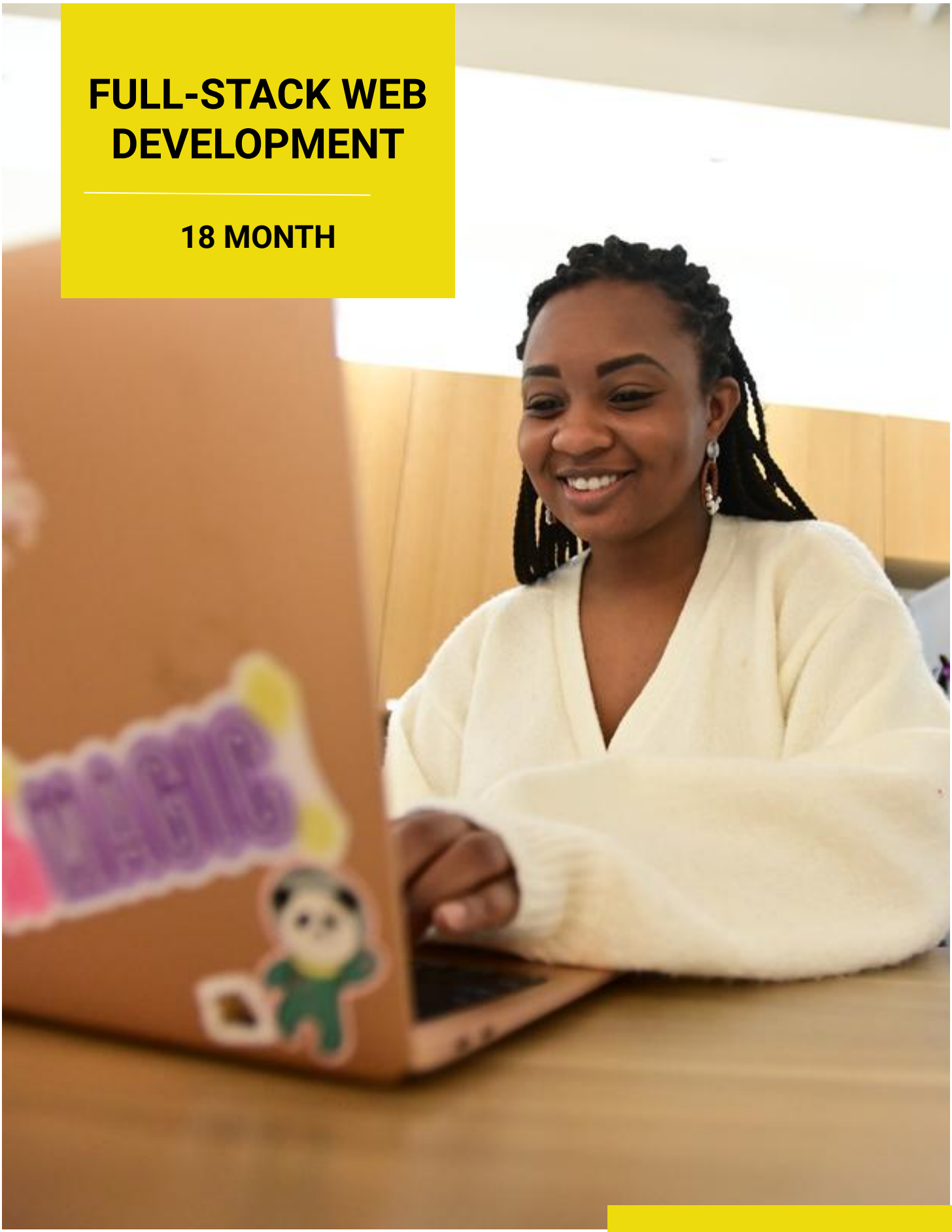
FULL-STACK WEB DEVELOPMENT

18 MONTH



Holberton

What Your Students Will Learn

Foundation of Software and Engineering

This foundational knowledge of how computers and programming languages work will allow your students to optimize and debug anything later on in their professional career. Students will also begin working with algorithms and data structures which are essential foundations for great Software Engineers - the type that the best companies hire.

In the first sprint of foundations, Students will work in C and Unix programming, graphical programming, data structures, assembly language, and algorithms as well as reverse engineering and security protocols.

From there, they are introduced to higher-level languages, increasingly advanced algorithms, space and time complexity, database management, and front-end programming. Using the latest technologies, they will begin to create a complete web application project that will span the rest of the foundation sprints.

