Web Front-end Development (CPSC 349)
Syllabus, Fall 2019

Catalog description

Concepts and architecture of interactive web applications. Markup, stylesheets, templates and frameworks. Functional and object-oriented aspects of JavaScript. Model-view design patterns. Asynchronous events, WebSocket and real-time techniques. HTTP server architecture, web services & non-relational datastores. Workflow, staging, cloud deployment.

Learning Goals

● Differentiate among structure, presentation, and behavior in applications based on web standards ● Gain experience with web application workflow and staging
● Become fluent in functional and OO JavaScript
● Apply stylesheets and CSS frameworks to web applications
● Gain ability to use back-end languages and frameworks such as php and Node.js to create full-stack solutions
● Become adept in using databases such as MySQL and non-SQL databases such as MongoDB
● Become fluent in using front-end, JavaScript frameworks such as jQuery, Bootstrap, and React.js
● Construct applications using front-end technologies, real-time updates, and the MVC (model-view-controller) and MVVM (model-view-viewmodel) design patterns

Prerequisites: CPSC 131 (Data structures)

Texts

Front-End Web Development: The Big Nerd Ranch Guide, Chris Aquino & Todd Gandee, Pearson, 2016, 0134433947.

JavaScript: The Good Parts, by Douglas Crockford, O'Reilly, 2008, 978-0596517748
JavaScript for PHP Developers, by Stoyan Stefanov, O'Reilly, 2013, 978-1449320195
jQuery in Easy Steps, by Mike McGrath, East Steps Publishing, 2014, 978-1840786194
Bootstrap: Responsive Web Development, by Jake Spurlock, O'Reilly, 978-1449343910
php 7 in Easy Steps, by Mike McGrath, East Steps Publishing, 2017, 978-1840786194

React, Up and Running, Building Web Applications, by Stoyan Stefanov, O'Reilly, 9781491931820 *Learning React,* by Alex Banks & Eve Porcello, O'Reilly, 978-149-1954621

Many popular technical books are available through the university's Safari Books Online subscription.

Class Meetings (349-01) EC-109 T: 1900-2145

Instructor

William McCarthy
wmccarthy@fullerton.edu
(final exam) T: 17 December, 1900-2050
Office: CS 401
657-278-3700.
Email is the best way of reaching me.

Office hours

CS-401
Tu 1430–1530, **W** 1330-1530,
or by appointment.
During final exams, office hours are only by appointment.

Course schedule (subject to change)

Week	Topic	
1	Introduction, beginning of class details *(1st day of class: T: 27 August)* Chapter 1: setting up your development environment, Chapter 2: SETTING UP YOUR FIRST PROJECT	
2	Chapter 3: STYLES, Chapter 4: RESPONSIVE LAYOUTS WITH FLEXBOX	hw-0 completed (do not turn in)
3	Chapter 5: ADAPTIVE LAYOUTS WITH MEDIA QUERIES Chapter 6: HANDLING EVENTS WITH JAVASCRIPT Chapter 7: VISUAL EFFECTS WITH CSS	**hw-1 due** (→ ch. 4)
4	Chapter 8: MODULES, OBJECTS, AND FORMS PROCESSING FORMS WITH JAVASCRIPT	**hw-2 due** (→ ch. 7)
5	Chapter 9: INTRODUCTION TO BOOTSTRAP, Chapter 10: INTRODUCTION TO JQUERY	**hw-3 due** (→ ch. 8)
6	Chapter 11: FROM DATA TO DOM Chapter 12: VALIDATING FORMS	
7	Chapter 13: AJAX RESTFUL WEB SERVICES (http://docs.deployd.com/docs) Chapter 14: DEFERREDS AND PROMISES (covered if time permits)	**hw-4 due** (→ ch. 13)
8	Chapter 15: INTRODUCTION TO NODE.JS Chapter 16: REAL-TIME COMMUNICATION WITH WEB-SOCKETS complete work on Project 1	**hw-5 due** (→ ch. 16)
9	**Project 1 Demonstrations**	**Project 1** and **hw-6 due** (proj. desc.)
10	Chapter 17: USING ES6 WITH BABEL Chapter 18: THE ADVENTURE CONTINUES	
11	Chapter 19: INTRODUCTION TO MVC AND EMBER Chapter 20: (ember.js) ROUTING, ROUTES, AND MODULES	**hw-7 due** (→ ch. 18)
12	Chapter 21: (ember.js) MODELS AND DATA BINDING Chapter 22: (ember.js) DATA-ADAPTERS, SERIALIZERS, & TRANSFORMS	
13	Chapter 23: (ember.js) Views and Templates begin work on Project 2	**hw-8 due** (→ ch. 21)

