



# NYCDA

*The New York Code + Design Academy*

*Course Catalog*

*Winter 2017, Vol. 1*

*Published: February 18th, 2017*

*Effective: February 18th, 2017*

# The New York Code + Design Academy

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## About The New York Code + Design Academy

The New York Code + Design Academy offers hands-on courses designed to teach aspiring programmers and designers how to build their own fully functioning websites and apps. We were founded on the belief that understanding the languages that power the Internet is critical to maintaining a competitive edge in today's digital economy.

Whether you're an entrepreneur with an idea for the next great company or a working professional looking to augment your digital skill set, The New York Code + Design Academy will teach you to build your own websites and apps and provide you with an understanding of the process of software design and development.

This school is licensed under the Postsecondary School Regulations of the District of Columbia (pending).

## Governing Board

Robert Silberman, Chair  
Karl McDonnell  
Daniel Jackson  
Jeremy Snepar

## Officers

Jeremy Snepar, Chief Executive Officer  
Zach Feldman, Chief Academic Officer  
Brian Fountain, Chief Creative Officer

*New York Code and Design Academy, Inc. is a wholly-owned subsidiary of Strayer Education, Inc.*

*Information regarding instructors is available on our website at [www.nycda.com](http://www.nycda.com).*

## *Enrollment Policy and Entrance Requirements*

Students admitted into each of NYCDA's programs must have a high school diploma, General Education Diploma (GED), or a diploma from an institution of higher education accredited by an accrediting association recognized by the U.S. Department of Education. Students should be enrolled for a course at least one week prior to the course's commencement date. All students will have basic computer literacy before signing up for any course. This includes navigating a Graphical User Interface (GUI), proficiency with modern web use (email, search, and e-commerce), and basic troubleshooting skills. Our Web Development Intensive program application process requires an entrance interview and written application. Candidates should have tried programming in the past and have a demonstrated passion for it or a concentrated focus on learning it. Intensive program candidates will also be evaluated for their ability to follow through on their education and willingness to be aggressive problem solvers, key metrics for success in the world of development. Students under the age of 18 years old will need parental consent to join a class. If a minor enrolls during the school year, s/he will also need school consent.

Students can enroll in classes up until the start date, so long as the class has not reached capacity. Places are filled on a first come, first served basis, and students can hold their spot by making the required deposit.

For Web Development Intensive, Web Development 100, Front End 101, Ruby on Rails 101, UI/UX Design 101, and iOS Development 101, the maximum class size is 30 students. For AngularJS 102 and ReactJS 102, the maximum class size is 15 students.

Web Development Intensive is taught by one instructor and two teaching assistants. Web Development 100, Front End 101, Ruby on Rails 101, UI/UX Design 101, and iOS Development 101 are taught by one instructor and one teaching assistant. AngularJS 102 and ReactJS 102 are taught by one instructor.

The Web Development Intensive course requires prospective students to submit a formal application before scheduling an interview with an Admissions Counselor. The interview consists of four parts including pre-interview preparation. Preparation requires a candidate to install necessary software for the interview. The first part of the interview is designed to uncover the level of motivation of the candidate and to examine their background knowledge of programming. The second part of the interview involves algebraic questions along with a procedural question designed to assess the way the candidate approaches multi-step situations. The third part of the interview tests the ability of the candidate to work with others and willingness to collaborate. The final part of the interview is a computer literacy test. Candidates are tested on basic computer skills along with more advanced concepts.

The Front End 101 class requires a candidate to either possess basic understanding of HTML and CSS or have taken the Web Development 100 course to enroll.

The Back End 101 class requires a candidate to either possess functional knowledge of a back end language along with HTML and CSS or have taken the Web Development 100 course to enroll.

Students who opt to take the AngularJS 102 course must demonstrate functional knowledge in using JavaScript. Students are also required to know HTML and CSS to effectively build applications in class.

The React.js 102 course is an intermediate level class that requires a candidate to have functional knowledge in using JavaScript.

## *Attendance Policy*

The attendance roster is accessible online to the teacher as well as The New York Code + Design Academy's Chief Academic Officer at all times. In the event that a substitute teacher is used, the Chief Academic Officer will take attendance for the course and/or train the substitute on how to properly take attendance using Canvas.

Attendance will be taken approximately ten minutes after class begins. An 85% attendance rate is required to pass the course (minimum). Each time a student misses class, the results will be recorded. If absent two times, that student will be contacted by email and/or phone.

After five nonconsecutive unexcused absences, the student will be considered dropped and informed that s/he will be removed from the program. NYCDA may make exceptions to this policy under special circumstances in its sole discretion.

If absent 3 consecutive days, the student will be considered dropped. The school will contact the student by telephone and in writing to formally advise the student of this status. Results will be recorded on the Canvas attendance system. The school will then request that the student respond in writing and provide reasons for withdrawal. The results will be recorded. Students who are dropped from the course for failing to meet attendance requirements may not be re-admitted into the same instance of the course. NYCDA may, in its sole discretion, permit a student who has been dropped to re-enroll in a later instance of the course.

