JavaScript and MVC Frameworks
FRONT-END ENGINEERING
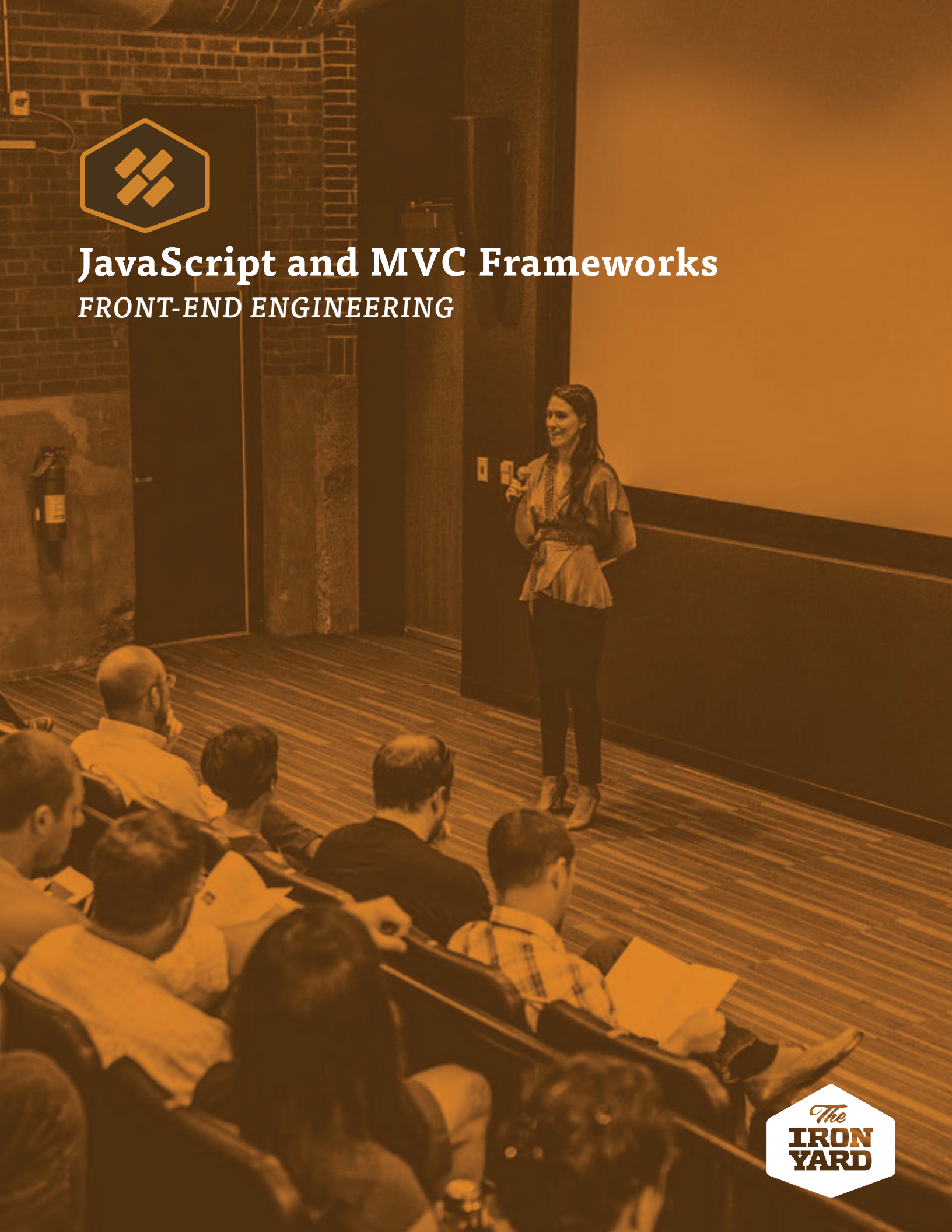
Introduction

JavaScript is an incredible language to learn for anyone interested in getting into programming. It is the only programing language that can run on the front end of a website, meaning that if you want to have any dynamic interaction on your webpage, you need to know *JavaScript.*

Almost any website can be used as an example. Think about radio streaming services you access online or any site that has graphs or maps—all of those functions are handled using *JavaScript* and front-end technologies.

