CODE THE DREAM

Class Handbook
Web Development

```
ReactDOM.render(
  <h1>Hello, world!</h1>,
  document.getElementById('root')
)
```

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Part One: Introduction

Welcome!

Congratulations on being accepted into this program! We are very excited to work alongside you and see you succeed.

As we start this program, what can you expect from us? We will be responsive — we want to see you succeed, and are available to help out wherever we are needed. We are passionate about software development, and take seriously our commitment to teach you with the best and most up-to-date materials we have. We will listen to you, not just as students but as people. Community is one of our great values at Code the Dream, and we're excited to welcome you into the CTD community.

In return, we have high expectations for our students. You should plan to come to each mentor session prepared, meaning that you've done the reading and the homework, and are ready to discuss the material. We expect you to be kind and cooperative in your learning communities and respectful of others. We want you to have high standards for yourself and challenge yourself to grow.

Together, we're going to have a great class.

— Code the Dream Staff

About Code the Dream

Code the Dream is a nonprofit based in Durham, North Carolina. We are a code school and a software development shop. Code the Dream offers free intensive training in software development to people from diverse low-income backgrounds. Upon completion of a programming class, students have the opportunity to apply for an internship in CTD Labs, where our coders work with experienced mentors to hone their skills by building apps and technology platforms for a range of startups, nonprofits, and government clients.

The ultimate aim of Code the Dream is to create a unique win-win, where our coders gain real experience building apps that make the world a little better place, and then use that experience to launch new careers with enormous opportunity for themselves, their families, and their communities.

Who You'll Meet

<u>Instructors:</u>

Ramiro Rodriguez, Co-Founder and Lead Instructor
Ramiro knows about the American Dream and he knows about coding. Originally from Mexico, Ramiro moved to the United States as a child and excelled in school. He majored in Computer Science and Electrical Engineering at Cornell and later returned for a Masters in Computer Science. Together with an amazing team of top-notch volunteer instructors and mentors, he leads Code the Dream's teaching and project-based learning.

Tom Rau, Lead Developer
Tom Rau has worked for startups and established organizations working in a variety of roles, ranging from product lead/manager to front-end development. At Code the Dream Tom helps develop the front-end curriculum as well as serves as a lead developer and mentor to Code the Dream Labs interns. Additionally, Tom is pursuing a Masters of Science in Foresight Studies and occasionally still hits the road with a band as a bass or keyboard player.

Jared Siirila
Jared is our longest-serving volunteer instructor and a proud Wyoming native. He has lived in the Triangle for over 10 years, working as a front-end developer for tech giants IBM and Lenovo. Currently, Jared works for EBSCO in the NoveList division, developing software for public libraries. Jared is a talented problem solver with a passion for teaching programming in often humorous ways (just ask his students). We at Code the Dream are lucky to have him on our team.

John McGarvey
John spent 33 years as a lead systems software developer and security architect at IBM. Having retired from that position, he is glad to have the opportunity to assist others in learning to code and in practicing the development process, focusing on Ruby and Rails. These technologies were new to him when he joined Code the Dream. He now passes on his old and new skills to those he mentors.

<u>Support Staff:</u>

Lori Fernald Khamala, Director of Partnerships

Lori has been involved with immigrant and farmworker organizing and advocacy in North Carolina since graduating from Guilford College 20 years ago. She is passionate about building community that is rooted in social justice, equity, and collaboration. After directing a program with the American Friends Service Committee for more than 10 years, Lori joins the Code the Dream team to strengthen new and existing relationships with nonprofit, education, business, and government partners. She is excited to support innovative ways of building the kind of world that is just and inclusive for all the members of our community.

Reid Russom, Programs Coordinator

Reid grew up in Memphis, Tennessee and graduated with a B.A. in English Literature and Political Science from the University of Memphis. Reid does a little bit of everything, but his primary roles are in communication and ensuring that Code the Dream students receive individualized support in reaching their education and career goals. Reid is passionate about education, and in his free time he can be found going out for a run, reading a book, or trying one of the many amazing local restaurants in the Triangle area.

Who Should I Contact If….?

- **I'm stuck or need help coding**
  Contact your mentor(s) and fellow students first, then reach out to Ramiro or Tom

- **I have a question about the class website, Treehouse, or GitHub Classrooms**
  Contact Reid

- **I have a question about mentor groups**
  Contact Reid

- **I have a question about the internship or post-course steps**
  Contact Lori or Reid

- **I have a life circumstance that will affect my participation in the class**
  Contact Lori or Reid

Part Two: Course Overview

Code the Dream's Web Development class is a free, online, six-month course in software development that covers a wide range of topics. Classes are divided into six subsections: Web Basics I & II, Front End I & II, and Back End I & II. All students take the Web Basics sections, and then choose to specialize in either Front End or Back End.

Our classes are powered by Treehouse, an online coding learning platform, along with GitHub Classrooms, Slack, and countless hours of volunteer work.

The table below presents an outline of the course content. For a complete and updated overview of the course, visit the course website on learn.codethedream.org.

