USC Iovine and Young Academy
Arts, Technology and the Business of Innovation

IDSN 599: Front End Web Programming
Units: 2.0
Spring 2023—Mondays—5:30pm-7:20pm

Location: Online

Instructor: Jake Spurlock
Office: Online
Office Hours: TBD

Contact Info: jacob.spurlock@usc.edu

IT Help: 2U Student Support
Hours of Service: Available 24/7, 365 days/year
Contact Info: studentsupport@design.usc.edu, 1-855-487-350

Course Description

The World Wide Web has become one of the dominant ways for individuals and companies to communicate with others. It started with web pages. Then came along eCommerce. In the United States in 2019, eCommerce was about 14% of all commerce. Experts predict that eCommerce will be 22% of all commerce by 2023. More recently, the Web has allowed the creation and rise of social media of multiple types. This course will teach you how to create interactive web pages that form the front-end basis of all Web pages that allow you to enter data.

Learning Objectives and Outcomes

By the end of this course, students should be able to:

- Create interactive HTML documents using HTML forms
- Use Cascading Stylesheets to control the look and feel of your HTML documents
- Program in Javascript to create interactivity in your HTML documents
- Augment your Javascript with the jQuery library
- Learn how to use the React Javascript library
- Gain familiarity with Next.js
- Use popular frameworks for deploying web applications.
    - Example: GitHub and Vercel

Recommended Preparation

- IDSN 530: Technology Essentials
- Having some HTML/CSS knowledge will be very important for this class.
- We are going to be jumping headfirst into concepts that are covered in IDSN: 530.

Course Notes

This course will be conducted online, using a combination of synchronous and asynchronous methods.

Technological Proficiency and Hardware/Software Required

If applicable, provide details of accessing course if not in a traditional classroom setting. **List out any software they may need to purchase.**

	Apple	Windows PC
Laptop (Minimum standards)	● 2.6 GHz dual-core Intel Core i5 or 2.0 GHz quad-core Intel Core i7 ● Minimum 13" display ● 250 GB SSD or larger ● 16 GB memory	● Intel Core i5 or Intel Core i7 ● Minimum 14" display ● 250 GB SSD or larger ● 16 GB memory
`Warranty	● Manufacturer warranty or extended warranty coverage (Apple Care)	● Manufacturer warranty or extended warranty coverage
Operating System	● Mac OS X 10.13 or higher	● Windows 7, 10 operating system or higher
Peripherals	● HD webcam, speakers and microphone (Most newer laptops have built-in webcam, speakers and microphone) ● Headset ● Digital camera (Cameras on newer smartphones are acceptable) ● External drive for cloud account for backup and storage	
Software	● Visual Studio Code, or similar IDE. ● GitHub account ● Consider signing up for GitHub Copilot	
Network	● Cable modem, DSL, T1/T3 or higher	

Required Readings and Supplementary Materials
There are no required readings as we will be using websites provided by the companies/entities that maintain the languages you will be learning.

Grading Breakdown

Labs and Assignments	250 Points	31.25%
Final Project	400 Points	50.00%
Attendance/Participation	150 Points	18.75%
	800 Points	100%

Grading Scale
Course final grades will be determined using the following scale:
A   95-100
A-   90-94
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

Assignments and Labs	Assigned	Due	Points
Lab 1: Javascript Data Types	Week 1	Week 2	25
Lab 2: GitHub Deployment	Week 1	Week 2	20
Lab 3: Mad Libs Project	Week 2	Week 3	25
Lab 4: Dependency Management – HR Directory	Week 3	Week 4	25
Lab 5: Browser APIs – TODO app	Week 4	Week 6	50
Lab 6: Remote Data	Week 5	Week 7	25
Lab 7: Regular Expressions	Week 7	Week 8	15
Lab 8: Create React App	Week 8	Week 10	50
Lab 9: React Routing	Week 9	Week 11	15
Final Project			
Pitch Deck	Week 11	Week 12	100
Home page and layout	Week 11	Week 13	150
Final project and presentation	Week 11	Week 15	150

Course Structure
Students are expected to:
- Complete weekly labs, assignments, and final project
- Students are responsible for completing assignments and labs by stated deadlines.

Assignments/Labs

GitHub and Deployment

Lab 1: Javascript Data Types
Deliverable: Submitted document
Details: Create a document that details the primitive data types and structures that are found in JavaScript.
Requirements: This should include the following and explanations for use.
- Null
- Undefined
- Boolean
- Number
- BigInt
- String
- Objects
- Arrays

Lab 2: GitHub Deployment
Deliverable: Website hosted on GitHub.
Details: Deploy a website to GitHub as a static site.
Requirements: Deploy a website or application to a new GitHub repository. This is done by utilizing GitHub pages. We will use this frequently this semester for deploying projects, so we will use this project to get in the habit of using Git for version control and deployment.