## *Grading Policy*

Evening courses are divided into 8 week long sections, Intensive into 12 week long sections. Canvas by Instructure is the gradebook of record for The New York Code + Design Academy. All assignments are graded out of 10 while large projects are graded out of 20 points.

The grading system generally works as follows:

**100%: Perfect syntax, followed assignment guidelines, also went "above and beyond"**

**80%-90%: Guidelines followed, minor errors or omissions**

**70-80%: Missed 1 or multiple guidelines, many errors and omissions**

**60%: Assignment turned in, some effort given, but assignment will not compile**

**0%: Assignment not turned in**

Students are encouraged to resubmit any assignment for a higher grade to learn from their mistakes. Students can be dismissed at the institution's discretion if they are found to be repeatedly violating the student conduct policy or for unsuccessful academic performance.

Students are able to monitor their progress and grades using the course management platform Canvas and through check-ins with their instructors and/or teaching assistants.

## Student Conduct

Students enrolled at The New York Code + Design Academy are expected to work hard. The schedule for most classes is rigorous, and students are expected to do their best to make each session. Students are also expected to complete and submit all in-class and homework assignments in a timely fashion. If a student is not turning in homework assignments, they may be dismissed or encouraged to retake the class in a later term.

Students are to treat all members of the staff and other students with respect. A student who is disruptive to the community may be asked to leave. Examples of disruption include, but are not limited to, cheating, destroying school property, attending school under the influence of drugs/alcohol, using vulgar language, and showing aggression to students/instructors/staff. Before expulsion from the school, students will be sent a verbal or written warning, and given the chance to adjust their behavior.

### Make-Up Policy

Students have the opportunity to make up the class hours that they miss. Students can make up class hours by meeting with a TA/Instructor or watching the missed lectures on Panopto video lecture recording system. Upon making up the class, students must submit a description of the material to the Chief Academic Officer to receive full attendance credit.

## Schedule of Tuition, Fees, Books, and Supplies

For all evening students, a \$100 non-refundable registration fee must be made to secure a spot in the class, as well as a \$400 deposit. For all full-intensive students, a \$100 non-refundable registration fee and a \$900 deposit must be made to secure a spot in the class. All deposits are applied towards tuition. Tuition for all evening classes is \$2,250, except for Web Development 100, which is \$3,850. Tuition for Web Development Intensive is \$10,000.

Students may choose from three options to pay for the selected program:

1. Full tuition paid by the end of day on the first day of class;
2. Payment plan consisting of monthly or weekly payments (up to four payments);
3. External financing partner.

For all of our programming classes, we encourage students to be running the latest version of Mac OS X or a Linux distribution, but Windows machines can be used. Windows students may have a harder time with certain Ruby libraries, which is why we recommend Unix-based systems. For each course, students are required to bring a laptop to class with the following minimum specifications: 1000Mhz processor, 2GB of RAM, 6GB hard drive.

For our web development classes, we recommend our students use Google Chrome, Sublime Text 2 and iTerm2, which are all free or shareware programs.

For iOS 101 students will need an Apple Developer account (\$99/year), a Mac OS X based machine running Mavericks or above (10.9), and an iOS device capable of running at least iOS 7 to take this course.

## Refund Policy

Each student shall have a period of seventy-two (72) hours to rescind any contract and to receive a refund of all prepaid tuition unless the student has entered training. This period shall commence from the date of signing, but shall not include or end on any Saturday or Sunday or legal holiday. This shall not apply if a student has begun instruction.

If a student begins instruction and withdraws or is discontinued for any reason after instruction begins prior to completion of sixty percent (60%) of the scheduled program, NYCDA shall refund to the student a sum which is the exact pro rata portion of tuition unexpended by the student, rounded to the nearest ten percent (10%), less any unpaid non-tuition charges owed by the student for the period of enrollment for which the student has been charged, and less the \$100 non-refundable registration fee.

In order for a student to obtain a refund, s/he is required to notify in writing the Chief Executive Officer, Jeremy Snepar, or the Chief Academic Officer, Zach Feldman, who can issue the refund. This can be done in person or via email. The refund will be issued within two weeks of the student's official termination date of enrollment, which shall be the student's last day in class.

## Graduation Requirements

To be considered a successful graduate of this course and receive a Certificate of Completion or Diploma (dependent on location), the student must complete the following:

Receive 80% of total points possible on all assignments, with no more than 2 assignments considered missing.

Have a recorded attendance rate of 85% or higher.

