



# Web Development Program

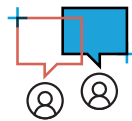
Curriculum Package

# The Lighthouse Labs Experience

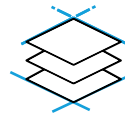
Digital skills are revolutionizing nearly every industry across the world. With the demand for effective, creative software developers increasing daily, we're doing our part to train the next generation of tech talent and make tech more accessible and inclusive. This is personalized, outcomes-driven web development training meets you where you're at. Every module of this program is designed to guide you through becoming the most effective and impactful developer you can be.



Industry-Driven  
Education



Personalized  
and Immersive



Vast Tech Stack of  
Essential Modern  
Technologies



Hands-On Collaborative  
Learning Environment

## Your Learning Journey Will Allow You To:

- Troubleshoot and debug problems in web development
- Demonstrate problem-solving skills by creating basic algorithms for coding challenges
- Analyze the benefits and limitations of coding solutions and ideas critically
- Understand the components that constitute a web application
- Contribute to full-stack web apps using modern patterns, tools, and workflows
- Know how computer science concepts are applied to web development
- Work collaboratively on web development projects
- Employ learning strategies that enable you to continue to build your skillset



Our annual **Student Outcomes Report** is proof that our outcomes-obsessed curriculum works. 85% of eligible job-seeking graduates of our Web Development Bootcamp obtain employment after graduation, and **82% of them do so within just 180 days** of graduation.

## Learn How to Learn

Our curriculum is carefully crafted in alignment with industry trends and the expertise of tech leaders to bring you exactly what you'll need to succeed as a developer. Throughout the program, you'll learn how to learn through a creative, personalized, outcomes-oriented structure.

The goal is to set you up with the tools you need to be effective, adaptive, and curious in your career as a developer. With this in mind, we orient our curriculum around three main pillars of knowledge that are essential for software development.

## Web Development Pillars



### Application Development

- Accessible, clean code
- Deployment and hosting
- UX/UI
- Modern languages, frameworks, and libraries
- Pair programming and collaboration



### Computer Science

- Algorithm design
- Data structures and trees
- Recursion and automation
- Object-oriented programming



### Software Engineering

- Test-driven development
- Critical analysis and software evaluation
- Source code version control and organization
- Modularity and testability

## Immersive and Collaborative Learning

Being a web developer is all about collaboration. You'll need to work alongside other developers to craft and iterate software, websites, and applications throughout your career. We designed our curriculum with this team-centric approach in mind.

### Pair Programming

Pair programming is a software development technique where two developers work in tandem on a project. During weekly sessions, you'll partner with peers to encourage that all-important peer-to-peer, social learning.

### Group Projects

You'll collaborate closely with your peers to build robust web applications for your midterm and final projects. You'll use a Git workflow to write collaborative code and employ Agile practices to turn your user stories into production-ready software.

# Build Your Portfolio

## Core Curriculum Projects

Your ability to code and get the work done is important to your value as a developer. Here you'll spend 70% of your time working on programming because that's how you'll be able to actually learn in a deep, meaningful way. Every module contains a mini-project that helps you build, strengthen, and consolidate your skills. By the time you graduate, you'll have a complete portfolio of real apps to show potential employers.

## Midterm and Final Projects

You'll have two major projects during this program: one midway through the program and one at the end. During these projects, you'll collaborate with your peers to apply the skills you've been learning throughout the program.

These projects are great opportunities to build up your budding developer portfolio, learn how to apply techniques and processes, and solve problems in a creative environment. Through them, you'll establish effective team workflows and dynamics, learn how to tailor communication and presentation to audience type, and above all, flex your coding skills.

# Consolidate Your Knowledge

## Research and Reflect

The software industry is constantly evolving, and developers need the ability to step back, research, and evaluate new technologies, products, and architectural styles. We help you build this skill through short weekly reflections and peer review sessions. By the time you graduate, these reflections will form a technical portfolio you can use to prove to employers you know a lot more than just how to write code.