The final sprint of foundations emphasizes automation, scalability, and reliability, so that students are familiar with the infrastructure and best practices similar to those in tech powerhouses. Alongside a continuation in web development, they will also advance in algorithmic understanding, technical writing, debugging, and project management.

Examples of Projects

- Write printf function
- Web stack debugging
- Clone a marketplace
- Code a shell

FULL-STACK WEB DEVELOPMENT OVERVIEW

Foundation of Computer Science & Software Engineering

1st Sprint

01

- Git and command line editors
- Introduction to Bash
- C - first statements
- C - pointers
- C - recursion
- C - static library
- C - memory allocation
- C - preprocessor
- C - variadic functions
- C - bit manipulation
- C - file I/O
- Singly linked lists
- Create your own printf
- Create your own basic Shell

2nd Sprint

02

- Python - first statements
- Python - import and modules
- Python - data structures
- Python - exceptions
- Python - classes
- Python - inheritance
- Python - file I/O
- Python - JSON serialization/deserialization
- HTML/CSS introduction
- SQL - basic queries
- SQL - join queries
- C - dynamic libraries
- C - makefiles
- Doubly linked lists
- Stack and Queues
- Hash tables
- Sorting algorithms
- Binary trees
- Bash - scripting
- Unix processes and signals
- Regex
- Network introduction

3rd Sprint

03

- Python - Object-relational mapping
- Python - Web framework
- Python - RESTful API
- Python - web scraping
- Javascript - first statements
- Javascript - objects
- Javascript - scopes and closures
- Javascript - web scraping
- Search algorithms
- SSH
- SSL certificate
- Web server
- Load balancer
- Firewall
- MySQL primary-replica
- Server monitoring
- Code deployment
- Postmortem
- Webstak debugging
- Portfolio project

Specialization

18 MONTH PROGRAM

Specialization in Full-Stack Web Development

Master Web Development

Streaming sites. Online stores. Government services. Our own website. All of these are powered by a combination of front-end and back-end web technologies. With our Full-Stack Web Development specialization, Student will get an in depth education of the most popular web technologies and practical experience with developing useful web products.

This program is ideal for people who want to understand the whole picture of web development.

Following the three sprints of Foundation program, students will focus on the most popular languages and technologies for web development, including Javascript, Python, React, Redis, MySQL, Node.js, SASS, and more.
They will also learn best practices like user authentication, background jobs, and responsive design. Whether it's front-end, back-end, or full-stack engineering, this curriculum prepares people to create, maintain, and improve web applications and websites.

Typical job titles include: Full-stack web developer, Front-end developer, and Back-end developer.

Examples of Projects

- Desktop and mobile version of websites
- MySQL performance debugging
- Cache from scratch
- Authentication service
- Background jobs system
- Student dashboard in React
- CRM dashboard in React

FULL-STACK WEB DEVELOPMENT OVERVIEW

Full-stack Web Development

Sprints 1 to 3

Foundations of Computer Science & Software Engineering

4th Sprint

04

- HTML/CSS advanced
- Developer tools
- SASS
- Flexbox and responsive design
- Form and Accessibility
- Bootstrap
- Javascript/JQuery advanced
- Cookies & local storage
- UI/UX research and development
- Build static web pages from a designer file
- Build a dynamic web application JavaScript

5th Sprint

05

- Advanced Python 3
- Personal data
- Authentication - basic and sessions
- User authentication service
- API Pagination
- Caching algorithms
- i18n
- Unit and integration tests
- MySQL advanced
- NoSQL introduction
- Redis introduction
- ES6 introduction / promise
- ES6 classes / data manipulation
- Node JS introduction
- Queuing system

6th Sprint

06

- TypeScript
- Webpack
- React introduction / props
- React component
- React inline-styling
- React state / immutable
- React Redux - action creator/normalizr
- React Redux - reducer/selector
- React Redux - connector/provider
- Implementation from a Designer file
- Learning project of your choice

End.

18 MONTH PROGRAM

Contact us

Connect with our team

Our projects-based programs are designed with your success in mind.

Along with Full-Stack Web Development, we offer emerging technology Specialization programs:

- Augmented Reality & Virtual Reality,
- Low Level and Algorithms,
- Machine Learning,
- DevOps,
- Front-end Web Development,
- Back-end Development,
- And many more, depending on your needs.

All programs can be customized based on your needs; you specify the length, the pace, and the pedagogical goals. Let's get started

Visit our Website: www.holberton.us