THE CODING BOOT CAMP

FULL STACK FLEX PROGRAM

CURRICULUM OVERVIEW

The digital revolution has transformed virtually every area of human activity—and you can be part of it as a web development professional. **The Coding Boot Camp** is a part-time, 24-week Full Stack Flex course that gives you the knowledge and skills to build dynamic end-to-end web applications and become a full stack web developer.

Courses are scheduled to fit into your life, whether you're employed or attending college full-time, with convenient weekend and evening sessions.

The program is rigorous and fast-paced and covers both the theory and application of web development. As you gain proficiency, you'll use what you learn on real projects under the guidance of area employers. Plus, you'll have an impressive Professional Portfolio and the confidence to succeed as a web development professional.

IS THE PROGRAM RIGHT FOR YOU?

Are you creative, curious and looking to reinvent yourself professionally? If so—or if any of the following describes your situation—enrolling in our coding boot camp could be a smart career move:

» You're considering a career change but not sure how to take the first step.

» You're happy in your current field, but want to move to another company—or stay put but shift from a non-technical into a technical position.

» You want to engage more deeply with your current job—or boost your earnings and broaden your experience with freelance work.

» You have an entrepreneurial idea and need to acquire the skills to go "all in" on it and launch your business.

» You're a full-time student but hungry to learn more and expand your skill set.

THE SKILLS YOU'LL GAIN

You will graduate with full stack web development skills*, including:

Computer Science applied to JavaScript
» Design Patterns
» Algorithms

Browser Based Technologies
» HTML
» CSS
» JavaScript
» jQuery
» Responsive Design
» Bootstrap
» Handlebars
» Firebase
» Cookies, Local Storage
» React.js

Deployment
» Heroku
» Git

PHP
» Laravel

Databases
» MySQL
» MongoDB

Node.js (Server Side Development)
» Express
» Security and Session Storage
» User Authentication
» MERN Stack
  (MongoDB, Express.js, React.js, Node.js)

Quality Assurance
» Writing Tests

Internet Marketing
» Semantic HTML

*The material covered is subject to change. Our academic team adjusts to the market demand.

In web development as in sports, you can't succeed without a solid grounding in the fundamentals. That's why our curriculum begins with a deep dive into the basics of coding and data structure. That said, we recognize that the surest way to impress prospective employers and get job offers is to demonstrate your skills on real-world projects. You'll have ample opportunity for hands-on involvement in outside projects, which will make up your Professional Portfolio.

REAL PROJECTS, REAL JOBS

Our graduates will be qualified for many different roles, including:

- Full Stack Developer
- Frontend Web Developer
- Backend Web Developer
- Product Manager
- Technical Project Manager
- QA and Test Engineer
- Software Developer

- Application Development Manager
- Computer Programmer
- Web Designer
- Email Developer
- Technical Specialist
- Web Producer
- Technical Business Analyst

WHAT YOU WILL LEARN

By the time you graduate, you can expect to be able to:

- Apply "social coding" accepted and best practices (including source control, issue tracking, functional feedback, etc.)
- Build a frontend website either from scratch or by utilizing a frontend framework (such as Bootstrap)
- Deploy static and dynamic websites to the cloud
- Implement complex logical conditions to meet an objective
- Write SQL commands to perform Create, Read, Update and Delete commands
- Create a full stack Single Page Application with AJAX communication
- Develop your vision for a website—and then build it!
- Expertly navigate the file system and terminal basics
- Work independently or in a group on complex projects throughout the entire development lifecycle
- Understand the basics of troubleshooting and enhancing legacy code
- Communicate the basics of serving a web page and how the browser renders code
- Create RESTful APIs utilizing JSON as a data format
- Consume RESTful APIs properly utilizing REST verbs
- Create robust PHP-based websites utilizing Laravel, a MVC framework
- Create session-based applications utilizing user authentication schemes that are well-known and widely used

COURSE STRUCTURE

Over the course of 24 weeks, you'll attend informative lectures and take part in a variety of individual and team exercises, working independently and in groups, in the classroom and at home. Homework assignments provide an opportunity to apply what you've learned and build on it. The goal is to give you a comprehensive learning experience and true insight into a "day in the life" of a full stack developer.

Discussion

Instructor-led discussions cover the background, history and use of a new technology or concept.

Lab Work

You'll put classroom teaching into practice individually and with a team to work on timed in-class exercises and projects.

Portfolio Projects

Your portfolio signals to employers that you are ready for primetime! You'll build a substantial portfolio of projects that demonstrate your abilities across a wide variety of technologies.

WE'RE HERE TO HELP

As you move up the learning curve, you're likely to have questions around some of the concepts covered in class. We're here to help—through in-person and virtual office hours, as well as a dedicated #slack channel where you can get assistance from instructors, support staff and your fellow students. All work is done via Github, so you can create issues directly on your own projects for instructors to assist you in a truly asynchronous fashion. In addition to learning to code, you will have access to career services that will help you prepare for technical roles after graduation such as:

- » Career Services
- » Access to Prospective Employers
- » Career Content and Practice Sessions
- » Projects Supported by Hiring Partners
- » Customizable Tools & Templates
- » Panel Speaker Event

- » Career Coaching
- » High Impact Career Events
- » Soft Skills Training
- » Personal Job Matching
- » Frequent Program Enhancements Driven by Employer Partners

It's a fact: Companies care about what you can do, not what you say you can do. For that reason, our curriculum teaches you how to put what you've learned to work on actual portfolio projects, ranging from simple HTML and CSS code samples to sophisticated Single Page Applications with backend databases.

