



School of Engineering  
*Information  
Technology Program*

## **ITP 303: Full-Stack Web Development**

**Units: 4**

**Fall 2020 – T/Th – 12:00PM - 1:50 PM**

**Location:** Zoom. Check Blackboard for zoom link.

**Instructor:** Nayeon Kim

**Office:** Zoom

**Office Hours:** See course website.

**Contact Info:** All general course assignments/questions should be asked on Piazza (every student will receive an invitation at the start of the semester).

Personal questions should be directed via email at [nayeonki@usc.edu](mailto:nayeonki@usc.edu).

Expect responses within 36 hours on weekdays, 48 hours on weekends.

**Teaching Assistants:** Aaqib Ismail, Abbas Zaidi, Neuton Foo, Shaden Awad, Victoria Shin

**Office:** See course website.

**Office Hours:** See course website.

**Contact Info:** See course website.

**IT Help:** Provided by Viterbi IT

**Hours of Service:** 8am – 5pm, Mon-Fri

**Contact Info:** [engrhelp@usc.edu](mailto:engrhelp@usc.edu)

**Course Website:** <http://itpwebdev.com/fall-2020/itp-303-12pm>

## Course Description

This course is intended for students who have completed at least one fundamental computer programming course and want to learn how to build a fully functional web application. Prior web programming skills are not required. This is a hands-on course where students will learn core web technologies by creating web pages and applications every week. Students will first create static websites using core front-end languages such as HTML, CSS, JavaScript. Then students will learn basic database design and implement them using relational database management systems (RDBMS). Students will write and submit SQL queries to databases and create data interfaces using PHP. Students will also be exposed to common frameworks and libraries such as Bootstrap (CSS), jQuery (JS), and Laravel (PHP).

## Learning Objectives

- Students will build a complete web application from scratch utilizing core web technologies. Students will:
  - Create static, responsive web pages using HTML and CSS.
  - Implement interactivity on web pages using vanilla JavaScript.
  - Design databases.
  - Write SQL queries to create, retrieve, update and delete records from databases.
  - Identify advantages of using web frameworks and libraries such as Bootstrap, jQuery, and Laravel.

**Prerequisite(s):** ITP 265 or CSCI 103

## Course Notes

All course material (lecture notes, slides, assignments, labs, resources, etc.) are posted weekly on the course website. In this course, Blackboard is only used for students to obtain attendance credit and view their grades. All other pertinent course information is found on the course website.

## Technological Proficiency and Hardware/Software Required

Students should have access to their own computer running either Windows or MacOS and should be familiar with the basic operation of their computer. Loaner laptops are available in ITP's main office (OHE 412) for students to check out if they have no access to their own laptop.

Required software (all available at no cost):

- Sublime Text 3 (or similar text editor such as Atom or VS Code)
- FileZilla
- MAMP
- Internet Browser (Google Chrome preferred)

## Required Readings and Supplementary Materials

No textbook is required.

Readings such as excerpts from other books or online articles will be provided on the course website.

## Grading Breakdown

| Item          | % of Grade |
|---------------|------------|
| Assignments   | 30         |
| Labs          | 12         |
| Midterm Exam  | 28         |
| Final Project | 30         |
|               |            |
| <b>Total</b>  | <b>100</b> |

## Grading Scale

Course final grades will be determined using the following scale

|    |              |
|----|--------------|
| A  | 93-100       |
| A- | 90-92        |
| B+ | 87-89        |
| B  | 83-86        |
| B- | 80-82        |
| C+ | 77-79        |
| C  | 73-76        |
| C- | 70-72        |
| D+ | 67-69        |
| D  | 63-66        |
| D- | 60-62        |
| F  | 59 and below |

Percentages will be rounded to the nearest whole number. For instance, 89.5% is an A-, but 89.4% is a B+. Under this policy, an 89.49999% would be a B+.

Per the University's policy, students taking the class as a Pass/No Pass must earn a of 70% or higher in order to receive a Pass.

## Assignment/Lab Submission Policy

- Usually **one** assignment and **one** lab are assigned every week. All assignment requirements and their deadlines are listed on the course website. It is the students' responsibility to read and adhere to requirements and deadlines.
- To submit an assignment, students must upload their completed work on the USC server as defined by the instructor (covered in class during week 1). Only files on the server are graded. Students **may not** submit assignments in any other way (e.g. email, Blackboard, Google Drive, etc.).
- Students may use up to **three (3) extensions** on any assignment. An extension extends the deadline of any assignment up to for an extra 72 hours. Only one extension per lab or assignment. Extensions can be requested via a Google Form posted on the class website and must be requested **within one hour after the deadline of the assignment.**
- Any assignment turned in after the deadline without an extension results in a score of **zero (0)**. **No late penalty exists in this course.**

## Grading Timeline

Assignments will be graded within ten days after the due date. Feedback about the assignment will be posted on Blackboard along with the score.

### **Grading Issues**

Students will have seven days after graded feedback is given to contest scores (e.g. assignments and exams). After seven days, scores will not be changed. To contest a grade, email the TA that graded the assignment with the name of assignment and write the reasons as clearly as possible.

