AUSTIN COMMUNITY COLLEGE

SOFTWARE DEVELOPMENT BOOTCAMP

course info

BECOME A FULL STACK DEVELOPER IN 24 WEEKS

COURSE NUMBER: ITSX-3036
COURSE HOURS: 240 (24 WEEKS)

TABLE OF CONTENTS

PROGRAM OVERVIEW

curriculum

- HTML/CSS
- Javascript/JQuery
- NodeJS, Express
- React
- Linux
- SQL/MongoDB

structure

- Full Stack
- 24 weeks
- 10 hours/week in class
- 15 hours/week directed self-study
- 2 weeknights 7p-10p
- Sat 9a-1p

BECOME A FULL STACK DEVELOPER IN 24 WEEKS

This intensive program will prepare you for a job as a Web Developer. It will teach you how to design, develop, test and deploy front-end, back-end, database and services in the cloud using highly sought after technologies today. You will immerse in HTML, CSS, JavaScript, JQuery, ReactJS, Linux, Git etc. You will learn how to design and build backend systems including SQL database schemas, RESTful APIs and Node.js based services. You will learn how to work in a multi-developer team, using tools like Git, Github and Jira.

prerequisites

- Basic computer knowledge
- Attend a Bootcamp Trial Class
- A functioning laptop is preferred but not required

OBJECTIVES & EVALUATION

course objectives

- Create dynamic web and hybrid mobile applications.
- Design modern browser and server software architectures that scale, perform well and are testable.
- Develop a real-life web app using multiple technologies in a multi-developer team environment.
- Store, access and manipulate persistent data using NodeJS, ExpressJS, PostgresSQL, MongoDB etc.
- Store software code, resource files and docs using Git and use developer features on Github.
- Design and run automated tests using one of Mocha, Jasmine, and Chai. Perform test-driven development (TDD)
- Deploy your code to Google Cloud Platform or AWS, which are popular cloud platforms.
- Preparation for job search, using modern job search strategies that involve updating your online profiles on Github and LinkedIn, be found and hired, mock technical interviews, and participating in networking opportunities.

evaluation

More than 50% of student time is spent on weekly projects. Projects are designed to help students gain strong working knowledge of the material covered. At least 80% of lab time will be spent working on projects in small groups and instructor-led code-alongs.

The bootcamp will wrap up with one large capstone project, to be completed in groups. The capstone project is a real-life web or mobile application encompassing the learnings of code integration, testing, deployment and issues related to architecture, security, and scale.

- All projects include peer, instructor and mentor evaluations.
- At the end of the bootcamp, you will earn a certificate of completion.
- A final capstone project review is conducted. You need to complete all project requirements and score at least 70% on the final review.
- If you are unsuccessful, you have additional opportunities to take the final review and clear the passing requirements.

COURSE OUTLINE

Learn the fundamentals of frontend web development

LINUX/BASH/GIT/REGEX	20 HOURS
HTML	8 HOURS
CSS	22 HOURS
JAVASCRIPT	40 HOURS
JQUERY	10 HOURS

Learn the fundamentals of backend web development

NODEJS	10 HOURS
EXPRESSJS	10 HOURS
REACTJS	40 HOURS
POSTGRESQL	20 HOURS
MONGDODB	20 HOURS
ARCHITECTURE	5 HOURS

Add the final touches!

MOCHA/JASMINE/CHAI	10 HOURS
CONTINUOUS DEPLOYMENT	5 HOURS
JOB SEARCH PREP	20 HOURS

FRONT END FUNDAMENTALS

HTML

Basic Nesting Practices
The Header & Body
Common Body Tags (lists, tables, etc)
Building Forms & Declaring Input Values
Containers, Elements, Attributes, Classes
HTML Best Practices
Intro to HTML5

CSS

CSS Selectors & Declarations
Inspecting Elements
Inline, Block, Float and Positioning
Div Layout & Formatting
Styling Text & How Fonts Work
Using Properties & Backgrounds
Replicating Complete User Interfaces
Optimizing & Cleaning Your Code
How to Build Your Own Shapes
Constructing Complex Tables
Intro to Bootstrap
CSS Preprocessors, LESS, & SASS
Optional Frameworks, UI Assets & Tools

JQUERY

jQuery Functions & Debugging
How to Use Parameters & Getters/Setters
Essentials of the jQuery Library
Troubleshooting jQuery
Implementing Dynamic Content
Callbacks in jQuery
Transversing DOM Elements
Using Forms in jQuery
Using jQuery UI Library
Extra jQuery Libraries

JAVASCRIPT

Declaring & Referencing Variables
Variable Hoisting in JavaScript
Conditionals, Operators, & Nested Loops
Using Arrays & Loops in JavaScript
Objects, Functions & Function Scoping
Variable Hoisting with Scoping
Return Statements in JavaScript
Function Hoisting
How to Use Object Constructors
Commons Constructors: 'This' & 'New'
Private Methods & Variables
Creating Prototype Objects in JavaScript
Best Practices in JavaScript OOP
How to Use Callbacks
Delegating Functionality & Event Handling

BACK END FUNDAMENTALS

NODEJS

How to Use Package Managers
File System Module & HTTP
Making a Full Web Server
How to Work with Node Modules
Common & Useful Node Modules
Using Require & Module.exports
How to Modularize Existing Projects

EXPRESSJS

Render Templates - Express View Engines
HTTP Methods: Forms, Transfers, Routing
Applications with Real-Time Communication
RESTful Routing with Mongoose & Express

REACTJS

Stateless Functional Components
JSX
Props
State
Styling

POSTGRESQL
MONGODB

Querying
Functions
Filtering
Grouping
Inner and Outer Joins
Set Operations
Subqueries
Data Manipulation Language
Elements of DB Design
CRUD Operations
Dependencies in Mongoose
Mongoose Communication with MongoDB
Mongoose Methods
Data Validation with Mongoose
Create Associations Between Mongo Objects

FINISHING TOUCHES

JOB SEARCH PREP

ONLINE PORTFOLIO PREP
INTERVIEW PREP
RESUME WORKSHOP

CONTINUOUS DEPLOYMENT

CONTINUOUS INTEGRATION
CONTINUOUS DEPLOYMENT
CLOUD DEPLOYMENT ARCHITECTURES

MOCHA/ JASMINE/CHAI

AUTOMATED TESTING
TEST COVERAGE
TEST DRIVEN DEVELOPMENT

LINUX/BASH/ GIT/REGEX

- COMMAND LINE
- SECURE SHELL
- PUBLIC / PRIVATE KEYS
- GIT
  - CLONE
  - DIFF
  - RESET / AMEND / REVERT
  - COMMIT / PULL / PUSH / FETCH
  - BRANCHING / MERGING
  - MERGE CONFLICTS
  - REBASE
  - PULL REQUESTS

WHAT'S NEXT?

1

ATTEND TRIAL CLASS

https://goo.gl/mNxwhk

2

BOOTCAMP REGISTRATION

https://goo.gl/1NyQ3U

3

PAYMENT

how to prepare

DETERMINE YOUR GOALS FOR THE BOOTCAMP
HAVE A WORKING COMPUTER

questions?

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