## Code Challenges

At the end of each week, you'll complete coding challenges to bring together some of the concepts you've learned and put your skills to the test.

## Technical Interviews

Technical interviews for jobs also often include a computer science component. We'll set you up for success through weekly kata training challenges and a series of mock technical interviews with mentors. Within these sessions, you'll get to practice skills and learn to present complex knowledge in an accessible, clear-cut way.

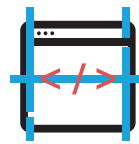
# Our Tech Stack

While learning key programming languages and tools prepares you for your first role, a lifelong learning mindset amid a changing industry and landscape is vital. That's why we cover a myriad of tools and technologies vetted by subject matter experts, our network of employers, and members of the broader tech community — equipping you with marketable, industry-relevant digital skills.



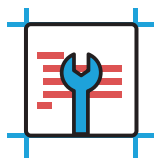
## JavaScript and Node.js

JavaScript is the universal programming language of the web. You'll gain firsthand experience with Javascript and Node ecosystems, as well as modern tooling and libraries like Babel and Webpack.



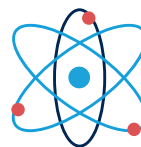
## HTML, CSS, and More

HTML and CSS are the building blocks of the modern web. You'll learn to create gorgeous, responsive UIs for web apps with HTML5 and CSS3 and modern front-end tools like Babel and Webpack.



## Automated Testing

Testing code manually can be tedious. Capable developers are expected to include automated tests along with the code that they write. We'll teach you methodologies and best practices like test-driven development (TDD) and how to leverage tools like Mocha, Chai, Selenium and RSpec.



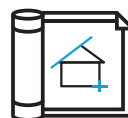
## React JS

React JS has quickly become one of the most used JavaScript frameworks. While building a single-page application, you'll discover a new way to think about structuring user interfaces by using components, one-way data flow and the Virtual DOM.



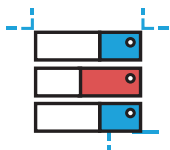
## Ruby on Rails

This dynamic duo of language and framework is one of the most widely used and polished modern technologies for web development. You will become familiar with Rails core concepts, like the MVC design pattern, and how to communicate with databases to persist data.



## Software Architecture

Understanding how software components should be organized is essential for your career growth as a developer. You'll learn software architecture by studying programming practices, from good database modelling to abstraction and well-encapsulated code, as well as modular design.



## Databases and Data Modeling

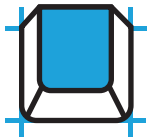
Relational and document databases are two of the prevailing paradigms used today. We'll teach you to be comfortable with SQL, object-stores, and how to leverage ORMs like ActiveRecord for data persistence.



## Computer Science Fundamentals

Computer science concepts like data transformation and algorithms help developers understand the theory of how computers and programs work. You'll establish a solid foundation, giving you a stronger advantage in technical interviews and across your career.

# Curriculum Breakdown



## Prep Work

Before starting the program, students must complete a self-paced Prep Work module. The objective is to bring everyone on the same level in terms of technical expertise before the program begins.

- The command line
- Version control
- Environment setup
- Introductory JavaScript
- HTML



## Fundamentals

- Javascript
- Debugging
- Unit testing
- Asynchronous code
- Promises
- NPM and package management
- Test-driven development (TDD)

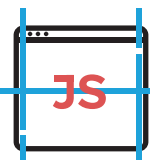


## HTTP

- Node.js
- Express
- HTTP
- JSON
- Git and Git workflow

### Project

TinyApp: a bit.ly-like URL shortener



## Front-End Fundamentals

- HTML5
- CSS3
- jQuery
- AJAX
- Client-side JS
- Responsive design

### Project

Tweeter: a single-page mini Twitter clone



## Databases

- Relational databases (using PostgreSQL)
- Completing complex database queries
- Document databases
- Database design
- Database performance
- Using databases in web applications

