Part	Week(s)	Description of Curriculum
Part 1: Ruby Foundations	**Week 1**	- Primitive data structures - Booleans - Integers - Floats - String Manipulation - Debugging - Reading the stack trace - Using debuggers correctly - Intro to scientific method - Methods, Iteration, Input/Output, Code Style - Array#each, Array#each_with_index - DRY - Blocks, Procs, and Lambdas - Descriptive variable naming - Scope
	Week 2	- Classes and Object Oriented Programming - Class#initialize method - Inheritance, subclasses, superclasses - Downsides of monkeypatching - Pass by reference - Hashes - Hash methods (#key, #merge, #delete) - Computer Science design patterns and Refactoring - Singleton Pattern - Code smells: Long methods, data clump, long method chains, god objects - Law of demeter
	Week 3	- Recursion - Base cases - Inductive reasoning - Call stack - Recursion - Git - Repositories, repos, and remotes - Add, commit, branch, merge - Pushing, pull requests - Algorithms and Data structures

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		○ Binary trees
		○ Breadth-first search
		○ Depth-first search
		○ Algorithmic interview-style problems

Part 2-11: Software Engineering Deep Dive

Parts 2 - 11 consist of 455 hours of on-campus instruction (13 weeks x 35 hours/week). These hours exclude a 75 – minute lunch break from 12:15pm to 1:30pm.

Part	Week(s)	Description of Curriculum
Part 2: Ruby	**Week 4**	● Serialization 　○ JSON, YAML, saving program state ● Larger projects 　○ Games: Chess, Poker ● Class inheritance 　○ Class constants 　○ Games ● Testing 　○ Rspec: subject, let 　○ Test-driven development 　○ Mocks and stubs
Part 3: SQL	**Week 5**	● Exceptions, error handling 　○ Raising and catching exceptions ● Big-oh notation 　○ Constant, logarithmic, linear, linearithmic, quadratic, exponential 　○ Time and space complexity ● Additional algorithms 　○ Merge sort, bubble sort ● Basic SQL 　○ Databases 　○ Schemas 　○ SELECT, WHERE, JOINS, GROUP BY, and other clauses

Part 4: Rails Back End	Week 6	- Migrations - Rake - Rollbacks - Seeds - ORM - ActiveRecord - Associations: has_many, has_one, belongs_to - Join tables - Validations: presence, length, custom validations - Constraints - Metaprogramming, Class instance variables #send, #method_missing, #define_method - HTTP, APIs - Parameters - JSON - RESTful Routing - TCP/IP - Cookies - Session and state - OSI Model - Rails Controllers - Filters - Mass assignment
Part 5: Ruby Full Rails	Week 7	- Authentication, OAuth - Templating - ERB, JBuilder - View Partials - HTML Forms - Input types - POST requests - CSRF and security - Authenticity tokens in Rails - Encryption, hashing - Private and public keys - Deeper Rails - Polymorphic associations - Concerns - CSS - Selectors - Pseudo-selectors

		- SASS, Responsive Design - Integration testing - Selenium, Capybara
Part 6: JavaScript	**Week 8**	- Web Servers - Middleware, Rack, Webrick - HTTP requests and responses - Regular Expressions - Larger Projects in Rails - Reddit, Poll App - Rails Lite: Building Rails internals - Fundamentals - Basic Data Types, Objects - Prototypal inheritance - Functions as first-class objects - Server-side JS - Node.js - File system access - NPM
Part 7: Front End Engineering	**Week 9**	- Object Orientation in JavaScript * Closures and Scope - File Input/Output - Scope - The `this` keyword - Closures - Bind, call, and apply - Modules in JavaScript - Module Pattern - IFFEs: Immediately invoked function expressions - Require.js - Build tools - Webpack - Asset compilation - AJAX - Asynchronous code - Single-page apps
Part 8: React	**Week 10**	- React - Components - Component Lifecycle - Babel, JSX transpiling - React code style: separating concerns - React router - Flux + Redux

		○ Overall Flux Pattern ○ Redux built from scratch

Part 9: Redux	**Week 11**	● Redux
		  ○ Middleware
		  ○ Jbuilder
		  ○ Dispatcher, Stores, Actions
		  ○ Event-driven architecture
		  ○ Mixins
		● Larger Single-page App projects
		  ○ AirBnb Clone

Part 10: Full Stack Project	**Week 12** **Week 13**	● Cloud storage: filepicker and S3 ● Modals ● Real-time communication: WebRTC and Pushr ● Kaminari ● Deployment: Heroku ● Background tasks ● Caching and Redis ● CSS Flexbox

Part 11: Job Search	**Week 14**
	Week 15
	Week 16
		● Resume writing
		● Interview skills
		  ○ Personal pitch
		  ○ Behavioral questions
		● Tech Companies: culture and processes
		● Full Stack Mern Project
		● Algorithms
		  ○ Time Complexity and Big Oh
		  ○ Memory, Pointers and Static Arrays
		  ○ Dynamic Arrays and HashMap
		  ○ LinkedList, LRU Cache, Memoization and Dynamic Programming
		● Technical interviews
		  ○ Take-home problems
		  ○ Pair programming
		● Whiteboarding problems
		● Negotiations
		● Web architecture
		● JS projects
		  ○ Games
		  ○ CSS demos
		  ○ Algorithm visualizations
		● Algorithms
		  ○ Heaps, Heap Sort
		  ○ Merge Sort and Quick Sort

		○ Analysis of Sorting Algorithms ○ Binary Search Tree ● Managing the job search 　　○ Setting expectations 　　○ Time management ● Networking ● Graduation events

Bootcamp Prep & Bootcamp Prep Online

Bootcamp Prep and Bootcamp Prep Online are 70-hour preparatory courses which introduce students to the fundamentals of JavaScript. The courses also serves as sufficient preparation for students who wish to enter App Academy or other programming bootcamp programs. It is designed to give students inside knowledge about the bootcamp admissions process and to help them become the most qualified candidate possible. By the end of the course, students will:

- Solve relatively complex problems in JavaScript.
- Have an intermediate understanding of JavaScript
- Have confidence to explore new topics on their own.
- Have the skills to apply to any coding bootcamp.
- Have a thorough understanding of Coding bootcamp application and interview processes.
- Possess strong technical interview and presentation skills.
- Be a high performer in the coding bootcamp of their choosing.

Bootcamp Prep v. Bootcamp Prep Online

Bootcamp Prep and Bootcamp Prep Online follow the same curriculum, but there are differences between the two programs:

Criteria	Bootcamp Prep	Bootcamp Prep Online
Location of Program	In-person at App Academy	Remote
Length of Program	One month of structured classes (2.5 hours/day x 5 days/week x 4 weeks)	Self-guided over 2 months*
Access to Faculty	In-person during class and via online communication systems (Slack, email)	General instruction: Via online communication systems (Slack) Assessments: Via email**