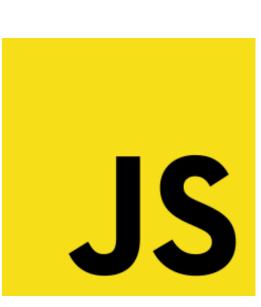


The Corndel Software Engineering Academy: JavaScript course summary



Module 1 – Introduction to Javascript 3 weeks

3 weeks (Full time)

8 weeks

10 weeks

- Employer induction and familiarisation
- Pre-reading

Writing Javascript Code

Module 2 – Bootcamp

- Using intelliJ Development Environment
- Using Git for Version Control
- · Writing Clean Code
- Unit Testing
- Debugging and Problem Solving Skills Working with Files
- Working with HTTP
- Working with Node
- Writing Javascript for the Browser

Numbers, Dates and Times

Functional Programming

String Formatting

Type Coercion

Closures

Module 3 – Further Javascript

- HTML
- CSS
- SASS
- Principals of User Experience (UX)

Module 4 – Web Development

- Express
- Accessibility
- Server-side Rendering
- Responsive Design
- Linting
- Security

Module 5 – Principles of Clean Code

3 weeks

- DRY (Don't Repeat Yourself)
- YAGNI (You Ain't Gonna Need It)
- Separation of Concerns
- Principle of Least Surprise
- Levels of Abstraction

Pure Functions

Module 6 – Data Structures

3 weeks

- Algorithmic Complexity
- Sorting Algorithms
- Searching Algorithms
- Working with Collections

Module 7 – Frontend Frameworks

· Libraries, Frameworks and Package Management

Threads and Asynchronous Programming

3 weeks

- Working with The DOM
- JQuery
- Popular Frontend Frameworks

Module 8 – Databases

8 weeks

- Tables, Relationships & Database Design
- Reading & Writing Data Using SQL
- Aggregates, Joins & Subqueries
- Datatypes & Null Values
- ORMs and Migrations
- Indexes and Performance Considerations
- Object and Key Value Databases

Module 9 – Testing

8 weeks

- Types of Testing (functional, performance, security, etc.)
- Styles of Testing (test-driven, exploratory, etc.)

Levels of Testing (unit, integration, system, etc.)

- Testing Libraries
- Browser Tests
- Browser Compatibility
- Test Metrics (coverage targets, etc.)
- The Testing Mindset

Module 10 – Engineering Camp 2 weeks (full time)

- Seven stages of the Software Development Lifecycle
- Software Development Methodologies (waterfall vs agile)
- Team structure and project management

Module 11 – Advanced Javascript

10 weeks

The Advanced Javascript course is designed to prepare apprentices for the exam and consists of a 10-week series of weekly learning guides, practice exercises and facilitated discussion sessions following the current syllabus.

They will also touch on the following topics:

- The Event Loop
- ES6
- Typescript

Module 12 – Project Engineering Skills

10 weeks

The Project Engineering Skills module is designed to prepare apprentices for the End Point Assessment, which will be a one week assessed project involving building a complete software solution from requirements through to implementation.

The primary focus of the course is on practice papers supported by group discussion, with additional material tailored to individual student requirements.

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