History

JavaScript has been around for about 20 years. It was created in the mid 90s and has had many ups and downs since. In the last few years with the introduction of popular libraries like jQuery, Lodash, some major frameworks like React, Ember, AngularJS and Node.js, *JavaScript* has taken off and is one of the most widely-used languages in present day.
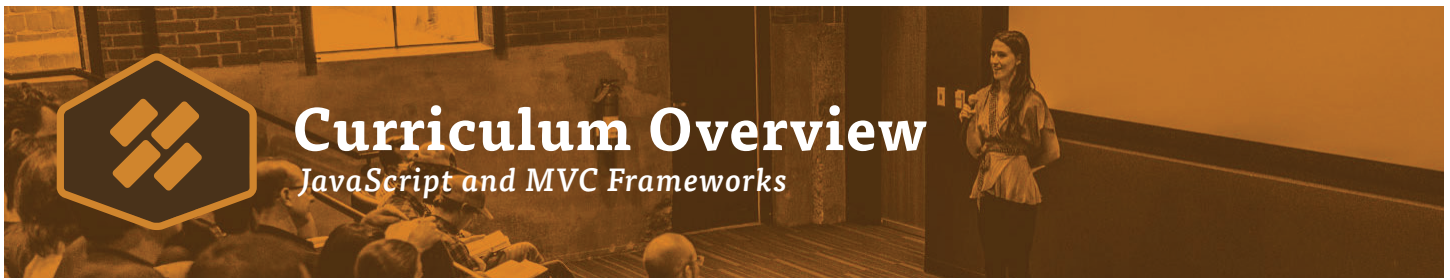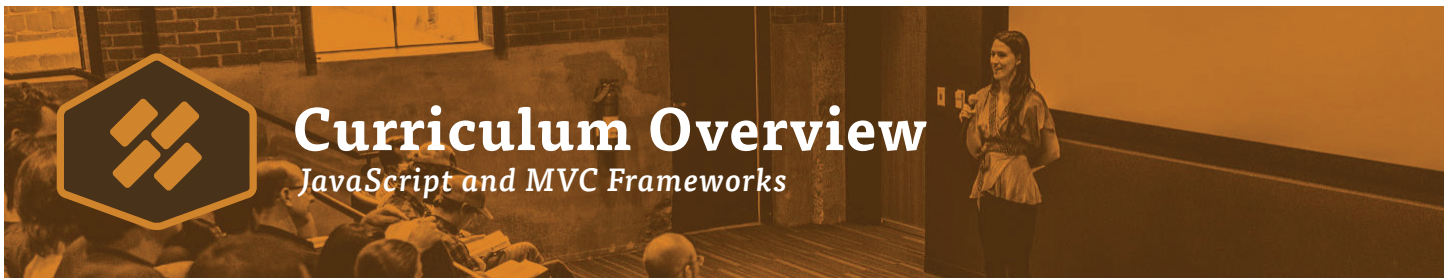
General Curriculum Overview

JavaScript is one of the most widely-used programming languages in the world. Almost every website or web application uses JavaScript to manage and display data and create interactions for the user. You can build entire web applications using only JavaScript.

Here's an overview of the skills our students learn in our Front-End Engineering courses:

» *Quickly build prototypes for websites and apps*

» *Build fast, production-quality web applications*

» *Create robust, beautiful interfaces*

» *Dive deep into JavaScript functions and objects*

» *Optimize designs for desktop and mobile*

» *Most importantly, learn how to learn*

Immersive Curriculum Overview

By the end of the course, you'll be able to problem solve programming tasks using JavaScript, giving you the ability to create dynamic websites and applications that function like Twitter, Spotify and others. With a working knowledge of modern JavaScript frameworks, you'll graduate with a deep understanding of what it takes to be a successful front-end programmer in the industry today.

Remember, though, just knowing punctuation doesn't make you a great writer. In the same sense, just knowing JavaScript doesn't make you great at building apps; that's the easy part of front-end development. The emphasis in our 12-week immersive courses is to teach you to think like an engineer. Programming is a lifelong study, and our goal is for you to learn how to learn so you remain highly valuable for the rest of your career.

Each instructor and class stays agile so the curriculum can adapt as tools and languages evolve with demand in local markets, but we ensure that each student graduates with the same core front-end development skillset.

