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Welcome!

Dear Student,

We are thrilled you have decided to pursue your passion for technology with DigitalCrafts. Throughout our immersive program, you will learn myriad exciting new skills and make long-lasting friendships in the process. You will learn the ins and outs of full-stack web development, and you will have the opportunity to gain valuable and complimentary experience with an optional elective program – all with industry experts and a room full of peers. We know learning complex languages and programmatic concepts is an exciting yet daunting prospect, and we are dedicated to supporting you through the ups and downs of this shared adventure.

We also want you to know how much we sincerely appreciate you placing your trust in our team, a responsibility we do not take lightly. Throughout class, we will ask for your regular and honest feedback to ensure we meet and exceed your needs and expectations. If at any point you have a question, concern, recommendation, or just want to chat, please don't hesitate to let us know. We're here to help.

See you soon,

The DigitalCrafts Team

"Trust me: do the pre-work, and focus on JavaScript. Read both that and the HTML / CSS books in their entirety! Have fun & good luck!"

- Alumni messenger

Pre-requisite Assignments

Some of these assignments may come easily to you and others may be challenging. Please do not look at the volume of material and unfamiliar concepts as an insurmountable challenge. Also, do not feel like you have to memorize everything contained in the below assignments, as repetition and everyday use will play a crucial role in instilling these core concepts. That said, excessive preparation never hurt anybody, and I encourage you to further experiment with the concepts covered below on your own.

STUDENTS NEW TO MAC

Showing up on day 1 with a new Mac and trying to keep up is going to be very difficult if you're not already familiar with the OS. We have had multiple students advise that we make this point a strong priority in the pre-work. It's not Windows, and there's definitely a little bit of a learning curve. Resources are abundant online, so use them if needed, but there's no substitute for just using the thing as much as possible before class. Get comfortable with it; your machine is your livelihood!

Assignment #1 (Required)

Read *A Smarter Way to Learn JavaScript,* and *A Smarter Way to Learn HTML & CSS* in their entirety, and make sure to do the exercises! The Kindle versions are $8, but this book has been deemed "most helpful resource by far" by our students and alumni. There are a lot of chapters, but they're generally short. CSS positioning and JavaScript are where our new students generally first get lost or frustrated. Previously, we assigned the first 25 chapters only, but our students have strongly advised that the whole books be required. If you finish both, the accompanying *jQuery* book is a fantastic resource as well.
http://amzn.to/1SOPY1v
http://amzn.to/2a9pQNO

If you're up for it, the book set below is another staff & student favorite. It's not free, and isn't required, but everyone loves them as they aren't nearly as dry as the typical programming book.
http://amzn.to/1Vwa9iR

Assignment #2 (Required)

Students have found the following CSS learning tool extremely helpful. Most come in thinking CSS will be the easy part, but then are surprised at its many intricacies, especially surrounding positioning. Please follow this along in its entirety! You'll be glad you did. ☺
http://learnlayout.com/

Assignment #3 (Required)

Watch and follow along (when possible) with the videos listed below. It's good to take the training-wheels off a bit and work on code outside of a browser editor. These videos are well organized and cover a lot of the concepts you should be familiar with now from the previous assignments. If you finish the assigned videos, this whole "playlist" is worth watching. Also, search on YouTube for "Net Ninja" – a vast resource some students have found helpful but isn't required.

"Web Development Tutorial for Beginners (#1, #2, #3)"
https://www.youtube.com/playlist?list=PLoYCgNOIyGAB_8_iq1cL8MVeun7cB6eNc

"JavaScript Tutorials For Beginners"
http://bit.ly/1OVnaAD

Assignment #4 (Required)

Complete the **HTML, CSS, JavaScript, and JQuery tracks** on Codecademy. Many of you may have already done this, but consider doing it again. If you haven't already, definitely do so. Yes, the in-browser editor can be a bit frustrating at times when you can't determine an error, but this is a solid, free tool that will get you familiar with the syntax of the technologies you will be learning. https://www.codecademy.com/

Assignment #5: Computer Science 101 (Required)

Employers often observe that traditional Computer Science (CS) undergraduates lack practical development skills, while bootcamp graduates lack underlying algorithmic and CS fundamentals. Our program will focus primarily on job-ready development skills, but that doesn't mean brushing up your CS background isn't important. Learn as much about CS as you can – it could be a huge differentiator on the job market.