Node Projects

Lab 3: Mad Libs Project
Deliverable: Build a webpage that takes 10+ inputs and submits them into a Mad Libs style story.

Details: There are a few ways to do this but leveraging jQuery to collect the form values and then populate the story is the ideal outcome. We shouldn't need to do any form processing on the server side. Consider something fun.

Lab 4: Dependency Management – HR Directory
Deliverable: Convert a CSV file into an HR directory.
Details: In this project we are going to be leaning into dependency management and open source tooling. We will learn about how to setup a node project and using NPM install tools to modify content. We will convert a CSV file into a webpage that has all of the relevant details including images.

Lab 5: Browser APIs – TODO app
Deliverable: Build a simple TODO app that leverages local storage.
Details:

- This application should be able leverage browser APIs for storage.
- A user should be able to create, read, update, and destroy items in the TODO list.
- A user should be able to mark an item in the list as done.
- A user should be able to close the page and then return to the existing state.

Remote APIs

Lab 6: Remote Data
Deliverable: Build a user profile page.
Details: Using data from randomuser.me, build a profile page that loads user information from the remote data API. This code should include error handling if the API fails. Consider a layout like a Twitter or Facebook profile that includes Name/Username/Photo/etc.

Regular Expressions

Lab 7: Regular Expressions
Deliverable: Submit the message that is hidden in this code with the regular expression that you used to parse this string. Also available here
Details:

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React

Lab 8: Create React App
Deliverable: Take an existing web project and convert the HTML to React JSX. Publish this to GitHub.
Details: This should be an existing project, and ideally be broken into several components. Use Create React App as a starter. As an example, you should have several pages that share components. Each of these

components would have props that could be passed to change the dynamic content. (Page titles in the header, as an example.)

Pages:
- Home
- About
- Contact
- Gallery

Components
- Header
- Footer
- Navbars
- Etc.

Lab 9: React Routing
Deliverable: Add client-side routing to the project from Lab 8.

Final Project

Assignment 1.1: Pitch Deck
Deliverable: Document (proposal), including screenshots/wireframes
Details: Written (text, narrative) proposal of the website, as well as mock-ups, wireframes, and/or screenshots of a version of the landing page.

Each student will present their proposal in class in week 11.

Assignment 1.2: Application and Layout
Deliverable: Application homepage
Details: With this deliverable, you should be making progress towards the look and feel of your application. The root functionality of the application should be in working order and you should be ironing out the details towards the final functionality.

Assignment 1.3: Completed Project and Presentation
Deliverable: Final application, and presentation about lessons learned from the course of the project.

Late Submissions
Due dates and requirements for all labs and assignments will be posted on the course site on Blackboard.

Assignments will be accepted after the deadline with the following grade penalties. Do not ask for extensions.

- Submission in the 24 hours after the deadline - 10% deduction
- Submission between 24 and 48 hours after the deadline - 20% deduction
- Submission between 48 hours and 3 days after the deadline - 50% deduction
- Submission more than 3 days after the deadline - 100% deduction

Keep copies of all your files and emails until the end of the semester.

Correcting a Grading Error or Disputing a Grade
If you don't inform the instructor of missing or incorrect grades within two weeks of those grades being posted, the grades will be assumed correct. Do not wait until the semester's end to check or appeal any grades. If you feel a grade merits re-evaluation, you are encouraged, within one week of the instructor providing a grade and initial feedback, to send the instructor a memo in which you request reconsideration. The memo should include a thoughtful and professional explanation of your concerns. Be aware that the re-

evaluation process can result in three types of grade adjustments: positive, none, or negative. (Note: Complaints on the date of a graded assignment's return to you will not be addressed; it is essential to wait one full day prior to raising a concern.)

Academy Attendance Policy
The Academy maintains rigorous academic standards for its students and on-time attendance at all class meetings is expected. Each student will be allowed two excused absences over the course of the semester for which no explanation is required. Students are admonished to not waste excused absences on non-critical issues, and to use them carefully for illness or other issues that may arise unexpectedly. Except in the case of prolonged illness or other serious issue (see below), no additional absences will be excused. Each unexcused absence will result in the lowering of the final grade by ⅓ of a grade (e.g., an A will be lowered to A-, and A- will be lowered to a B+, etc.). In addition, being tardy to class will count as one-third of an absence. Three tardies will equal a full course absence.

Students remain responsible for any missed work from excused or unexcused absences. Immediately following an absence, students should contact the instructor to obtain missed assignments or lecture notes and to confirm new deadlines or due dates. Extensions or other accommodations are at the discretion of the instructor.

Automatically excused absences normally may not be used for quiz, exam or presentation days. Using an excused absence for a quiz, exam or presentation, such as in the case of sudden illness or other emergency, is at the discretion of the instructor.

