CIS 444 WEB PROGRAMMING

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Office Hours: Always on Basecamp or use this link to schedule 1:1 time https://calendly.com/cjardin

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Course Title: WEB PROGRAMMING - Class Number: 42986 - Section: 02-LEC

Term: Fall 2021 (August 30th, 2021 - December 11th, 2021)
Class Schedule: Monday/Wednesday/Friday 1:30pm - 2:20pm

https://us02web.zoom.us/j/85344210160?pwd=ek9kcVJLV0NuajdtUUd6ekFPeUp1QT09

Zoom Meeting: # 853 4421 0160
Password: 093706

Homework: Homework will be assigned, and must be submitted by email or over Basecamp

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Course Description: This 16 week course is designed to provide real world understanding full stack development market skills, current tech stacks, and provide a firm foundation for resume building skills.

Course Objectives:

1. Give students the understanding of what a "full stack" developer means, and the training to become one
2. Provide students an understanding of the "web ecosystem" with respect to User Experience, User Interface, Artists, Front End Developers, Back End Developers, Database Developers, and the salaries/skills that go with each
3. Let students understand their strengths, weakness, and passion areas in the development of a web application
4. Explore the process of design and the "buy vs build" decision
5. Develop a static web page
6. Develop a dynamic web app using server side rendering
7. Develop a dynamic web app using client side rendering and REST Calls
8. Develop a dynamic web app using client side rendering and WebSockets
9. Consume a third party REST API
10. Create a Database
11. Create REST Server
12. Create a WebSocket Server
13. Deploy an application with Servers framework
14. Create a Vue application
15. Create a React application
16. Create an Angular application
17. Create a Jquery application

In short, let you experience for FULL stack that is required to develop a modern web application. This is a class that will begin your journey. There is a LOT to learn and you will NOT be expected to become an expert. My hope is to give you enough to be resume confident to be an entry level "Full Stack" developer!

Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Understand the skills needed to be a "Full Stack" developer
2. Be able to make your own Web Application
    1. In PURE HTML
    2. Jquery
    3. Vue
    4. React
    5. Angular
3. Be able to create your own Web Application Server
    1. CGI
    2. REST
    3. WebSocket
4. Be able to create your own data storage
    1. JSON Files
    2. SQL Database
5. Be able to consume third part REST services
6. Use a text editor, command lines!
7. Utilize version control to manage your project, and transfer files

Class Behavior Expectations:

Learning requires all of us to make the effort, not just me. The entire class becomes apart of the learning experience. I expect you to put the effort in for yourself, and the other students. That includes respecting everyone, and their perspectives!

Student Expectations:

1. Attend every lecture and be an active participant of the discussions
2. Complete all assigned work
3. Respect each class member as a Computer Scientist, and a person
4. Participate in Basecamp class community

Evaluation Methods:

1. Class participation reviewed in real-time, and from video recordings.
2. Programming assignments will be individually graded.
3. Final project will be individually evaluated and graded.

I DO NOT NEGOTIATE GRADES!! If I make a mistake, I will fix it.

But it is not acceptable in CSUSM culture for students to play "let's make a deal" at the end of the semester. If you want a good grade, EARN IT!

Grading:

- Class Participation: 30%
  - Class Assistant will take attendance from Zoom logins each class
  - Class Assistant will keep track of class participation
    - Asking questions
    - Which students have video on
    - Participation is graded based on a standard distribution of student lecture involvement spectrum: If you never participate, you don't get the points. If you participate enough that I get to know you, you get full points.
- Programming Assignments: 50%
- Final Project: 20%

Late Work:

Will not be accepted

Textbook and Required Materials/Services:

- No Textbook needed for the class
- Basecamp login
- AWS Account that will require a credit card.
- May be asked to utilize various online development tools that will be free for the student to use

Final Exam:

1. You will be asked to create a short video of what you learned in the class. Video will be graded on the assimilation, and distillation in your own words of what you got out of, or didn't get out of the class.
2. Final "full stack" project
3. Possibly an exam. Not sure yet if the department will require me to give one.

ADA:

I am familiar with DSS and want you to get the most out of the class; so PLEASE let me know how I can help!

Topical Outline/Course Calendar (Week-by-Week Schedule)

Subject to change/adjustment

	SECTION 1 :Lay of the Land
Week 1	Introduction to the course, and the Professor How the web app market formed, technologies, and commoditization of tech talent Introduction to "Full Stack" and why it makes the money!

Week 2	Setting up the build environment Hello world - HTML - from file .. Local Development github setup
Week 3	HTML Appearance Images, videos, sounds, text, and whatever other tags you can find Cascading Style Sheets
Week 4	Hello world - HTML + CSS + Media Assignment 1: Resume Page
Week 5	Document Object Model and why old guys HATE Microsoft Jquery and the modern web page
Week 6	Hello world - HTML + CSS + Media + Jquery Assignment 2: Resume Page with dynamic content
Week 7	User Experience Design (UX) User Interface Design (UI) Art/Code and Business = Buy vs Build
Week 8	Kendo UI Hello World
Week 9	Consuming JSON and making "data calls" Assignment 3: Using widgets in Jquery
Week 10	Introduction the client UI frameworks Vue Framework Assignment 4: Using widgets in vue
Week 11	Angular Framework Assignment 5: Using widgets in Angular
Week 12	React Framework Assignment 6: Using widgets in React
Week 13	Backend development Client side vs Server Side rendering REST vs WebSocket
Week 14	Hello world - HTML + python Assignment 7: Old school sever side CGI
Week 15	Hello world - HTML + python + flask Assignment 8: Old school sever side Websockets, serverless, and the future of web apps Final Project: Putting it all together into a serverless deployment package
Week 16	Finals

Methods of Instruction:

1. Discussions & Lectures: Contextualization & Active learning strategies are used throughout instruction. Strategies are designed to meet the learners' needs based on ability levels.

2. Cooperative learning groups, independent study, and technology are incorporated in assignments, depending on the student-learning activities assigned.