## 2016-2017 School Calendar

11/30/2016	November Evening Classes Begin	<b>Web Development Intensive Dates</b>
12/14/2016	Web Development September Ends	11/30/2016 – 3/1/2017
12/23/2016	September Evening Classes Ends	2/1 – 4/25/2017
12/24-31/2016	Christmas Break, No Classes	4/4 – 6/27/2017
2/1/2017	November Evening Classes End	6/6 – 8/29/2017
2/8/2017	February Evening Classes Begin	9/6 – 11/30/2017
4/4/2017	February Evening Classes End	10/31/2016 – 2/1/2018

### Campus Hours

Monday through Thursday: 9:00 AM to 8:00 PM

Friday: 9:00 AM to 6:00 PM

Saturday: 9:00 AM to 1:00 PM

## Web Development Intensive

With our Web Development Intensive, you'll learn both front and back end development in one all encompassing class. The New York Code + Design Academy's 12-week Web Development Intensive boot camp is designed to transform students with no coding experience into entry-level full stack developers. This hands-on, project-based workshop immerses you in code, and develops the skills you need to build dynamic and versatile web applications.

Students can expect to dedicate time outside the classroom to working on projects and completing assignments. The New York Code + Design Academy is known for its intimate setting and supportive instructors. Get ready to eat, sleep and breathe code!

In this program, you will learn:

<b>HTML5</b>	<b>Rails</b>
<b>CSS3</b>	<b>Database Theory</b>
<b>FTP</b>	<b>ActiveRecord</b>
<b>JavaScript</b>	<b>Command Line</b>
<b>jQuery</b>	<b>Git</b>
<b>Ruby</b>	<b>Collaborative Dev</b>

Tuition: \$10,000

Meets:  
Monday - Friday, 10:00 AM - 6:00 PM  
420 hours total

## Weekly Overview

### WEEK 1 Hello World!

Learning how to structure elements within HTML5 and CSS3 will give you foundational knowledge in modern web design and the skills necessary for building modern websites.

### WEEK 2 JavaScript

JavaScript is one of the most implemented programming languages globally. With an introduction to JavaScript programming, you will be able to greatly enhance user interaction with your webpage and understand the basics of logic.

### WEEK 3 Hello Ruby, Hello Sinatra

A comprehensive overview of Ruby will allow you to build web applications with a dynamic, reflective, and object-oriented programming language. An introduction to the Sinatra framework will have you writing dynamic sites within a week.

### WEEK 4 Databases

Database management systems and their integration with web applications and programming languages like Ruby are vital tools for organization of data and understanding relationships between system processes.

### WEEK 5 More Apps

Heroku is a cloud platform service that supports many different programming languages. You will learn how to deploy your Ruby apps to this popular cloud platform so you can start showing off your projects to the world!

### WEEK 6 Hello Rails!

The Rails web application development framework makes short work of dynamic applications. There are many parallels between Rails and Sinatra. We'll learn about the basics of Rails and the Model-View-Controller (MVC) pattern.

### WEEK 7 Advanced Rails

This week will cover more advanced Rails concepts like ensuring database integrity, sending e-mail from your app, and web app security basics.

### WEEK 8 Back End to Front End

The Back End to Front End week focuses on using pre-rolled front end frameworks for rapid prototyping. You will learn about creating your own front end framework, writing mobile-friendly CSS, and creating with SASS (Syntactically Awesome Stylesheets).

### WEEK 9 Test Driven Development

Our Test Driven Development week will focus on why it is important to write tests for your web application and how to do this most effectively. We'll cover TDD basics, Unit Testing, and Acceptance Testing.

### WEEK 10 APIs, App Security/ Monitoring, Advanced Deployment

This week covers application programming interfaces (APIs), the protocols for building software applications. You will learn about integration with external APIs, basics of app security and performance monitoring, and deploying to Amazon Web Services (AWS) to make managing your websites easier.

### WEEK 11 Intensive Workshopping, Computer Science Basics

We'll be workshopping your final project. An introduction to Algorithms will acquaint you with computer science basics as you get closer to completing your final project.

### WEEK 12 Development Week

Our final week, we'll be working on your final project and wrapping up any loose threads from the last few weeks. We'll also have final presentations, where you'll receive your certificate.

## Web Development 100

Everyone should learn to code! And anyone can. This is the mantra of The New York Code + Design Academy, and the purpose of our Web Development 100 class – an ideal entry point for beginners with little to no programming experience. Students who graduate from this course have the foundations to specialize in many areas such as front end development, UI/UX, or Ruby on Rails 101. Web Development 100 is our most popular class to date.

At its core, Web Development 100 is an intensive, hands-on programming class that teaches students how to design and develop websites and apps in a supportive and intimate setting. Our goal at The New York Code + Design Academy is to provide an interactive learning experience that transforms novices into junior web developers within our 8-week certificate program. Students will leave Web Development 100 with a portfolio that includes their own fully functioning websites, plus core skills in programming languages such as HTML, CSS, JavaScript, and Ruby.