### **Midterm Exam**

There are two midterm exams in this course. No make-up exams (except for documented medical or family emergencies) will be offered. Final projects take place of the final exam.

### **Adding the Course After the First Day**

The University allows students to add courses until the end of week 3. However, it is the responsibility of students who add after the first class to **immediately notify the instructor** and make a plan to catch up on any missed work.

### **Plagiarism and Individual Work Policy**

It is okay to discuss solutions to specific problems with other students, but it is not okay to look through another student's code. It does not matter if this code is online or from a student you know, it is cheating. Do not share your code with anyone else in this or a future section of the course, as allowing someone else to copy your code carries the same penalty as copying the code yourself.

### **Course Material Policy**

Do not reproduce, distribute, or post any lecture material, assignments, assignment solutions, or exams publicly without written consent of the instructor. You may take notes and make copies of course materials for your own use. You may not post course materials on sites like CourseHero. Doing so is a copyright violation and in some cases may also be an academic integrity violation that will be dealt with accordingly.

## Course Schedule: A Weekly Breakdown

*Subject to change*

| Week | Lecture  | Lab   | Assignment                              |
|------|--|---|---|
| 1    | 08/18 Course Overview, The WWW, Intro to HTML                    | L1: Student Page (due 8/21)                   | A1: Interests Page (due 8/24)           |
|      | 08/20 Intro to CSS, Divs, Box Model                              |   |   |
| 2    | 08/25 Page Layouts, CSS Compound Selectors, Fonts, Positions     | L2: Updated Student Page (due 8/26)           | A2: Responsive Product Page (due 8/31)  |
|      | 08/27 Responsive Web Design                                      |   |   |
| 3    | 09/01 Flexbox, CSS Frameworks, Bootstrap                         | L3: Flexbox Nav (due 9/2)                     | A3: Bootstrap Company Website (due 9/7) |
|      | 09/03 Bootstrap continued, Intro to JavaScript                   |   |   |
| 4    | 09/08 JS Events and Traversal                                    | L4: JS Photo Gallery (due 9/9)                | A4: T-shirt Customizer (due 9/14)       |
|      | 09/10 Forms, User Input Validation Basics                        |   |   |
| 5    | 09/15 JS Objects, DOM Manipulation                               | L5: Contacts List (due 9/16)                  | A5: Movie DB API Search (due 9/21)      |
|      | 09/17 JSON, AJAX, Using Third-Party web APIs                     |   |   |
| 6    | 09/22 jQuery   | L6: To Do List Starter (due TBD)              | A6: To Do List App (due TBD)            |
|      | 09/24 <b>Midterm: Client-side</b><br>(24 hours to take the exam) |   |   |
| 7    | 09/29 Database Basics, Designing Databases                       | L7: Simple Film Database (due 9/30)           |   |
|      | 10/01  |   |   |
| 8    | 10/06 Intro to SQL, Retrieving Data from DB                      | <del>L8: More SQL Statements (due 10/7)</del> | A7: SELECT SQL Statements (due 10/12)   |
|      | 10/08 Data Manipulation in SQL                                   |   |   |
| 9    | 10/13 Intro to PHP   | L8: PHP Form Output (due 10/14)               | A8: DVD Search pages (due 10/19)        |
|      | 10/15 PHP MySQLi, Search   |   |   |

|           |       |   |                                     |   |
|-----------|-------|---|-------------------------------------|---|
|           | 10/20 | CRUD Part 1   | L9: TBD<br>( <del>due 10/21</del> ) | A9: Final Project Proposal<br>(due 11/2)        |
| <b>10</b> | 10/22 | CRUD Part 2   |                                     | A10: DVD CRUD<br>Application<br>(due 10/26)     |
|           | 10/27 | Membership, Sessions  |                                     |   |
| <b>11</b> | 10/29 | <b>Midterm: Server-side</b><br>(24 hours to take exam)  |                                     |   |
| <b>12</b> | 11/03 | AJAX & PHP  |                                     | A11: Final Project –<br>Frontend<br>(due 11/11) |
|           | 11/05 | cURL, Server-side REST APIs   |                                     |   |
| <b>13</b> | 11/10 | Design Patterns, MVC<br>Back-end Frameworks   |                                     |   |
|           | 11/12 | TBA   |                                     |   |
| -         |       | Final Project due 11/18 11:59pm<br>Final Project Presentations (Final Exam time) 11/19 11am – 1pm |                                     |   |

## 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 Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. 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>.

### Support Systems

*Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call*

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <https://engemannshc.usc.edu/counseling/>

*National Suicide Prevention Lifeline - 1-800-273-8255*

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call*

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

*Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

*Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086*

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

*The Office of Disability Services and Programs*

Provides certification for students with disabilities and helps arrange relevant accommodations. <http://dsp.usc.edu>

*Student Support and Advocacy – (213) 821-4710*

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

*Diversity at USC*

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

*USC Emergency Information*

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <http://emergency.usc.edu>

*USC Department of Public Safety – 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime.*

Provides overall safety to USC community. <http://dps.usc.edu>