In the case of prolonged illness, family emergencies, or other unforeseen serious issues, the student should contact the instructor to arrange for accommodation. Accommodation may also be made for essential professional or career-related events or opportunities. Additionally, students who need accommodations for religious observations should provide advanced notice to instructors and student athletes should provide Travel Request Letters. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

Fall 2022 addendum:
- Unless students provide an accommodation letter from USC's Office of Student Accessibility Services (OSAS) or a letter from IYA Student Services detailing visa or travel restrictions, attendance and active participation is expected in the classroom. Any student with such accommodations should submit their accommodation document to the instructor as soon as possible to discuss appropriate accommodations. Either classroom recordings or live remote access to the class via Zoom will be provided.
- Students who are experiencing illness should not attend class in person. Please inform the instructor in advance of any class sessions that you can't attend for medical reasons, and accommodations will be arranged to view recorded lectures and submit alternatives to any missed class participation. Students will not be penalized for not attending class in person under these circumstances.
- In the event that you find yourself experiencing COVID-19 related symptoms, in keeping with university recommendations, you should Stay home! This is the best way to prevent spreading COVID-19 as supported by scientific evidence; Please do not come to an in-person class if you are feeling ill, particularly if you are experiencing symptoms of COVID-19.

Additional Policies

Add any additional policies that students should be aware of: late assignments, missed classes, use of technology in the classroom, etc.

Class notes policy: Notes or recordings made by students based on a university class or lecture may only be made for purposes of individual or group study, or for other non-commercial purposes that reasonably arise from the student's membership in the class or attendance at the university. This restriction also applies to any information distributed, disseminated, or in any way displayed for use in relationship to the class, whether obtained in class, via e-mail or otherwise on the Internet, or via any other medium. Actions in violation of this policy constitute a violation of the Student Conduct Code, and may subject an individual or entity to university discipline and/or legal proceedings. Again, it is a violation of USC's Academic Integrity Policies to share course materials with others without permission from the instructor.

No recording and copyright notice: No student may record any lecture, class discussion or meeting with the instructor without his/her prior express written permission. The word "record" or the act of recording includes, but is not limited to, any and all means by which sound or visual images can be stored, duplicated, or retransmitted whether by an electro-mechanical, analog, digital, wire, electronic or other device or any other means of signal encoding. The instructor reserves all rights, including copyright, to his/her lectures, course syllabi and related materials, including summaries, slides (e.g., Keynote, PowerPoint), prior exams, answer keys, and all supplementary course materials available to the students enrolled in the class whether posted to the LMS or otherwise. They may not be reproduced, distributed, copied, or disseminated in any media or in any form, including but not limited to all course note-sharing websites. Exceptions are made for students who have made prior arrangements with The USC Office of Disability Services and Programs and the instructor.

Participation: Students are expected to actively participate in this course. In an online forum, participation includes:
- Careful reading and viewing of assigned materials by the date due
- Regular, substantive contributions to discussions
- Active engagement with online content
- On-time attendance and full attention in synchronous sessions
- Significant collaboration with classmates and teammates

Course grades may be affected for students who do not contribute to the course through active participation. Students should notify the instructor in advance if they are unable to attend class. Those unable to attend will be required to review the online recording for the session missed, and submit thoughtful feedback to the Instructor.

Contact Hours
This 2-unit course requires 1500 minutes of instructional time per semester, which equals 100 minutes (1 hour and 40 minutes) of instructional time each week. In addition, it is expected that students will work, on average, an additional 240 minutes (4 hours) per week outside of class — on readings/viewings, homework assignments, field experiences, and individual or team projects. Synchronous class sessions will be offered as a regularly scheduled evening class once each week.

Course Schedule: A Weekly Breakdown

	Topics/Daily Activities	Labs/Assignments
Week 1	Course Introduction; Git/GitHub	Lab 1
Week 2	HTML Forms, CSS	**Lab 2**
Week 3	CSS, Javascript	Lab 3; Assignment 1
Week 4	Javascript 2	Lab 4
Week 5	Javascript 3	Lab 5; Assignment 2
Week 6	jQuery	Lab 6
Week 7	jQuery 2	Lab 7
Week 8	Midterm	
Week 9	ReactJs	Lab 8; Assignment 3
Week 10	ReactJs 2	Lab 9; Final Project Part 1
Week 11	ReactJs 3	Lab 10; Final Project Part 2
Week 12	AngularJs	Lab 11
Week 13	AngularJs 2	Lab 12; Final Project Part 3
Week 14	AngularJs 3	Lab 13
Week 15	Final Project Presentations	

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" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on Research and Scholarship Misconduct.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call
Studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086
eeotix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776
osas.usc.edu

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 821-4710
campussupport.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - *(323) 442-33*40 or otfp@med.usc.edu
chan.usc.edu/otfp
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.