In this program, you will learn:

<b>HTML5</b>	<b>JavaScript</b>
<b>CSS3</b>	<b>ActiveRecord</b>
<b>FTP</b>	<b>Database Theory</b>
<b>jQuery</b>	<b>Sinatra</b>

Tuition: \$3,850

Meets:  
Tuesday + Thursday, 7:00 - 10:00 PM  
96 hours total (48 hours WD100 + 48 hours of student's selection of Option 1, 2, or 3 – see right)

## Weekly Overview

### WEEK 1 Introductions, Basic HTML, Basic CSS, The Terminal, Version Control

Learning HTML5 will give you the ability to semantically mark up information and to layout a web page. With HTML, you will learn the foundation of building webpages and how to structure text, data, and elements.

### WEEK 2 Cascading Style Sheets (CSS), Application of HTML + CSS Knowledge

Cascading Style Sheets allow you to define the style and look of your web page. This includes fonts, colors, spacing, and other ways to design the appearance of your website. You will also learn how to use some of the more functional and complex html elements such as navigation menus, buttons and forms.

### WEEK 3 Introduction to JavaScript + jQuery

JavaScript is most commonly used as a client side scripting language, and is one of the most popular programming languages in the world. By learning JavaScript, you will learn how to create interaction within your webpage and control its behavior. jQuery is a JavaScript library that makes interacting with JavaScript much more accessible to the beginner and cross-browser friendly!

### WEEK 4 Project 1: Personal Website

Using the HTML, CSS, JavaScript and jQuery you have learned in the previous weeks, you'll build a website that's all about you! You will also learn more about JavaScript, and how to utilize it to enrich your website's design and functionality.

### WEEK 5 JavaScript + jQuery: Building Functionality

Dive deeper into JavaScript and jQuery to learn more about the complexities of these exciting tools and how to employ them on your web pages.

### WEEK 6 Responsive Design + Cross-Browser Testing

Responsive design and media queries will make your site work across devices. We'll make your website sing on iPhone, iPad, or laptop!

### WEEK 7 Final Project Workshopping

You will have hands on help and workshop time to plan, create and implement your final project.

### WEEK 8 Introduction to Ruby + Sinatra

A review of what back end programming entails wraps up your last week in Web Development 100. Ruby is a dynamic programming language that enables you to build web applications in an object-oriented environment. Sinatra is a Ruby web application framework that allows you to learn how web applications tick without doing too much for you.

### WEEK 9-16 OPTION 1: Front End 101

Front End Development track will dive deeper into advanced HTML and CSS, as well as Javascript and JQuery.

### OPTION 2: Ruby on Rails 101

Ruby on Rails track will explore Ruby and the Rails application framework and begin building dynamic web applications.

### OPTION 3: UI/UX 101

User Interface/User Experience design track will delve into the finer points of digital product development and design, producing a complete rendering of a product as their final project.

# AngularJS 102

Since its humble beginnings in 2009 at GetAngular.com, AngularJS has started to see massive adoption by web developers worldwide. Angular is now accepted as a rich toolkit for both enterprise and startup applications running on desktop and mobile environments. In NYCDA's new AngularJS 8-week intensive workshop, we'll start with the core JavaScript tooling behind AngularJS engineering. The class deliverable will be a full featured AngularJS application utilizing real-time data, syncing, and a live Firebase-hosted database deployment.

AngularJS is a first-class web development toolkit. It is built on a foundation of HTML, CSS, and native JavaScript. It's a framework marked with the best practices and talented leadership of the team of Google open source-developers who created it. The toolkit boasts widespread corporate adoption including use by firms like MSNBC, Virgin Atlantic, Vanity Fair, NASA, and HBO.

In this program, you will learn:

- AngularJS
- Advanced JavaScript
- Firebase
- HTML5 + Angular
- Bower
- Yeoman
- Node
- Directives

Tuition: \$2,250

Meets:  
Monday + Wednesday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Core JavaScript + Introduction to AngularJS

AngularJS is what HTML would have been, had it been designed for building web apps. In essence, AngularJS is a JavaScript framework that extends HTML with new attributes. During this first week, you will learn how to make sense of your first AngularJS application.

### WEEK 2 Directives, Test-Driven Development

Some of the new Angular HTML attributes include directives, which are used for initializing applications, application data, and binding HTML data. Common AngularJS directives include ng-app, ng-init, ng-repeat, and ng-model. Students will learn how to manage and display user input in forms.

### WEEK 3 Directives + Third Party Dependencies

This week will teach you how to write your own Directives and Services, an important part of building a custom AngularJS application.

### WEEK 4 Yeoman, Scaffolding, Gulp, Unit Testing, Final Project Proposal

Yeoman is an open source client-side development stack, consisting of tools and frameworks intended to help developers quickly build high quality web applications. Yeoman workflow guides students through new projects, prescribing the best practices and tools to maintain productivity. You'll learn how to integrate the latest modern web development tools like Modernizr, Sass, Gulp, and Bower into your Angular workflow. Now that you know the ropes, you'll have time to brainstorm and propose your final AngularJS project and have it approved by your instructor.

### WEEK 5 Routing, Setting up Node and Angular Resources

We'll use UI-Router to allow users to navigate to different parts of our application that give the look and feel of a multi-page web app. Using ng-resource will allow our Angular application to communicate with a backend. As an example, we'll be setting up a node.js back end to pass JSON data back and forth between our Angular app.