14	Thanksgiving break	*no class meeting*
15	Chapter 24: (ember.js) CONTROLLERS Chapter 25: (ember.js) COMPONENTS continue work on Project 2	
16	**Project 2 Demonstrations**	(*Last class: T: 10 Dec*) **Project 2 due** and **hw-9 due** (proj. desc.)
---	*No final exam*	

Coursework and grade weighting

Homework *	40%
Project 1	30%
Project 2	30%

*Your lowest **submitted** homework score is dropped automatically, **only if all homework assignments have been submitted, and each homework assignment meets at least 50% of its requirements.** Homework ass**i**gnm**e**nts that are not submitted will receive a 0, and may not be dropped.

Programming and written assignments will be discussed in class and posted to the course website in advance of their due dates. Each assignment description will include the assignment's grading rubric. Reading assignments are outlined in the syllabus and it is the responsibility of the student to stay up to date with the reading. Written assignments must be typeset and presented in a professional manner. Presentation, spelling and grammar can be worth up to 30% of a written assignment's grade.

All programming assignments must be written in the JavaScript programming language, unless specified otherwise. Coding style must conform to professional norms. At a minimum, code must be commented, have descriptive names for identifiers, and contain a comment at the top of each file with pertinent information such as the student's name, email address, and assignment name. A plain text README.TXT must be included with each assignment submission summarizing and documenting the work submitted. For students unfamiliar with coding style, Google's style guides are an excellent starting point, «https://github.com/google/styleguide», particularly their JavaScript style guide, «https://google.github.io/styleguide/jsguide.html».

At the start of the semester, the instructor will detail the platform and tools used to grade student assignments. It is the student's responsibility to ensure that the assignments execute to his or her satisfaction on the instructor's grading platform.

There are approximately:

- 8 programming homework assignments
- 2 group projects
- 2 presentations
- 16 weeks of reading assignments

Exceptions are made on a case by case basis given enough time and evidence to weigh the merits of the application.

The following kinds of submissions cannot be evaluated, and will be assigned a zero score:

- Late submissions
- Email submissions

- Source code that cannot be compiled successfully
- Files that are not in PDF format
- Input/output that is falsified or does not match the submitted source code
- Submissions that are plagiarized or otherwise violate the collaboration guidelines (see below)

Collaboration You will work on projects in a collaborative environment, in groups of three to four students. Partners may work together freely. I expect that each group will complete their own work themselves, with only limited help from other individuals or sources. *Except for working with your group*, the following guidelines apply to collaboration with other resources or persons.

- You may help each other understand the assignment and brainstorm general solutions, but each group must develop and submit their own distinct work.
- You may give each other technical support, for instance, troubleshooting installing Atom, php, MySQL, Apache, Chrome, other development tools and databases, or for logging on to TITANium.
- You can share documented facts, such as the return value of a particular library function.
- Apart from your partner, you must work separately to develop your own detailed solution to the problem, and type in your own source code and project report.

Given these requirements, any submissions with identical excerpts, or excerpts that are identical up to superficial rearrangements, will be considered highly suspect of plagiarism.

Grading

A	**>= 90.0**		**B**	**>= 80.0**		**C**	**>= 70.0**		**D**	**>= 60.0**		**F**	**< 60.0**

Course Policies

Academic dishonesty It is your responsibility to be aware of and follow the spirit of CSU Fullerton's academic honesty policy, which can be found at http://www.fullerton.edu/senate/publications_policies_resolutions/ups/UPS%20300/UPS%20300.021.pdf. Repeated failure to follow the spirit of the academic honesty policy will be reported to the Judicial Affairs office.

