AFTER-HOURS FRONT-END BOOTCAMP

DETAILED COURSE OVERVIEW AND SYLLABUS
OVERVIEW

The after-hours Front-End bootcamp at Grand Circus is designed to transform you from coding novice to programming powerhouse in twenty-six weeks of intensive technical and career readiness training. You’ll leave bootcamp with a solid foundation of coding front-end experiences using Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript and Angular. Because the web is powered by a combination of visual front ends with data-crunching back ends, Grand Circus integrates back-end coursework like servers and JSON APIs, and SQL so you leave with an understanding of how front-end experiences relate to back-end systems. All along the way and after bootcamp, get essential training and support you need for a successful job search.

WHAT YOU’LL LEARN

• How to create responsive experiences with Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript
• Front-end web application development with modern JavaScript frameworks such as Angular
• Collaborative software development and version control with Git and GitHub
• Software development and programming best practices that separate great developers from the rest
• Best practices for deploying applications
• Working with back-end servers and JSON APIs to provide the data behind the experience
• Consuming and integrating third-party application programming interfaces (APIs) in an application
• Agile application development

WHAT TO EXPECT IN CLASS

• Explore new concepts and tools through expert-led lectures and discussions
• Complete coding exercises to reinforce newly learned skills
• Dive deeper into topics and techniques via independent, pair, and group programming labs
• Receive individualized feedback and support from your expert instructional team
• Apply what you’ve learned to homework assignments and mid-term projects and demo day, building out a professional portfolio to show off job-ready skills
NAVIGATING YOUR NEW CAREER PATH

As a Grand Circus after-hours bootcamp student, you'll receive personalized support from our team of career coaches and program managers designed to support your future career ambitions, not only for your first job after bootcamp but for your long-term career in tech (or wherever your new skills will take you!). Navigating a new industry can be difficult; our career services team has crafted a learning approach that teaches students how to identify goals, research their options and find their competitive edge. This collaborative relationship between students and staff takes hustle and hard work. Our proven process works when students work with the process.

THROUGHOUT BOOTCAMP YOU WILL:

- Learn skills to combat impostor syndrome, something many developers struggle with. We'll help you identify signs of self-doubt, ways to overcome them, and guide you through constructive ways to give and receive feedback
- Understand and prepare for the career search process in your new industry
- Determine career goals and keep them motivated in successfully finding their dream job
- Our team works directly with students to identify and fulfill “must-haves” for their in-person and digital presence. Even the smallest details matter and we support each student as they work toward having a polished approach to the career search
- Practice behavioral and technical interviews with upfront training, tips, and mock interviews to improve your interviewing confidence
- Hear from guest speakers and participate in workshops designed to prepare you for your new career
- Learn to assess your skills objectively against job descriptions
- Build your unique professional brand
- Show off your new skills and connect with employers at Demo Day
- Get connected to the tech community through hosted meetups and community events
## UNIT ONE: GETTING STARTED

Set yourself up for success with two weeks of online self-paced lessons covering essential programming concepts in HTML, CSS, and JavaScript. Orient yourself with basic programming tools and techniques. This unit provides the foundation of web programming that will be built on in the following units. Get help with weekly coaching with our team of highly-qualified code coaches. Gauge your bootcamp-readiness with a final assessment.

- HTML & CSS basics
- FlexBox
- JavaScript basics
- Introduction to the command line
- Fundamentals of Version Control (Git/GitHub)

### UNIT TWO: HTML/CSS

Cement the foundations of building websites with HTML and CSS. Develop proficiency with the basic tools of a web developer. Understand how websites are designed and created.

- HTML, CSS, and FlexBox in greater depth
- UX/UI & Wireframing
- Responsive Web Development
- Pair Programming
- Coding best practices
- Version Control: Branching and Merging

### UNIT THREE: JAVASCRIPT

Add interactivity to websites using the JavaScript programming language. Make the page respond to clicks, mouse gestures, and forms. Calculate and display live data on the web.

- Introduction to JavaScript
- Control Flow
- Functions
- Methods, Objects, and Arrays
- Scope, Hoisting, and Closure
- The DOM
- ES6+
- Debugging
- Exceptions and error handling
- Documentation
UNIT FOUR: ADVANCED TOPICS
Go deeper into techniques and tools that make the difference between good developers and great developers.

• Data Structures
• Algorithms
• Writing efficient code
• Test Driven Development
• Creating and running tests
• Jest
• Jasmine/Karma

UNIT FIVE: ANGULAR 8
Use Angular, a popular modern framework, to build increasingly complex web applications. Angular builds on top of earlier HTML, CSS, and JavaScript skills to enable fast, powerful, and useful user interactions.

• TypeScript
• Introduction to Angular
• Component-based Architecture
• Services Routing
• Angular-CLI

UNIT SIX: NODE.JS
The web is powered by a combination of visual front ends with data-crunching back ends. Learn to work with back-end servers and JSON APIs to provide the data behind the experience.

• Intro to Node.js
• Creating modules
• Express, Postman, and REST: Consuming and Creating APIs
• Asynchronous Programming
UNIT SEVEN: DATABASES & FINAL PROJECT PREPARATIONS

Web applications need data. Create SQL databases to manage large amounts of information. Use JavaScript to work with these databases and allow users to interact with this data.

- SQL
- PostgreSQL
- Interfacing with Postgres through Node-pg
- Deployment

UNIT EIGHT: FINAL PROJECTS

Following an agile software development process, students work in groups to complete web application projects of their choice. Each team first creates a minimally-viable product to fulfill mandatory technical elements, then iterates based on feedback, refining and adding additional features. At the end of the bootcamp, teams present their projects to family and friends at Graduation Night and then employers at Demo Day!

The final project gives students extensive practice in:

- Following an agile process
- Collaborating on a software development team
- Receiving and acting on feedback
- Reviewing and documenting code
- Maintaining and building a codebase through good Version Control processes
- Putting the technologies they've learned in bootcamp into practice by creating a full-fledged web application

CAREER READINESS

Students build their career and soft skills in sessions throughout the bootcamp:

- Impostor Syndrome + Giving & Receiving Feedback Workshop
- Career Inspiration & Exploration
- Employable You (LinkedIn Workshop)
- Communicating for Success
- Interview Prep
- Distinct Value Add
- Mock Behavioral & Technical Interviews