### WEEK 6 UI-Grid, Angular Directives for Bootstrap

We'll explore some of the custom libraries available for our Angular applications that will speed up development tremendously: UI-Grid for rendering tables of data, Angular directives for Bootstrap to take advantage of modal views, date-pickers and navigational tabs.

### WEEK 7 End-to-End Testing with Protractor, Gulp File Optimizations

Here we'll be looking at moving our application into a production ready state with end-to-end tests. We'll also see what the best practices are for organizing our file hierarchy in Gulp to allow for the most flexibility and robustness as our application grows.

### WEEK 8 Wrapping up, Final Project Presentations

The last week of AngularJS 102 will wrap up final projects with student presentations and in-class critiques from teachers and peers. What will you create?

# React.js 102

This 8-week coding workshop teaches developers at the intermediate level how to work with React.js, a new JavaScript library. We'll teach you the best practices to make the most of React's reusable components, or widgets. We'll also cover ReactNative, so you can learn to build world-class application on native platforms (iOS, Android, AppleTVOS) the same way that you would write a web app. After this course, you'll have the power to deliver better UX and SEO, and know how to create fast and powerful SPAs (single page applications) in a clean, simple way.

This JavaScript library was built by top engineers at Facebook for building reusable UI components. Think of it as the "View" in the Model-View-Controller pattern that many Rails developers are familiar with.

In this program, you will learn:

- React.js
- GraphQL
- Flux
- React Native
- Redux
- Components
- Relay

Tuition: \$2,250

Meets:  
Monday + Wednesday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Core JavaScript, ES6 & Introduction to React.js

Developers can't fully utilize React without a solid understanding of JavaScript. We'll begin with a review of JavaScript, and introduce the new features of ES6 (a.k.a ES2015). We'll then move straight into React rendering and life-cycle methods. After Week 1, you'll be able to write basic React components.

### WEEK 2 All About React Components

We'll drill deeper into why and how React is bringing a paradigm shift in web development. We begin by examining state versus props, and the imperative versus declarative way of programming UI. We'll then go over best practices for making our components reusable by separating stateless and stageful components. In short, you'll learn how React makes otherwise complicated features easy to develop and maintain.

### WEEK 3 Flux & Routing

React is great for making units of highly complex component UIs (also called widgets) in a web page, but it cannot give us a powerful Single Page App (SPA) without data handling or page routing. In Week 3, we'll introduce Flux with React-Router, and learn how they help with scaling our apps. At the week's end, you'll be able to make fast client-side rendered SPAs.

### WEEK 4 Server-side Rendering and Webpack

One reason for React's popularity is its ability to easily render components on the server-side. A server-side rendered SPA solves two problems of the purely client-side rendered app: 1) Search engine crawlers hate JavaScript, and 2) long initial load time of the bundled JS file. Coupled with bundle splitting by Webpack, we'll be able to build the next generation SPAs with great user experiences and improved SEO.

### WEEK 5 Immutability & Performance

Data immutability is a concept from the school of functional programming. We'll set up an immutable data structure, which helps React render components faster. We'll also go through edge cases where the usually fast React can be slower than other JS frameworks, and how to speed it up using the built-in helpers.

### WEEK 6 Inline CSS, CSS Modules & Animation

This week, you'll test out the trend of abandoning CSS in favor of all in-line HTML styling with JavaScript. We'll experiment with some promising tools, such as Radium and Inline CSS. We'll then return to CSS using CSS modules, which cleverly solve many issues from pure CSS or inline JavaScript styles. We'll then go over the state of animations in React with tweenStates and Springs.

### WEEK 7 React Native: iOS & Android

React is awesome because it decouples web development from the DOM (HTML page). Your React components can be rendered into the DOM, Canvas, iOS, Android, TV-box (Apple TVOS), or even watch faces. We'll briefly introduce React Native, which uses everything we've learned, but outputs functional iOS or Android apps with native capabilities.

### WEEK 8 The Next Frontier: Redux, GraphQL/Relay

In the final week, we will touch upon Redux, a cousin of Flux that has unique abilities, and GraphQL/Relay, which Facebook gave us to make our components fetch data from the back end in a smarter way.

# UI/UX Design 101

If you're intrigued by the behavior, emotions, and attitudes of users and how to optimize their experience through good design, then The New York Code + Design Academy's UI/UX Design 101 class might be a good fit for you. We'll teach you the principles behind user interface design and train you with the software and tools needed to understand user experience, giving you a solid foundation to delve deeper into this user-centric discipline.

There are no prerequisites for UI/UX Design 101. This class is designed for students who want to gain a better understanding of the user experience industry. NYCDA will not only teach real world UI/UX applications, but also give students the chance to build a portfolio that includes wireframes, functional prototypes and a complete final project.