Khan Academy + Dartmouth College

These Khan exercises are great starting points for basic CS concepts, but may seem a bit difficult at times given your cursory knowledge of Javascript (for now). Don't get too hung up on the individual exercises, but get as far as you can and really focus on learning the concepts behind the lessons. You should create an account to keep track of your progress and points.

Activity	Link	Sections
Algorithms	http://bit.ly/1NpPsol	1. Intro to Algorithms (all) 2. Binary Search (tough exercise but try all) - The exercise here is very similar to an entry-level interview question at CareerBuilder.com *Push as far as you can in this track!*

Harvard CS50: Introduction to Computer Science

The lecture below is from Harvard's CS50 program. While we are only requiring you to watch the first week's lecture, you may choose to enroll and complete their entire class in your free time or after graduation. If you do so, you can submit your work to be graded by Harvard students for $90, and if you're successful Harvard will award you a certificate of completion. **Also, if you're successful, DigitalCrafts will reimburse you the cost of submission ($90).**

- Link to enroll in the full course: http://bit.ly/1OcVWWV

Activity	Videos to Watch
Week 0 Lectures	http://bit.ly/1hXo2Zu

Assignment #6 (Required)

Please complete the first 22 exercises on LearnPythonTheHardWay.com. This is our only exercise regarding our second stack; so make sure to do this one! *(It's actually the easy way ☺)*
http://learnpythonthehardway.org/book/

Assignment #7: Additional Readings (Encouraged if you have time)

1. "Know These Web Dev Building Blocks" Blog
   a. Make sure to read the Intro, Item 1, and Item 2.
   b. http://bit.ly/1LXnvkt
2. "Mastering the Developer Tools Console" Blog (especially important)
   a. This article will provide you with an overview on Chrome's developer tool console. Pay attention, as this tool will become your best friend for all things related to front-end web development. Make sure to bookmark this link for future reference.
   b. http://blog.teamtreehouse.com/mastering-developer-tools-console
3. "Learning JavaScript Functions" Videos & Tutorial
   a. Overview of JavaScript basics (with jungle music in background!)
   b. https://www.youtube.com/watch?v=zhQGj0SWZWY
4. "How the Web Works – In One Easy Lesson" Video & Article
   a. The video at the top of the article is only 6 years old. There's no need to watch the entire video but make sure to watch at least part of it. It is scary and funny.
   b. The article "How the Web Works – In One Easy Lesson" is a short, excellent article breaking down how the web works.
   c. http://mkcohen.com/how-the-web-works-in-one-easy-lesson.
5. What is the MEAN Stack?" Video & Blog
   a. Watch this brief video providing an overview of the MEAN Stack (it's boring, we know).
   b. https://www.youtube.com/watch?v=OCd3WK3WnCM

Assignment #8 (Optional / Strongly Encouraged If Needed)

Typing practice! We move quickly in class, and the characters used throughout programming are probably not what you're used to. If your typing skills aren't as polished as you might wish them to be, this is a good place to get your hands and mind familiar with looking and writing code.
https://typing.io/

Assignment #9 (Optional)

Here is another quick JavaScript resource that is free and well regarded. This should come as review at this point, but hearing different perspectives on similar concepts is as helpful as repetition.
https://www.codeschool.com/courses/javascript-road-trip-part-1

Additional Resources (Optional / On-Going)

The resources below will be useful throughout the course but are not required before class starts.

"Eloquent Javascript" – Free e-book for a deep dive on JavaScript. This is an in-depth but extremely dry resource. Use like a dictionary.
http://eloquentjavascript.net/

"Node.js for Beginners" – Want to start familiarizing yourself with Node.js before class? This is a good article / tutorial to give you a high-level overview. Don't be intimidated if you don't get this stuff right now, we'll cover all this together!
http://code.tutsplus.com/tutorials/node-js-for-beginners--net-26314

"Javascript Garden" – Just another Javascript resource available for free online. Javascript Garden attempts to get into the more "quirky" parts of Javascript.
http://bonsaiden.github.io/JavaScript-Garden/

"Welcome to SQL School" – Information and tutorials for beginning to learn SQL, an essential skill for any full-stack developer.
http://sqlschool.modeanalytics.com/

"SQL Zoo" – More tutorials for learning SQL.
http://sqlzoo.net/