on the class server.

Code Quizzes (5 points)

In-class or online coding quizzes will be given as we progress through the semester to assess your comprehension of the material provided in course lectures, videos, the textbook, and/or other materials. Quizzes will test specific knowledge of core JavaScript and/or jQuery programming concepts. Advanced notice and instructions regarding quizzes will be given at least one week prior to the quiz. There are no make-up quizzes. Attendance on the day of an in-class quiz is critical as you must be present to take a quiz.

Online Participation, Activities, and Blogging (12 points)

Online activities include providing evidence of completion of codecademy.com JavaScript and jQuery tutorials, participation in online discussion forums, class blogging assignments, online critiques, and/or other online activities as assigned.

Index Page (3 points)

Students will design, produce, and program an 'artistic' or 'experimental' webpage that will serve as their index of work in the class and link to their class exercises, final project, and code library. This 'index' page should incorporate interesting design and programmatic elements.

Overall Class Participation (5 points)

The instructor will assess your overall level of engagement and participation in class activities and discussions, both in-class and online.

Conduct

All students are expected to follow the administrative rules and standards of conduct detailed in the college catalog. Students are expected to be respectful and professional in their interactions with the instructor and other students in the class. Students are expected to produce original work and not use pre-packaged templates or copy web designs or code that is not their own. Plagiarism may result in a failing grade and other consequences. A student may not use or copy by any means another's work (or portions of it) and represent it as his/her own. Quotations, photographs, or other artwork used by a student should be given appropriate credit or reference.

Instructor Contact

Regular effective contact and interaction with the instructor will be maintained through 8 on-ground class sessions and instructor-prepared electronic lectures, weekly updates to the class website, email announcements, active online discussion and question and answer forums, weekly office hours, web conferencing or screen-sharing sessions, instructor feedback on student work, and through responding to student emails, phone calls, and/or other questions or postings in a timely manner. Students can reasonably expect to hear back from the instructor within 48 hours (excluding weekends and holidays) for most inquiries. If the instructor expects to be absent and unable to post materials and/or respond to email or discussion forums in excess of three or four days, he will notify the class and make other accommodations. If you have concerns about instructor contact or any other regard, please refer to the section on Students Rights in the MiraCosta College catalog.

Disability Accommodations

Students with a disability may be entitled to accommodations and are encouraged to notify the instructor and contact the Disabled Students Programs & Services (DSPS) office as soon as possible. The DSPS office is located in Building 3000 and can be reached at 760-795-6658.

Administrative Dates

1/30 is the "Add" deadline and the "Drop" deadline (without a "W" recorded). 2/23 is the last day to petition for Pass/No Pass grading option. 4/23 is the "Withdraw" deadline (with "W" recorded).