In this program, you will learn:

- Interface Design
- Interaction Design
- Information Architecture
- Wireframes
- User Scenarios
- Personas
- Prototyping
- Usability Testing
- Adobe Illustrator

Tuition: \$2,250

Meets:  
Monday + Wednesday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Introductions + UX Process, UX Case Studies + Design Trends

The first week of UI/UX Design 101 will introduce user experience as the study of one's behavior, emotions, and attitudes while using a product. User interface is the front end of the product that the user interacts with. Students will also be given UX Case Studies and learn about current design trends in user experience design.

### WEEK 2 UX Research, Research Outcomes

In UX Research, students will learn to apply various techniques in order to gather information into the design process. With techniques such as card sorting, interviews, usability testing, and diary studies.

### WEEK 3 Business Goals + User Needs

Students will be able to establish conclusions about their design. In addition, UX research and business goals will help students understand users' needs in order to finish designing the product.

### WEEK 4 User Flows, Elements of Interface

This week is dedicated to studying user flows, or diagrams of web pages that define a logistical task. Other elements of interface include information architecture, wireframes, user scenarios, persona development, and more.

### WEEK 5 Sketching, Prototyping

Wireframes are a page schematic or screen blueprint created for the purpose of arranging elements and defining functionality to best accomplish a particular purpose, usually being informed by a business objective and a creative idea. A prototype is an early sample, model, or release of a product built to test a concept or process or learned from.

### WEEK 6 Testing, Creating Hi-Fidelity Wireframes in Illustrator

Usability testing is a technique to evaluate a product by testing it on real users to gain feedback that can be applied to direct future changes or iterations. Students will learn and use Adobe Illustrator in order to create high quality renderings of their creation.

### WEEK 7 Continue Wireframe Creation, Create Click-Through Prototypes

Students will continue working on their wireframe creations with Adobe Illustrator. Finally, they will work on live click-through prototypes and final projects.

### WEEK 8 Testing + Refining

During the last week of UI/UX Design 101, students will finish up their projects with final presentations and in-class critiques from teachers and peers. What will you create?

# Ruby on Rails 101

Learn Back End at The New York Code + Design Academy. Our evening course has a hands-on curriculum that teaches students how to develop web applications with lots of hands-on workshoping time. We'll show you the programming skills you need to troubleshoot and rebuild from setbacks. In this eight week long intensive course, students will gain a well-rounded knowledge in constructing database-backed web applications and truly understand the framework and code behind what they build.

To participate in this class, students must take Web Development 100 or have prior web development experience. By the end of the course, students leave with a portfolio that includes their own fully-functioning Ruby on Rails web applications, and important core skills in ActiveRecord, ORM usage, user authentication, working with sessions, uploading files with Paperclip, and deploying their finished apps to Heroku.

In this program, you will learn:

- Ruby
- Rails
- ActiveRecord
- User Authentication
- Paperclip
- Heroku
- Routing
- MVC
- Rails UJS
- Back End Form Validation
- Processing Form Data

Tuition: \$2,250

Meets:  
Monday + Wednesday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Diving into Ruby + Intro to Rails

Learning Ruby will give you critical understanding of object oriented concepts, programming knowledge, and directory navigation. We'll also touch on Sinatra, a lightweight web app package similar to Rails, to give you an intro to web apps in Ruby.

### WEEK 2 Creating Your First Rails App + Database Theory

With the ActiveRecord pattern and library, you will perform queries on the database, manipulate data, and learn how data is stored. In our Database Theory lecture, you will learn how to store data and use databases efficiently with a Ruby wrapper called ActiveRecord.

### WEEK 3 Accepting User Input + Using Rails View Helpers

Learn different ways to accept user input from command lines, terminals, and web forms.

### WEEK 4 User Authentication + Sessions

Learn why passwords shouldn't be stored as plaintext in a database, and how user data is encrypted by using strong algorithms.

### WEEK 5 ActiveRecord Validations: Ensuring Data Integrity

Learn how to prevent data corruption and data loss with accurate and consistent methods of ActiveRecord validations.

### WEEK 6 The Asset Pipeline, Deploying Heroku, + Useful Gems

Heroku is a web application deployment platform. By the end of class you'll be pushing your web applications to Heroku so they can truly operate in "the cloud".

### WEEK 7 Rails Unobtrusive JavaScript

Unobtrusive JavaScript (UJS) is the best practice methodology for attaching JavaScript to the front-end of a website. Simply, UJS is JavaScript behavior that is separated from markup or structure (HTML). Rails now implements all of its JavaScript functionality, including AJAX submits, confirmation prompts, and handling file uploads.

### WEEK 8 Final Project Workshoping + Presentations

The class will conclude with your final project: a full featured Ruby on Rails web app! Students will leave the class with a portfolio that includes at least one full featured Rails application.

# Front End 101

If you prefer the front lines of web development, envisioning the layout of elements and the aesthetics of a webpage across all devices, then The New York Code + Design Academy's Front End 101 is just the class for your detail-oriented mind. Front End 101 is an intensive 8-week coding workshop focused on advanced front end web development skills and geared toward tasks closely related to that of an everyday front end web developer.

