

14-week Full-Stack Bootcamp Curriculum

This repository will eventually contain all the modules for Tech Elevator's 14-week, full-stack web development bootcamp curriculum.

Inside each module, a folder for each day of the module will be created. Inside that day, you'll find the following folder structure:

- **lecture:** Any code or documentation needed for the student to go through the lecture
- **lecture-final:** The final lecture code created during class
- **tutorial:** Any code or documentation needed for the student to follow along with the tutorial
- **tutorial-final:** The final solution for the tutorial
- **exercise:** The starting code and documentation for the student exercises

Module 1: Intro to Programming

Module 1 covers an introduction to either Java or C#, depending on the language track of the class. Included in the material are Datatypes, Expressions and Statements, Object-Oriented Programming Principles, Exception Handling, File I/O, and Unit Testing.

Module 2: Database Programming

The first two weeks of this module introduce SQL as a query language and then leverage C# and Java to issue SQL commands against databases.

The third and fourth weeks cover writing client-server applications using Web Services. This includes both implementing web service clients using either Java or C# and writing server-side code that implements a RESTful web service API.

Module 3: Web Applications

Module 3 covers an introduction to front-end web application development using HTML, CSS, and JavaScript. This includes the fundamentals of JavaScript and a framework called Vue.js that students can use to build applications.

14-Week Syllabus

The table below lists the Topics for each day as well as the Sections and Units to be completed before each day's lecture **including quizzes and tutorials if present:**

			Topic	Section - Unit(s)
Module 1	Week 1			Intro to Tools - Student guide
	September			Intro to Tools - How do I...?
	12	Day 1	Introduction to Tools	Intro to Tools - File system and command line
				Intro to Tools - Git

		Day 2	Variables and data types	Intro to Tools - Java Intro to Tools - IntelliJ Intro to Programming in Java - Variables and data types
		Day 3	Logical branching	Intro to Programming in Java - Logical branching
		Day 4	Loops and arrays	Intro to Programming in Java - Loops and arrays
		Day 5	Command-Line programs	Intro to Programming in Java - Command-line programs
	Week 2 September 19	Day 1	Intro to Objects (Strings)	Intro to Programming in Java - Intro to objects
		Day 2	Collections Part 1	Intro to Programming in Java - Collections (Part 1)
		Day 3	Collections Part 2	Intro to Programming in Java - Collections (Part 2)
		Day 4	Classes and encapsulation	Intro to Programming in Java - Classes and encapsulation
		Day 5	Review	
	Week 3 September 26	Day 1	Inheritance	Intro to Programming in Java - Inheritance
		Day 2	Polymorphism	Intro to Programming in Java - Polymorphism
		Day 3	Managing inheritance	Intro to Programming in Java - Managing inheritance
		Day 4	Unit testing	Intro to Programming in Java - Unit testing
		Day 5	Review	
	Week 4 October 3	Day 1	Exception handling & File I/O Reading	Intro to Programming in Java - Exception handling Intro to Programming in Java - File I/O reading
		Day 2	File I/O Writing	Intro to Programming in Java - File I/O writing
		Day 3	Review	
		Day 4	Capstone Day 1	
		Day 5	Capstone Day 2	

Module 2	Week 5 October 10	Day 1	Intro to databases	Intro to Tools - PostgreSQL Client-Server Programming in Java - Intro to databases	
		Day 2	Ordering, limiting and grouping	Client-Server Programming in Java - Ordering, limiting, and grouping	
		Day 3	SQL Joins	Client-Server Programming in Java - SQL joins	
		Day 4	Insert, update, and delete	Client-Server Programming in Java - Insert, update, and delete	
		Day 5	<i>Tech Elevator Company Holiday - Campus Closed</i>		
	Week 6 October 17	Day 1	Database design	Client-Server Programming in Java - Database design	
		Day 2	Data access and DAO	Client-Server Programming in Java - Data access and DAO	
		Day 3	Data security	Client-Server Programming in Java - Data security	
		Day 4	DAO testing	Client-Server Programming in Java - DAO testing	
		Day 5	Review		
	Week 7 October 24	Day 1	Networking and HTTP & Consuming RESTful APIs (Part 1)	Intro to Tools - NPM Intro to Tools - Postman Client-Server Programming in Java - Networking and HTTP Client-Server Programming in Java - Consuming RESTful APIs (Part 1)	
		Day 2	Consuming APIs (Part 2)	Client-Server Programming in Java - Consuming RESTful APIs (Part 2)	
		Day 3	Server Side APIs (Part 1)	Client-Server Programming in Java - Server-side APIs (Part 1)	
		Day 4	Server Side APIs (Part 2)	Client-Server Programming in Java - Server-side APIs (Part 2)	
		Day 5	Securing APIs	Client-Server Programming in Java - Securing APIs	Day 5
	Week 8 October	Day 1	Review		

	31	Day 2	Review		
		Day 3	Capstone		
		Day 4	Capstone		
		Day 5	Capstone		
Module 3	Week 9 November 7	Day 1	Intro to HTML and CSS	Intro to Tools - NPM (revisit) Intro to Tools - Visual Studio Code Intro to Tools - Cypress Web Application Development - Intro to HTML and CSS	
		Day 2	CSS Selectors & and box model	Web Application Development - CSS selectors and box model	
		Day 3	CSS Grid	Web Application Development - CSS Grid	
		Day 4	CSS Flexbox	Web Application Development - CSS Flexbox	
		Day 5	Review		
		Week 10 November 14	Day 1	Intro to JavaScript	Web Application Development - Intro to JavaScript
			Day 2	JavaScript functions	Web Application Development - JavaScript functions
			Day 3	DOM	Web Application Development - DOM
			Day 4	Event handling	Web Application Development - Event handling
			Day 5	Review	
	Week 11 November 21	Day 1	Intro to Vue.js	Intro to Tools - Vue Web Application Development - Intro to Vue.js	
		Day 2	Vue event handling	Web Application Development - Vue event handling	
		Day 3	Vue component communication	Web Application Development - Vue component communication	
		Day 4	Thanksgiving - Campus Closed		
		Day 5	Thanksgiving - Campus Closed		

	Week 12 November 28	Vue Router	Web Application Development - Vue Router	
		Day 2	<i>Employer Matchmaking - No lecture</i>	
		Day 3	Web Services (GET)	Web Application Development - Web services (GET)
		Day 4	Web Services (POST) and error handling	Web Application Development - Web services (POST) and error handling
		Day 5	Review	
Final Capstone	Week 13 - 14 December 5	Day 1	<i>Employer Matchmaking</i>	