Modern Web Development

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Course Description: A project-based course in which students will gain practical experience creating full-stack web applications. Technologies covered include HTML/CSS/JavaScript, Node.js with Express, MongoDB, goormIDE, Git/Github, and Heroku. Over the course of the semester, students will create and deploy a functional full-stack web application.

Course Objectives: Upon successful completion of this course, the student will be able to...

- Use HTML and CSS to create webpages.
- Incorporate CSS flexbox for creating responsive website layouts.
- Demonstrate mastery of JavaScript concepts, including data structures, control flow, functions, etc.
- Incorporate a JavaScript library into their programs.
- Use a Node.js and Express backend to serve websites.
- Incorporate a NoSQL database (MongoDB) for data persistence.
- Establish data associations in a NoSQL database.
- Create an original full-stack web application that utilizes current best practices.
- Deploy their original full-stack web application to the internet using Heroku.

Prior Knowledge and Skills: This is a programming course for students with some familiarity with programming in general, though prior web programming is not required. Therefore, the instructor assumes that all students are already somewhat familiar with object-oriented programming concepts (e.g. functions, loops, data structures, events, scope, etc.). These concepts will be reviewed, including the JavaScript syntax, but there is insufficient time to teach them from scratch.

Course Schedule:

Week	Description of Content
1	Course Introduction, Introduction to the Front-End Trinity, HTML
2	CSS, Flexbox
3	JavaScript: Primitives, Variables, and Control Flow (Booleans, Loops, etc.)
4	JavaScript: Functions
5	JavaScript: Arrays and Objects
6	DOM Manipulation
7	Work on Front-End Capstone
8	Setting up the Back End Environment, Using the Command Line, Node.js
9	Express, Working with APIs
10	Begin YelpClone Project (YCP), NoSQL Databases, RESTful Routing, Bootstrap
11	NoSQL Data Associations, YCP Comments, YCP Update/Delete
12	Async/Await, YCP Route Refactor (11/3 will be online only - no face-to-face)
13	Authentication, UI Improvements (Landing Page, Flash Messages, etc.)
14	Git/Github, Deploying to Heroku
15	Add Rating System, Work on Final Project (Thanksgiving break 25-27)
16	Work on Final Project