To participate in this class, students must take Web Development 100 or have prior web development experience. Our goal at The New York Code + Design Academy is to extend student's skills from novice to advanced developer. Not only does Front End 101 offer students the perfect opportunity to dive deeper in web development, but the class will also give students the chance to build a portfolio that includes JavaScript based projects and fully responsive websites.

In this program, you will learn:

- Advanced HTML5
- Advanced CSS
- SASS
- jQuery
- JavaScript

Tuition: \$2,250

Meets:  
Tuesday + Thursday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Syntactically Awesome Style Sheets

Syntactically Awesome Style Sheets, or Sass, is an extension of CSS that offers enhanced features and abilities beyond regular Cascading Style Sheets. Sass is industry-approved, well-known, and actively supported by the global tech community. With Sass, you will learn how to improve your CSS skills with new variables, functions, syntax, and more.

### WEEK 2 JavaScript Review: A Deep Dive

After a week with Sass, you will work your way into important JavaScript concepts such as prototypes, constructors, and closures to give you a better understanding of the core of the language as well as advanced topics.

### WEEK 3 Advanced jQuery Concepts

You will learn advanced and powerful concepts in jQuery, such as event binding, DOM insertion, data storage, and AJAX calls.

### WEEK 4 Elements: Image Sliders + Mobile Friendly Dropdown Menus

This week is dedicated to creating image sliders and dropdown menus. This section will be especially helpful with improving the user flow, visual appearance, and overall navigation of your website. Go above and beyond the static page by influencing your site with interactive functionality.

### WEEK 5 Elements: Modals, One-Page websites, Using Existing APIs

One page websites have become more popular in the last years. This week, learn how to create one-page websites with parallax scrolling. You will build modal overlays in CSS designed for responsive web design methods, and use existing application programming interfaces (APIs) to improve the quality of your web development.

### WEEK 6 jQuery Checkers

Students will make a web app version of the classic game of checkers that will be fully functional using JavaScript + jQuery.

### WEEK 7 Final Project Workshopping

Students will leave the class with a portfolio that includes advanced front end development projects and JavaScript based projects. The last two weeks will be dedicated to fine-tuning your final project.

### WEEK 8 Final Project Workshopping + Presentations

The last week of Front End 101 will wrap up final projects with student presentations and in-class critiques from teachers and peers. What will you create?

# iOS Development 101

Learn how to develop fully functional apps at The New York Code + Design Academy's hands-on course, iOS Development 101. This course trains students in programming with Apple's Swift to build mobile apps. Throughout the course, students will gain a solid understanding of iOS app development and become well-versed in SDKs and open-source toolkits. The New York Code + Design Academy strives to give students the most intense, transformative learning experience that will help them succeed as developers in today's professional marketplace.

There are no prerequisites for iOS Development 101, but attending students will need an Apple Developer account (\$99/year), a Mac OS X based machine running Mavericks or above (10.9), and an iOS device capable of running at least iOS 7 to take this course. This class is designed for beginner to intermediate students who want to learn the best practices behind the architecture of iOS application development. NYCDA not only provides an ideal, hands-on experience, but also gives students the chance to build a portfolio showcasing their proficiency in interactive, persistent, and networked apps.

In this program, you will learn:

- Xcode
- Swift
- Model-view-controller Foundation
- UIKit APIs
- Version Control Programming

Tuition: \$2,250

Meets:  
Monday + Wednesday, 6:30 PM - 9:30 PM  
48 hours total

## Weekly Overview

### WEEK 1 Object Oriented Programming Basics, Xcode Playgrounds, Structure of Apps

The 8-week program will start off with an introduction to object-oriented programming, the iOS programming environment, and the Swift programming language. Swift is a powerful language with user-friendly features that enables you to effortlessly create complex, high-performance native apps.

### WEEK 2 Conditionals, Optionals, Iteration

Week 2 focuses on different ways to execute instructions in a program. Conditionals are simply actions that take place within a program only if a specific condition is met. Conditionals are one of the most important components of programming languages, because they allow programs to function differently according to whatever action is executed under a certain condition (if, then).

### WEEK 3 Functions, Objects, Arrays, Strings, Inheritance

Functions are commands that perform specific tasks within a program. Learn how to manipulate and select a series of objects to improve your functions. With knowledge in arrays, strings, and inheritance, you will be one step closer to building the optimal iOS app.

### WEEK 4 Basic Algorithms, Sorting, Searching

Algorithms make or break your program, and developers worldwide are challenged by the notion of inventing the perfect "equation." This week is dedicated to studying basic algorithms, sorting, and searching. Almost all programs consist of algorithms. Basic algorithms

are important because they act as a formula towards solving a particular problem.