YOUR FULL STACK PORTFOLIO PAGE

Once you complete our program, your portfolio page will help you showcase your work with links and descriptions to the projects you've created, code samples, and personal information that employers want to see. Think of your portfolio page as your new home on the web.

Skills Needed:

» HTML
» CSS
» JavaScript
» Bootstrap
» Heroku
» Git

Objectives:

» Create a home on the web to showcase your skills
» Build a complete site from concept
» Commit code to a shared repository

BROWSER BASED ROLE PLAYING GAME

Building a game has many components, and seemingly simple ones such as keeping track of state or playing over the Internet, can be deceptively complex. This game involves components like interface design, state management, edge cases, determining win paths...and, of course, fun! Students also learn intangible skills, such as how to best tackle a difficult problem.

Skills Needed:

» HTML5/CSS
» JavaScript/jQuery
» State Management
» Bootstrap

Objectives:

» Build a fully functional game
» Track winning and losing stats
» Apply logic skills to a real project
» Understand the basics of iteration

SELF-SELECTED FRONT END PROJECT

This is a group project that forces you to think outside your comfort zone. You and your group will decide what to build and then build it—a frontend application that interacts with real-world services like Google Maps, Twitter or the IMDb API.

Skills Needed:

» HTML5/CSS
» JavaScript/jQuery
» API Consumption
» Bootstrap
» Git
» Heroku

Objectives:

» Work in a group to build a project together
» Interact with third-party services
» Think in terms of mobile responsive design
» Read/write from/to a remote database

FULL STACK PROJECT

In your first full stack web application you'll create an intuitive frontend/robust backend and scalable database.

Skills Needed:

» HTML5/CSS
» JavaScript/jQuery
» State Management
» Sessions
» Bootstrap

» Interactivity (AJAX)
» MySQL
» Node.js
» Express
» ORM

Objectives:

» Track issue progress with industry standard tools
» Communicate with team members asynchronously
» Design a MySQL Database Schema
» Create a full stack application
» Write project documentation
» Understand database relationships

LARAVEL SITE

Laravel is huge. It has become the most powerful and most heavily used PHP Framework in the world. This is cutting edge in the PHP world, and you'll be sure to impress employers with what you make with it.

Skills Needed:

» HTML/CSS
» Bootstrap
» Git
» PHP

» Laravel
» MySQL
» React.js

Objectives:

» Customizing it based on your needs
» Use pagination
» Use open source packages to do a lot in very little time
» Leverage the MVC design pattern with Laravel
» Implement authentication to let users sign into your application

FINAL PROJECT

You will work independently or break out into groups to collaborate on a final project. You will come up with your own project and actually build it. The skills you learn during this project will truly help you to prepare for your first interviews and jobs!

Skills Needed:

» Everything you've learned!

Objectives:

» Define project scope
» Quality Assurance testing
» Responsive Design

» Internet Marketing
» Deployment
» Code Organization

COURSE **CURRICULUM** BY MODULE

MODULE	DESCRIPTION	WHAT YOU'LL LEARN
Module 1: Mastering The Browser (Weeks 1-5)	When most people think of the "Internet," their mind immediately conjures up their web browser. We dive into detail about how the browser works and what exactly the source code comprising a web page does.	» Creating a web page from scratch » Mastering terminal commands » JavaScript and it's most beloved child, jQuery
Module 2: API and JSON (Weeks 6-9)	The advent of the API has rapidly propelled the pace of innovation in technology. Being able to communicate with other systems enables you to do even more with yours.	» Consuming RESTful APIs » Parsing JSON to extract meaningful data » Using AJAX to update data on a website without having to hit that "refresh" button in the browser
Module 3: Server Side (Weeks 10-19)	Have you ever wondered how websites originate? They typically come from computer programs called "servers," but did you know that servers do so much more? Interacting with databases and even...other servers! Learn how to write server-side JavaScript code with Node.js.	» Writing Node.js server code to serve static web pages » Querying large amounts of data and answering questions from a MySQL Database » Understanding and using Joins, Wheres, and Counts strategically
Module 4: PHP (Weeks 20-21)	PHP started out as a simple language for a personal homepage. It's now a critical part of the Internet as a whole. Here's where we dive in to teach you how it all comes together.	» Deep-dive into Laravel » Use Laravel's built-in tools to build complex applications quickly » Understand how Laravel implements the MVC design pattern
Module 5: Computer Science Fundamentals (Weeks 22-23)	Computer science fundamentals are essential to web development so our curriculum includes a deep dive into the basics of coding and algorithms.	» Computer Science applied to JavaScript » Design Patterns » Algorithms
Module 6: Final Project (Weeks 22-24)	Throughout the course, you've developed an impressive portfolio of projects to show future employers. This final project is all yours. Use all of the technologies you've learned and make something distinctly your own.	» Dreaming up something fantastic and understanding the bounds of reasonable and achievable