

Full-Stack Web Development

ITP 303 (4 Units)



Objective

This course will teach students front-end and back-end techniques necessary to build web applications. Students will learn how to make websites interactive, how to structure and manage content for websites in databases, and how to create data-driven web applications.

Concepts

Students will first learn front-end technologies including JavaScript, jQuery library, and other JavaScript-based plugins. They will learn how to access and manipulate objects displayed by browsers, as well as client browser properties. Then, the course will teach basics of database design and implementation using relational database management systems (RDBMS). Students will learn how to submit SQL queries to databases and how to create data interfaces using PHP scripting language. The course will also introduce Model-View- Controller (MVC) design pattern, and software frameworks adhering to MVC. Students will be working with web servers, database tools, integrated development environments (IDEs), and other technologies currently used in the web industry.

Prerequisites

CSCI 104 or ITP 365

Instructor

Zune Nguyen

Contact

tridungn@usc.edu

Office Hours

See course website

Lecture and Lab

Tuesday, Thursday 2pm - 3:50pm, KAP 107

Website

<http://itpwebdev.com/>

Textbooks

None

Grading

The following percentage breakdown will be used in determining the grade for the course.

Assignments	30%
Attendance, Participation, Labs	15%

Midterm Exam	20%
Final Project	35%
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Total	100%

Grading Scale

The following shows the grading scale to be used to determine the letter grade.

A	93% or up
A-	90% - 92.99%
B+	87% - 89.99%
B	83% - 86.99%
B-	80% - 82.99%
C+	77% - 79.99%
C	73% - 76.99%
C-	70% - 72.99%
D+	67% - 69.99%
D	65% - 66.99%
F	64.99% or below

Policies

Exams

No make-up exams (except for documented medical or family emergencies) will be offered.

Attendance

Attendance is mandatory; you can miss up to **two** lectures without affecting your grade.

Labs

Labs must be demonstrated to TAs before leaving lab session. No late lab submissions are accepted.

Late Assignments

10% per day penalty is applied for late assignments. No submissions are accepted 4 days after due date.

Incomplete and Missing Grades

Excerpts for this section have been taken from the University Grading Handbook, located at <http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html>. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) “is assigned when work is not completed because of documented illness or other ‘emergency’ **occurring after the twelfth week** of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

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 your course instructor (or TA) as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam.

DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Contact info: 213-740-0776 (Phone), 213-740-6948 (TDD only), 213-740-8216 (FAX), ability@usc.edu, http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism - presenting someone else’s ideas as your own, either verbatim or recast in your own words - is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/public-safety/online-forms/contact-us>. This is important for the safety whole USC community. Another member of the university community - such as a friend, classmate, advisor, or faculty member - can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men*

<http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

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Course Outline

Subject to change throughout the semester

Week	Lecture	Lab	Assignment
1	Course Overview Intro to Web Pages and HTML HTML & CSS	L1: FileZilla L2: Student Pages	A1: TV Show / Movie Article
2	Compound CSS Selectors, Layouts, Pseudo-Classes External CSS, Fonts, Responsive Web Design	L3: Responsive Student Page	A2: Responsive TV Show / Movie Article
3	Intro to JavaScript JS String Operations, Form Validation	L4: JS Photo Gallery	A3: JS Calculator
4	String Operations, Regular Expressions JavaScript Objects		A4: RegExp Validation
5	JSON, JSONP AJAX	L5: MySQL Workbench	A5: AJAX – The Movie DB
6	Database Basics, Designing Databases Intro to SQL, Retrieving Data from DB	L6: Simple Film Database Design	A6: Football Schedule Database Design, SQL SELECT Statements
7	<i>Lecture Canceled</i> Data Manipulation in SQL	L7: MAMP	A7: Full SQL Statements
8	Intro to PHP	L8: PHP Page	A8: DVD Search Page

	PHP MySQLi	
9	Midterm Exam	
10	Insert, Detail Pages Edit, Delete Pages	A9: DVD CRUD Pages
11	<i>Lecture Canceled</i> Include, Require, Constants, Pagination	A10: Final Project Proposal
12	Sessions, Cookies Membership System, AJAX, Sending emails from PHP	
13	Front-end Frameworks REST APIs	A11: Final Project Homepage
14	Bootstrap CSS <i>University Holiday: Thanksgiving</i>	
15	jQuery, JS / jQuery Plugins Design Patterns, MVC Back-end Frameworks	
16 (Finals Day)	Final Project Presentations	Final Project