Curriculum Timeline
JavaScript and MVC Frameworks

WEEK 1
- » Computer setup
- » HTML & CSS
- » Terminal
- » Version Control (Git & Github)
- » Git Workflow (Branching/Merging)

WEEK 2
- » Advanced CSS & SASS (animations, ect)
- » Responsive Web Design
- » Intro to JavaScript
- » JavaScript Syntax
- » JavaScript Operators & Types
- » JavaScript Conditionals
- » Debugging & console.log()

WEEK 3
- » Objects, Arrays & Loops
- » Iterations (forEach( ), map ( ), reduce( ), filter( )
- » window.setTimeout, window.setInterval, Date
- » DOM API - document, querySelector, addEventListener
- » window (window.setTimeout, window.setInterval)
- » Intro to jQuery

WEEK 4
- » HTTP & REST
- » Ajax - $.getJSON, $.ajax
- » CORS & JSONP
- » Closures & Scope
- » Build Tools (Gulp, Grunt, Webpack, NPM) - Discussion on NodeJS
- » ES6 Syntax
- » Template Literals

Curriculum Timeline
JavaScript and MVC Frameworks

WEEK 5
- » Team Collaboration (Github Forking/Pulling)
- » JavaScript Constructors, Prototypes & ES6 Class Syntax
- » TDD (Mocha/Chai or other)

WEEK 6
- » Intro to MVC
- » Client Side Routers
- » RESTful Interfaces
- » Proxies

WEEK 7
- » JavaScript Frameworks (AngularJS, Ember or React & Redux)

WEEK 8
- » JavaScript Frameworks (AngularJS, Ember or React & Redux)

WEEK 9
- » JavaScript Frameworks (AngularJS, Ember or React & Redux)

WEEK 10
- » Final Projects
- » Bonus Lectures

WEEK 11
- » Final project

WEEK 12
- » Final project

THE IRON YARD

Programming Fundamentals:

HTML and CSS

» We'll go from HTML foundations to HTML5 APIs. In CSS, we cover layout, typography and CSS3 animations. Every student learns strong fundamentals in design, user interface (UI) and user experience (UX). We use media queries and responsive design to make sure every layout is fully functional across all screen sizes.

CSS Preprocessors

» We'll use advanced CSS interpreters to get all the latest & greatest features without any users behind.

JavaScript Foundations

» We dive deep into JavaScript, covering types, functions, objects, scope, closures, constructors, prototypes and many of the newer ES6 features. Learn the right way to build applications with a clear understanding of one of the world's most popular programming languages.

JavaScript Libraries

» We cover the heavy hitters for DOM manipulation, language extension and AJAX integration. Unlock functional programming paradigms and go beyond "vanilla JavaScript" with industry-standard methods.

» Tools you may see: *jQuery, Lodash, Babel*

Client-Side JavaScript Frameworks

» Bring it all together with structured tools to create applications quickly and integrate them seamlessly. We cover common design patterns like MVC (Model-View-Controller) in-depth before launching you into enterprise-grade development.

» Tools you may see: *AngularJS, Ember, React*

JavaScript Testing & Compatibility

» If it ain't broke, keep it that way! We'll explore testing and how to ensure your projects work across devices and through updates.

» Tools you may see: *Jasmine, Mocha, QUnit, Chai*

Back-End Basics

» We'll utilize some simple JavaScript back-end tools to introduce the basics of server-side programming and API management. Deploy your apps to local and live environments with ease.

» We will cover how the back-end works and specifically how you as a front-end developer will interact with it.

Tools & Teamwork:

Front-End Tools

» We use local build tools & package managers to speed up your development process and collaborate more consistently.

» Tools you may see: *NPM, Webpack, Gulp, Grunt, Broccoli*

Databases as a Service

» Our front-end students can do a massive amount of database work on their web apps with some great online tools for data management and aggregation.

Version Control

» Master version control for personal and team workflows. All of your code will live online from day one.

» Tools you may see: *Git, Github*

Beyond The Terminal:

Freelance Fundamentals

» Seasoned contractors show you how to find good work, write contracts, set expectations, price well and communicate with clients.

Learn From the Pros

» Guest speakers, on-site tours with active development teams and more! Our students get real-world exposure early and often during class.

Getting Hired

» We do mock interviews, resume writing and portfolio building. Grads have weekly meetings with our team to get help finding exciting jobs and projects.

Contact Information
JavaScript and MVC Frameworks

For more information:

Visit us at: *theironyard.com*

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