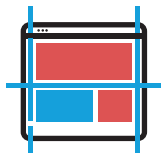


## Midterm Project

- Git workflow
- Teamwork
- Project management

### Midterm Project

ideate and build your first full-stack web app from scratch with a team



## React

- Component-based design
- React
- Webpack
- Babel
- Component testing in React
- End-to-end testing

### Project

Scheduler

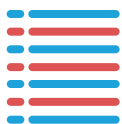


## Ruby/Rails + OOP

- Object-oriented programming (OOP)
- Ruby
- Active record
- Rails
- MVC

### Project

Jungle: you will inherit a pre-existing Ruby on Rails e-commerce application and enhance it



## Advanced Topics

- Continuous integration
- Continuous delivery
- Code coverage
- Web infrastructure and DevOps introduction
- 12-Factor applications
- Prototypical inheritance in JavaScript
- OWASP (Web Application Security)

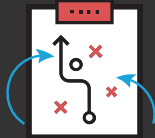


## Final Project

A fully-functional web app built from scratch using a tech-stack and team of your choosing!

## Launch Your Career

Our dedicated Career Services team is here to help you jump from the classroom to your first web dev job as smoothly as possible.



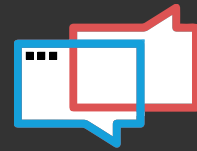
### Personalized Coaching

Our team will work with you to map out a rigorous career plan and help you achieve it.



### Resume and Interview Help

Detailed feedback and tips will help you perfect your points of contact with potential employers.



### Connect with Employers

Tap into our vast network of leading tech employers through events, networking, and more.

Finding a job is no easy task, whether you're pivoting from a different role or looking for your first ever position. We're here to help you connect with fulfilling employment that'll keep you developing your abilities and building your skillset on the job. With an excellent reputation within the industry, hiring partners see us as a trusted source for finding talent. We also maintain relationships with an ever-growing network of industry contacts, keeping our finger on the pulse of what employers are looking for in this fast-paced industry. Our expert Career Services team will support you throughout your professional development journey, guiding you through growth even after you leave Lighthouse Labs.

Our support doesn't end at graduation — it's yours for life.

## Life After Lighthouse Labs



### Community

As an alumni, you remain an active part of our community. We host Demo Days, guest speakers, and exclusive alum events on the regular.

You also gain access to our Alumni Discord channel, where you can keep in touch with your peers, organize educational and social events, and hear about recurring alum events.



### Lifelong Learning

As a Lighthouse Labs alumni, you will always have access to our curriculum and its future iterations — yes, until the end of time.

Your access to our learning platform never expires. You'll benefit from ongoing lecture notes and learning resources as we continue to iterate our world-class curriculum.



# A Support Ecosystem Adapted to Your Needs

## On-Demand Mentorship

Mentorship is the backbone of our programs. If you're stuck on a tricky assignment, you can count on our outstanding mentors to be there for you at the click of a button. As working industry professionals, our mentors are also key in building industry connections to support your future career success.



## Proactive Student Support

Support from the day you apply to the day you graduate. We pride ourselves on our hands-on, proactive education approach, so you can expect daily and weekly check-ins from Student Success Coordinators to track your progress and support your student experience.



## Accessible Education

We're committed to building a diverse and inclusive learning community. If you need help and support as a student, we're here for you. Accessibility is not one-size-fits-all, so neither is your accommodation plan. We work with each student to develop personalized plans that support their individual needs.



Learn more about accommodations and accessibility at Lighthouse Labs on our [website](#).



## About



Lighthouse Labs was launched in 2013 with the goal of finding innovative ways to train the next generation of tech talent. In an age of technological disruption across every industry, our mission is to give Canadians the skills they need to find long-lasting careers in a digital workforce. We've since delivered hands-on technology and data education to over 40,000 Canadians, equipping them with the relevant tools to thrive in the future of work.

With the support of a brilliant team of instructors and mentors, we continue to empower students, launch careers, and contribute to the incredible growth of Canada's tech industry.

# Ready to code?

Apply Now

