



# SYLLABUS



This is the curriculum of Isdi Coders Web development course. A curated suite of concepts and working-thinking frameworks you will need to become a web developer. Our program builds expertise in a curated suite of technologies and concepts, each selected for their workplace utility and relevance to modern software engineering paradigms. The course can take from 440 to 1.200 hours. The more we work, the better we will land the job market. Any extra effort you add upon that will make you a more prepared professional.

## PRECOURSE

### Introduction to Javascript, HTML and CSS

- Suite of introductory videos
- Progressive exercises
- Teacher's remote assistance

## WEEK 01

### Programming fundamentals with Javascript

- Web development roadmap
- Web development tools
  - Integrated Development Environments
  - Code editors
  - Chrome Developer Tools
- Git & Github
- Agile and Waterfall models
- Semantic HTML
- Forms and Validations
- CSS Basics
  - The cascade
  - Selectors
  - Specificity
  - Properties (fonts, colors, measures)
  - The Box Model

- Positioning Content (floating, position)
- Responsive Web Design
- Media Queries
- Flexbox
- Gradients
- Transformations & Transitions
- CSS Frameworks
  - Bootstrap
  - Material Design

## WEEK 02

### Client Side Programming

- Javascript Mental Models
- TDD, Unit Test - JEST
- Modern JS
  - Javascript paradigms (OOP, Functional, Structured and Reactive Programming)
  - Variables, Data Types and Operators
  - Conditions and Loops
  - Functions (Predefined, Callback, Closures...)
  - Async functions and execution order (async/await, promises)
  - Scope Variables
  - Arrays and Objects (Constructors)
  - Global Objects (Object, Function, Array, Number, Boolean, Math and Date)
  - Higher Order Functions
  - Inheritance using prototype
  - The value of this
  - Iteration vs recursion
- Pattern matching -> Regular Expressions
- Try/Catch
- Best practices

**WEEK 03****DOM, API**

- The BOM
- The DOM
- Interacting w/ DOM using JS
- JSON AJAX
- Same Origin Policy JSONP
- CORS API's

**WEEK 04****Javascript Frameworks**

- REACT
  - Routing
  - Hooks
  - Types of Components (functional, class, smart, dumb, presentational)
  - High Order Components
  - Flux
  - Redux
  - Unit Testing
  - Component Testing
  - Snapshot Testing

**WEEK 05****Teamwork**

Simulation of real software development process during a week on which Scrum Teams will develop a web application with the skills acquired. The simulation includes every event on the Scrum Framework and the professors act as Product Owners.

By the end of the week a formal review of the resulting product will take place.

**WEEK 06****Programming servers with Node.js**

- Up and running
- Introduction to Node.js
- Node terminal REPL (Read-Eval-Print-Loop)
- NPM
- NPM projects
- Common NPM packages
- Modules in Node
- Streams
- Events
- The event loop
- Create first server with Node.js
- I/O patterns
- Persisting data with REDIS
- Debugging with NodeJS

**WEEK 07,08****Express.js & MongoDB**

- Express.js
  - Routes
  - Rendering
  - Layouts
  - Url building
  - Middleware
- Creating API's
- MongoDB
- Web Architecture
- Microservices
- Continuous deployment
- Software as a Service (Firebase, Auth0, )

**WEEK 09,10,11****Full-stack project**

During three weeks a full stack project will be built. Using the techniques learnt in the previous weeks and mentored by our faculty and partner Companies. We will suggest some projects (suggestions from the students are also welcome) and work on a simulated real-life team environment.

## Some of our partners

Some of these companies will be teaching, mentoring and working with you during the course. Some of them will also attend the Demo Day, looking for the best talent!





































## Other Services included

Membership of our Students' Community (more than 400 members working at the forementioned companies) and professional coaching