The University of Texas at Austin
Center for Professional Education

The Houston Coding Boot Camp
Powered by UT Austin

Overview:
Full-Stack Flex Program

Prepare for a career as an end-to-end web developer at Houston Coding Boot Camp. Our Fullstack Flex course gives you the skills you need to build dynamic web applications and become a fullstack web developer.

The course runs 24 weeks with convenient weekend and evening classes. From day one, you'll go through a rigorous, fast-paced training program and gain proficiency in the theory and application of web development.

By the time you graduate you'll have all the skills you need to build and implement dynamic end-to-end web applications, plus an impressive Professional Portfolio and the confidence to succeed as a web development professional.

Is this course right for you?

It's right for anyone who is intellectually curious, hard-working and ready for a career change.

Our students enroll for a range of reasons:

- To change companies or careers—or shift from a non-technical to technical role in their company
- To freelance and supplement their income—or engage more productively with their job
- To acquire the skills to go "all in" on an entrepreneurial idea and build their product
- To satisfy a hunger for additional knowledge or enhance their skills while in college

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WHAT YOU'll TAKE AWAY
You will graduate with fullstack web development skills*, including:

Computer Science applied to JavaScript

- Design Patterns
- Algorithms

Browser Based Technologies

- HTML
- CSS
- JavaScript
- jQuery
- Responsive Design
- Bootstrap
- Handlebars
- Cookies, Local Storage
- React.js

Deployment

- Heroku
- Git

C#

- ASP.NET

Node.js (Server Side Development)

- Express
- Security and Session Storage
- User Authentication
- REMN Stack (React.js, Express.js, MongoDB, Node.js)

Databases

- MySQL
- MongoDB

Quality Assurance

- Writing Tests

Internet Marketing

- SEO
- Semantic HTML

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

FROM BASIC CONCEPTS TO HANDS-ON EXPERIENCE

A grasp of computer science fundamentals is essential to web development so our curriculum includes a deep dive into the basics of coding and algorithms. We do recognize that the surest way to gain credibility with prospective employers and get job offers is to prove yourself on real-world projects. For that reason hands-on experience is at the heart of our program. It's your portfolio projects that show employers you've got what it takes—not just to work as a web developer, but to *excel*.

REAL PROJECTS, REAL JOBS
Our graduates will have the opportunity to be placed in many different roles, including:

- Fullstack 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
- PHP Application Developer
- Email Developer
- LAMP Developer
- Web Producer
- Laravel Developer
- Technical Business Analyst
- Technical SEO Specialist

PROGRAM LEARNING OBJECTIVES
By the time you graduate, you should 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 fullstack 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 webpage and how the browser renders code
- Create RESTful API's utilizing JSON as a data format
- Consume RESTful API's properly utilizing REST verbs
- Create robust web applications and services in C# using ASP.NET
- Create session-based applications utilizing user authentication schemes that are well-known and widely used

Course Structure

Our Fullstack Flex Course combines informative lectures with individual and collaborative team exercises. The program is 24 weeks in length. You will work independently and in groups, in the classroom and at home. Homework assignments provide an opportunity to apply what you've learned and take your skills to the next level. The goal is to give you a comprehensive learning experience and true insight into a "day in the life" of a fullstack developer.

DISCUSSION

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

TEAM EXERCISES

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.

HELP WHEN YOU NEED IT

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 with in a truly asynchronous fashion. In addition to learning to code, you will have access to a set of career services that will help you to prepare for technical roles after graduation.

- Career Services
- Access to Prospective Employers
- Lectures and Workshops
- Hiring Partner Supported Projects
- Customizable tools and templates
- Guest Speakers

- Career Coaching
- Demo Days
- Soft Skills Training
- Private Company Tours
- Personal Job Matching
- Frequent program enhancements driven by employer partners

Portfolio

BUILDING YOUR PORTFOLIO

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.

MY FULL STACK FLEX 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
- Git
- Bootstrap
- Heroku

Objectives

- Have 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 FRONTEND PROJECT

The frontend project 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 and OMDb API.

Skills Needed:
- HTML5/CSS
- JavaScript/jQuery
- API Consumption
- JSON
- Cloud Database Usage

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 fullstack web application you'll create an intuitive frontend/robust backend and scalable database.

Skills Needed:
- HTML5/CSS
- JavaScript/jQuery
- State Management
- Sessions
- Bootstrap
- MySQL
- Node.js
- Express
- ORM
- Interactivity (AJAX)

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

ASP.NET APPLICATION

Exposure with Microsoft's versatile .NET ecosystem is highly sought after by employers. Familiarity with web development using C# and ASP.NET is a sure way to earn their attention.

Skills Needed:
- HTML/CSS
- SQL & NoSQL Databases
- Git
- C#
- ASP.NET

Objectives
- Create an ASP.NET Project
- Use databases to build dynamic web applications
- Build cloud-based web apps and services
- Implement robust and flexible APIs
- Use C# to explore .NET's many cross-platform frameworks

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 we've learned!

Objectives

- Define project scope
- Quality Assurance testing
- Responsive Design
- 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 that comprises a web page does.	• Creating a webpage 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 API's • Parsing JSON to extract meaningful data • Using AJAX to update data on a website without having to hit the "refresh" button in the browser
Module 3: **Server Side** (Weeks 10-19)	Have you ever wondered where websites come from? 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, Counts strategically
Module 4: **C#, ASP.NET** (Week 20-21)	ASP.NET is a flexible C# web framework, designed to maximize programmer productivity. ASP.NET allows developers to build safe, scalable, and robust applications, quickly.	• Create web apps and APIs • Take a deep dive into C# and ASP.NET • Build safe applications for large numbers of users
Module 5: **Computer Science Fundamentals** (Week 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** (Week 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