

Software Development Bootcamp

Course Syllabus

Software Development Bootcamp

OVERVIEW

Over the course of 12 weeks you will learn how to build, test and deploy software applications using JavaScript on the client- and server-side of an application (front-end + back-end). Starting with fundamentals, you will quickly move into more complex programming concepts that are solidified through challenges, such as: pair programming, weekly projects, lab exercises, and code reviews.

The projects that you create throughout the course will be used to build your portfolio which will serve as a showcase of your work and a valuable asset in your post-bootcamp job hunt. You will also receive time with a professional career mentor through one-on-one coaching sessions and bi-weekly workshops.

In the last weeks, you will work with a client and your classmates on a team to develop a real product. This is what we call your “capstone project”.

WHY JAVASCRIPT

JavaScript is the most widely used programming language in the world. Along with HTML and CSS, JavaScript is one of only three native languages of the web – all of which will be used in this course. Companies big and small, including Google, LinkedIn, Facebook and Netflix, use JavaScript to power pieces of their web applications. This is because JavaScript is the only scripting language that can be used on servers and browsers (front-end + back-end). Finally, including JavaScript in your résumé provides growth opportunities in your career as it continues to find its way into more and more domains.

TECHNOLOGIES, LANGUAGES & FRAMEWORKS



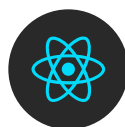
HTML



CSS



JavaScript



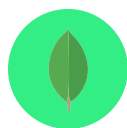
React



Heroku



Node.js



MongoDB



Git & GitHub



API

FULL-STACK CURRICULUM

1 PROGRAMMING FUNDAMENTALS

In the first few weeks you will learn the basics of web design, user experience, and front-end web development using HTML, CSS, Bootstrap and Javascript. You will also learn how to work with terminal commands, GitHub, text editors, and take a deep dive into programming with JavaScript. The following weeks will focus on DOM manipulation, layout, structure and solidify what you learn through weekly projects.

2 SOFTWARE DEVELOPMENT

The middle of the course will teach you the software development concepts and practices used in the industry; you will become familiar and comfortable with building full-stack web applications. This module focuses on back-end software development and will teach you how to work with databases and API's. In the last week, you will have finished your portfolio website, a place to showcase all of the projects that you have completed thus far.

3 CAPSTONE PROJECTS

This is where you will build, think, and work in a real development environment. The final project will be developed with a team of your peers and will provide an in-depth understanding of DevOps, how to work in an Agile project cycle, and refine the skills that you learned in class as well as a chance to explore the technologies that you are interested in pursuing post-graduation.

PRE-COURSE WORK

Basic HTML, CSS, & JavaScript

Teach yourself the basics of HTML, CSS, and JavaScript. The work that you do prior to the start of the bootcamp will let you hit the ground running and start coding from day one.

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PROGRAM OVERVIEW

Unit 1

Learn To Code With JavaScript

We start with the very basics -- What is a computer? What is a terminal? What is a variable? -- and work up to command-line basics.

Unit 2

Continuing With JavaScript

Learn fundamental programming concepts, including variables, types, functions, loops, I/O, logic, recursion and how to recognize and use certain abstract data structures.

Unit 3

The World Wide Web

Invented by Tim Berners-Lee in 1990 and launched to the actual world in 1993. What is it? How does it work? How do we create web pages, style them up, and navigate between them?

Unit 4

Web Design

Take a deep dive into front-end web design with HTML and CSS. We introduce user experience concepts with front-end design exercises to build and style your portfolio projects.

Unit 5

Responsive Layout with CSS

New standards, like Flexbox and CSS Grid, make it possible to make your product automatically adapt to different screen sizes and devices.

Unit 6

Client-Side Programming

Learn the data structures, coding patterns, and libraries that enable client-side coding in Web pages. Embed media to make richer experiences. Leverage third-party APIs, like Google Maps.

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Unit 7

Server-Side Coding

Create a self-contained server-side web application using NodeJS and deploy it to the cloud. Learn how to pass state from the client to the server and back again, and how to use MongoDB to save state between user sessions.

Unit 8

React Apps

React is the client-side web library from Facebook. React makes building complex user interfaces easier by breaking them up into small, simple, functional components.

Unit 9

Databases

This unit provides a broad overview of concepts common to all databases, using MongoDB for illustration and practical examples of a document (NoSQL) DB.

Unit 10

Capstone Inception

Meet with your Capstone client and define the goals of your project. Establish initial recurring schedule for team meetings, sketch technical architecture, and start shipping code.

Unit 11

Capstone Project

Spend every day building a real application with a real client in an iterative, agile process. Use all of the skills that you have learned to this point while coding on a team of your peers.

Unit 12

Capstone Project & Demo Day

Put the finishing touches on your product. Learn how to pitch and how to communicate technical concepts. Finally, demo your app to friends, family and potential employers

SPECIAL TOPICS

The breadth of software development extends beyond writing code, it requires an interdisciplinary understanding of the product development lifecycle. Special topics are taught throughout the bootcamp course. More than just side tracks, they are essential to learning not just how to write code, but how to develop software on a professional team.

USER EXPERIENCE DESIGN

Learn how to apply design thinking and user-centered design methods to address the intersection of user goals and business goals in your product development. The objective is to understand user experience (UX) fundamentals by providing contextual examples of why and when user experience matters.

AGILE DEVELOPMENT

We teach you how to break down complex goals into stories to improve communication and build confidence in your team's predictions. Master techniques to increase communication, feedback, maintainability, and velocity. Learn test-driven development, planning, refactoring and more.

QUALITY ASSURANCE

Software quality assurance (QA) comprises many roles and practices, including testing, code review, release management, design, and usability research. We invite QA engineers and experts into our classroom to lecture on these topics during the bootcamp course.

CAREER DEVELOPMENT

Career workshops provide you with a framework to identify your post-bootcamp career goals and a 360 degree strategy to achieve them. Whether you have questions about an upcoming interview or need some help with your resume, one-on-one sessions provide you with an opportunity to get direct feedback from a career professional.



INTERVIEW PREP & COACHING

Getting an interview is the first step to getting hired. Learn how to navigate these tricky conversations and prepare for technical interviews.



PORTFOLIO BUILDING

Discover techniques to professionally display your work to employers. Start by building your portfolio and stacking your GitHub profile with the projects that you create throughout the course.



RESUME, LINKEDIN & COVER LETTER

Your professional image matters. How you represent yourself on your resume, through a cover letter and online is crucial to giving potential employers an accurate and enticing first impression of your skills and capabilities.



COMPENSATION NEGOTIATION

Negotiating your salary can be an uncomfortable situation. Professional coaching helps you learn the best strategies to negotiate fair compensation when discussing an offer.

PROJECTS & PORTFOLIO

The projects that you create throughout the course will be used to build your portfolio which will be a valuable asset to your post-bootcamp job hunt. Individual and team-based projects will help you learn how to navigate communication barriers while working in a real development environment. Teamwork is imperative to software development, and we encourage students to learn from each other.

BUILD YOUR GITHUB PROFILE

GitHub is a powerful and popular way to share code with your teammates, or with the world. Employers want to see the code you write behind the products that you build. Your GitHub profile is a compendium of this code, and it's easy to access for anyone you want to share it with.

WEBSITE PORTFOLIO

A “Website Portfolio” is an online showcase of your personal work. It's like a resume that people can click on to see examples of the projects that you built throughout the course. We will use GitHub Pages to build and host your portfolio site, and over the course of the bootcamp you will keep making improvements to it.

GET IN TOUCH

Need help or have questions?

Contact our team at Upright.
info@uprighted.com