### WEEK 5 Interface Building, Designing a Basic App

There are many types of interfaces. We want students to know the systems that connect the program and code with the end-user application when designing a basic app. Developing the iOS app is the first step, while creating user interaction is the other.

### WEEK 6 Tour of UIKit - using various UI Elements, Target-Action, Delegation

UIKit is a lightweight and modular front-end framework for developing fast and powerful web interfaces. UIKit gives you a comprehensive collection of HTML, CSS, and JS components which is simple to use, easy to customize and extendable.

### WEEK 7 View Controllers + Auto-Layout

View controllers manage how a window sets the display of an app. A view controller owns its own view and manages the view's contents. There are many factors that play into view layout including the frame of the window, status bar visibility, orientation of the user interface (landscape or portrait), and more.

### WEEK 8 UITableViewController, UINavigationController, View Transitions

Finish up iOS Development 101 with more view controller elements including UITableViewController. UITableViewController creates objects that manage table views. UINavigationController makes it possible to present your data efficiently and makes it easier for the user to navigate that content. By the end of the course, you will have the chance to show off your newly built iOS app.

### *The Space*

New York Code + Design Academy is conveniently located in our nation's capital near discounted parking and just two blocks from the McPherson Square and Farragut North Metro stations. This campus features a library, computer lab, student lounge, and student parking.

### *Job Placement Assistance*

The job search process starts on the first day of class. Our Outcomes Team leads weekly instructional workshops on topics such as networking, interviewing, and offer negotiation. We provide job placement assistance for all full-time students, including material advising, individualized coaching, portfolio review, and an employer meet and greet. While we endeavor to ensure our students' success, there is no guarantee of placement.

### *Inclusion Policy*

The New York Code + Design Academy does not discriminate against students or potential students on the basis of race, creed, color, national origin, sex, veteran or military status, sexual orientation, or the presence of any sensory, mental, or physical disability or the use of a trained guide dog or service animal by a person with a disability.

Students who seek accommodations related to a disability should contact the campus's General Manager.

### *Credentials Awarded*

Students are awarded Certificate of Completion for all classes.

### *Policy for Granting Credit*

The New York Code + Design Academy courses are not credit bearing. The New York Code + Design Academy does not accept credit from other institutions. Courses completed are unlikely to count as transfer credit at another institution.

### *Complaint Procedure*

It is suggested that students take the following steps to address any concerns:

First, students should raise their concerns with their instructor who is most familiar with that student and is therefore in the best position to assist.

Second, if the student's instructor is unable to help resolve the matter, or if the student's concern involves his/her instructor, the student should raise concerns with that person's supervisor or the next-level supervisor who is not the Chief Executive Officer.

Should the student be unable to resolve their concern at the second level of management, they may raise their concern to the Chief Executive Officer or Chief Academic Officer. Complaints can be filed via email (zach@nycda.com, jeremy@nycda.com), or via postal mail addressed to 90 John Street Suite 404, New York, NY, 11038, c/o either individual. Complaints will receive a response within 5 business days.

Students may submit a complaint affecting NYCDA's license issued by the DC Higher Education Licensure Commission to the Commission if not resolved by NYCDA.

### *Financial Assistance*

The New York Code + Design Academy does not offer financial aid from federal, state, or local government sources. The New York Code + Design Academy is not accredited. Therefore, students are not eligible for state or federal financial aid programs. The New York Code + Design Academy works with financial partners to assist students with finding private loans to subsidize their tuition. The partners offer competitive financing plans with flexible payment schedules.

### *Scholarships*

#### **Referral Scholarship:**

For students who refer a friend to take a class

- Student gets \$1000 off, friend also gets \$1000 off for our intensive programs.
- Student gets \$250 off, friend also gets \$250 off for our part-time classes.

Students may not receive more than the tuition of the course. The scholarship will be applied once the referred student completes the 4th week of class.

## *Student Services*

We strive to provide a comfortable, inclusive learning environment for all NYCDA students. Our facilities are equipped with high speed WIFI, coworking space, and common areas shared by students and staff. Students are invited expand their personal and professional networks through community events, socials, workshops, and technical lectures at their local NYCDA campus. As part of our commitment to make code accessible to all, The New York Code + Design Academy also provides financial assistance and flexible payment plans to those who qualify.

## *Student Records*

The New York Code + Design Academy maintains a file for each enrolled student. The files are held on campus in a secured filing cabinet that is locked to ensure the confidentiality of the students' records. Each file includes the students' enrollment agreements, transcript and other items required by state law. Additionally, NYCDA maintains safe and secure electronic documents that can be accessed by a staff member using a unique login and password. This allows for the quick and easy retrieval of student documents.

Students have the right to view their own academic records. Students who wish to view their own academic records should contact the General Manager.

*This Catalog contains policies and course descriptions as of the date published. NYCDA reserves the right to alter or amend at any time the policies or programs contained in the Catalog. Students are responsible for informing themselves of current policies and meeting all relevant requirements. Up-to-date information can be found at [www.nycda.com/classes](http://www.nycda.com/classes).*