

Modern Technologies of Web Development

ITP 404x (3 Units)

Objective

Provide students with the necessary skills to build web applications using modern techniques, frameworks, libraries, web services and API's, design patterns, and tools that are used among developers within the industry.

Concepts

This course is intended to teach a combination of new technologies, conventions, and prevalent standards and best practices used in contemporary web development.

Prerequisites

ITP 301 or CSCI 351 (or sufficient experience)

Lecture

3 hrs / week

Course Structure

Students are expected to:

- Participate in lecture discussions and critiques
- Complete weekly lab assignments and projects
- Manage and complete individual class projects

Students are responsible for completing assignments and projects by stated deadlines. Most assignments will be uploaded by students to their USC Web space in an itp404 directory.

Recommended Textbooks

JavaScript Enlightenment by Cody Lindley: O'reilly Publishing, 2013

- Free ebook: <http://www.javascriptenlightenment.com/>
- Eloquent JavaScript: <http://eloquentjavascript.net/>

Grading

Grading will be based on lecture participation, completed assignments and projects, midterm grades, and a final individual project.

Final grades will be determined as follows:

Assignments: 30%

Class Participation: 10%

Midterm Project: 15%

Quizzes: 15%
Individual Final Project: 30%

<i>A</i>	<i>100% - 93%</i>
<i>A-</i>	<i>92% - 90%</i>
<i>B+</i>	<i>89% - 87%</i>
<i>B</i>	<i>86% - 83%</i>
<i>B-</i>	<i>82% - 80%</i>
<i>C+</i>	<i>79% - 77%</i>
<i>C</i>	<i>76% - 73%</i>
<i>C-</i>	<i>72% - 70%</i>
<i>D+</i>	<i>69% - 67%</i>
<i>D</i>	<i>66% - 63%</i>
<i>F</i>	<i>62% and below</i>

Policies

It is the responsibility of the student to make sure projects and assignments are turned in on time. Make sure you follow the procedures outlined in each assignment or project.

Each student will receive 3 assignment extensions to be used at discretion. 5 days after the due date marks the end of the extension.

Academic Integrity

The use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behavior resulting from the nervous tension accompanying examinations. When the professor determines that a violation has occurred, appropriate action, as determined by the instructor, will be taken.

Although working together is encouraged, all work claimed as yours must in fact be your own effort. Students who plagiarize the work of other students will receive zero points and possibly be referred to Student Judicial Affairs and Community Standards (SJACS).

All students should read, understand, and abide by the University Student Conduct Code listed in SCampus, and available at:

<http://www.usc.edu/student-affairs/SJACS/nonacademicreview.html>

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The

phone number for DSP is (213) 740-0776.

Course Outline

- 1 - 8/26 Course introduction / Getting into the industry
Basic JavaScript / jQuery review
Review Exercise (optional)
- 2 - 9/2 Object Oriented JavaScript Pt. 1
The 'this' keyword
Namespacing
'this' and jQuery
Assignment 1
- 3 - 9/9 Overview of communicating with a server
JSON & JSONP
Asynchronous programming
Client-side templating
Event delegation
Assignment 2
- 4 - 9/16 Object Oriented JavaScript Pt. 2
Constructors and Prototypes
Extending native constructors
Assignment 3
- 5 - 9/23 Google Maps JavaScript API
Geolocation API
Assignment 4: Current position mapper
- 6 - 9/30 **Quiz 1**
AJAX, Promises, and REST
Assignment 5
- 7 - 10/7 Intro to Node.js
Midterm Project
- 8 - 10/14 JavaScript Frameworks 1
Assignment 6
- 9 - 10/21 JavaScript Frameworks 2
Assignment 7
- 10 - 10/28 Intro to testing, unit testing, and TDD

Assignment 8

11 - 11/4	Quiz 2 Unit testing part 2 Assignment 9
12 - 11/11	Guest lecture
13 - 11/18	Guest lecture
14 - 11/25	No class (Thanksgiving)
15 - 12/2	Deployment and Continuous Integration Final Project Due

Final Project

Students will develop a web application on a topic of their choice. The web application must utilize several technologies and web services discussed throughout the semester. Detailed requirements will be sent out mid-semester.

Project feature ideas

- Data storage with a Backend-as-a-Service like Parse or Firebase
- Real-time functionality with Web Socket libraries
- Map / API integration