ADA accommodations Any student who, because of a disability, may require special arrangements in order to meet course requirements (e.g., for attending class sessions, completing assignments, or taking exams) must contact the instructor and the Office of Disability Support Services as soon as possible to make the necessary arrangements. The instructor may request verification of need from the Dean of Students Office. Students are encouraged to contact the Office of Disability Support Services within the first week of the semester to best ensure that the appropriate accommodations are implemented in a timely fashion. The Office of Disability Support Services website is http://www.fullerton.edu/disabledservices. Their office is located in University Hall, room 101, and they can be reached by phone at 657-278-3117 or TDD at 657-278-2786.

Administrative drops According to department policy, any student who misses the first class meeting, and does not contact the Department office to hold their seat, may be dropped from the class.

Attendance Attending the lectures is considered mandatory. Students are responsible for all course material regardless of whether they are present or absent. Attendance will not be recorded after the first class, and does not factor directly into grades.

Required materials A personal notebook computer with Atom, Chrome, Apache, php 7, jQuery, Bootstrap, Node.js, and MySQL installed. Other development tools, frameworks, and libraries may be installed as needed, depending on the exact project chosen by your group to do.

If you do not have a notebook computer, you may ask me to request one from the SGC (student genius corner) at the library. If computers are available, you may borrow them for one month at a time, renewable until the end of the semester.

Email You have a CSUF-supplied email account, and that is the only way I have of reaching you outside class. Check that account daily for important class announcements and individual messages. I try to respond to all emails within two working days, but occasionally I may take longer than that. Plan accordingly, especially around deadlines.

Student Resources Any student wishing to discuss any concern may contact the Assistant deans of the college, who are student advocates that will help you navigate the university's policies and procedures, and assist you with resolving any conflicts.
Both are located in CS-206A.
Asst. Dean Carlos Santana (Student affairs), csantana@fullerton.edu, 657-278-4407, and
Asst. Dean Lilybeth Sasis (Int'l programs and global engagement), lsasis@fullerton.edu, 657-278-4881.

Emergency procedures For your own safety and the safety of others, each student is expected to read and understand the guidelines published at http://prepare.fullerton.edu. Should an emergency occur, follow the instructions given to you by faculty, staff, and public safety officials. An emergency information recording is available by dialing **657-519-0911**.

Instructional continuity Students must monitor the course TITANium site and their campus email daily for any instructions or assignments that the instructor announces. This is true even in the event of a natural disaster that disrupts normal campus operations.

Extra credit: Extra credit is not available. Please do not ask for extra credit.

Recording & transcription of course content:
http://www.fullerton.edu/senate/publications_policies_resolutions/ups/UPS%20300/UPS%20330.230.pdf is the university policy (UPS 330.230) governing recording class content. Each instructor is expected to permit class content to be transcribed or recorded by students when required to do so by the Americans with Disabilities Act or other relevant state laws. A recording of class content is for private use and study only, and shall not be made publicly accessible without the express written consent of the instuctor and other students in the class.

Grade exceptions At times students tell me, at or near the end of the semester, that they need a passing grade in order to graduate or because they are on academic probation, and ask me if there is anything that can be done. At that time, nothing can be done. If this class is important to you, it is your burden to work hard, come get help when necessary, attend class, complete all the projects, and do well on exams. Your obligation begins on day one. Please note that there is one syllabus for the course; all students are graded based on the requirements outlined in the syllabus, and nothing more. Your grade is solely a function of your graded work. That's an essential part of a fair grading system.

If you are surprised by your grade at the end of the semester, you have the right to ask if the grade was given in error. I am happy to check your scores to verify that no clerical error was made; these errors are extremely rare, but possible. In the exceptional circumstance of a clerical error, it will be corrected promptly. Note that final course grades are non- negotiable, and University policy establishes that grades are given at the sole discretion of the faculty member.
If your grade was not given in error, that is your final, non-negotiable grade.

Grade records Assignment grades are recorded in the course's TITANium grade book facility. You can view the scores that are recorded at any time through TITANium. Please check them for accuracy weekly. TITANium calculates your grade automatically. These calculations are based only on the grades that are currently available. So, for example, the grade calculation will ignore the project category until the first project has been graded. TITANium automatically drops low scores where appropriate, but only once we are far enough

along that at least one score will be counted. (Note: homework assignments that are not submitted, or do not meet at least 50% of the requirements, will not be dropped).

Acknowledgements: portions of this syllabus were based on syllabi created by Kenytt Avery & by Dr. Kevin Wortman.