Course Materials

To participate in Code the Dream's online classes, you'll need your own computer with a stable internet connection. Most of our students use a computer with a Mac OS, but Windows and Linux work too. In mentor groups, we prefer that students use webcams and have the ability to share their screen when asking questions about code.

You won't need to install a local environment at first, but some students learning Ruby will find it helpful to install Ruby on their machine later in the course.

All of our students will regularly use the following resources for class content and communication:
- Slack
- Treehouse
- GitHub Classrooms
- Course Website

We'll send invites to CTD's accounts for each of these services.

Content Overview
The in-depth course content and links to assignments and Treehouse tracks can be found on the course webpage at learn.codethedream.org.

- **Web Basics I** — introduction to programming principles, Git & GitHub, basic HTML & CSS
- **Web Basics II** — beginning JavaScript, introduction to SQL
- **Front End I** — advanced CSS & HTML, Bootstrap, and object-oriented JavaScript
- **Front End II** — React basics, deep dive into React, creating your own app

- **Back End I** — SQL, Ruby basics, Ruby and Sinatra
- **Back End II** — Ruby on Rails development, guided project

Part Three: Expectations

Class Expectations

Course Materials:
- Complete assignments by the posted deadline. **Students who do not complete the projects at the end of Web Basics and Front End/Back End will be assumed to have dropped the class.**
- If you have a question about some of the content or course materials, contact fellow students first, then your mentor, then an instructor or member of CTD staff.
- **Don't be afraid to ask questions**! Professional coders get stuck all the time, and no one will judge you for needing help.

Attendance:
- Keep up with the weekly course schedule! CTD doesn't operate on a system of grades or hard deadlines, but it's easy to fall behind and hard to catch back up.
  - If you do happen to fall behind, reach out to an instructor, mentor, or member of CTD staff to form a plan to help you catch back up.
  - If an unexpected life occurence makes it impossible for you to keep up with the course material, let us know. We want to work with you to make sure you're on-track.
- **Plan on attending at least two mentor sessions per week**. If you feel like you need more, please take advantage of as many as you need!
- The built-in community in Slack is a great resource, and we encourage students to communicate with each other outside of mentor groups.

Mentor Groups:
- As said, students should plan on attending at least two mentor sessions per week.
- We prefer but do not require that students use webcams in Slack, Google Meet, or Zoom calls.

Technical Issues:
- We expect that, at minimum, all students have access to a computer and a stable internet access.
- Students can use Slack for mentor calls, but may also need to use Zoom or Google Meet, depending on the mentor's preferences. We do not ask students to pay for accounts on any of those services.

- If you are experiencing difficulty completing the work due to broken technology, please contact CTD staff.
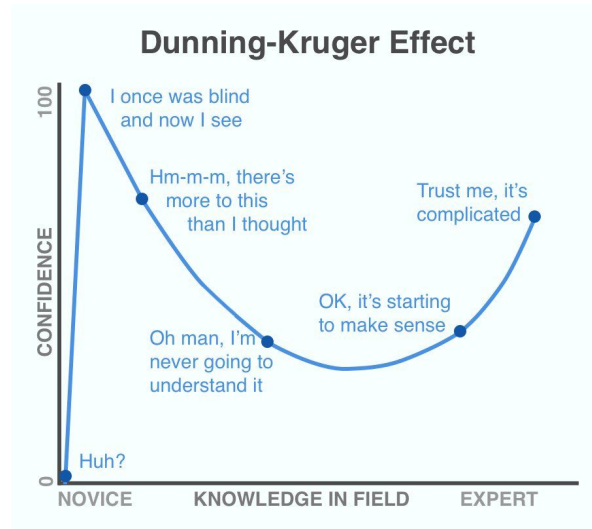
<u>Equity</u>
- Code the Dream is a welcoming and open community and does not discriminate based on the basis of race, religion, color, ethnicity, national origin, immigration status, religion, sex, sexual orientation, gender identity, age, height, weight, physical or mental ability, veteran status, military obligations, and marital status.
  - We have this same expectation for our students! Respect the humanity and individuality of each other, and enjoy being a part of CTD's community.
  - Code the Dream will ask students who do not meet this expectation to leave the class.
- Code the Dream is open to all students and strives to build a welcoming environment for everyone, regardless of "ability" or "disability." If you have specific accessibility needs, please contact CTD staff so we can meet them.
- Code the Dream does not tolerate sexual harassment in our community and values our online spaces as much as an in-person workplace.

> **Code the Dream has impacted me in immense ways. I couldn't afford college, but since working at Code the Dream, I'm actually able to help provide for my parents.**
>
> ANDREA HERNANDEZ
> FRONT END DEVELOPER

CODE THE DREAM
codethedream.org/donate

Part Four: How to Be Successful in this Course

Coding is hard. Even our most successful developers still have tons of questions, and it sometimes seems daunting to look ahead and see all the things you have to learn. The **Dunning-Kruger Curve**, seen to the side, shows how our confidence often actually decreases as we learn more about a field, realizing just how little we actually know.

That's ok! You're going to feel stuck, overwhelmed, or burned out at some point. Acknowledge those feelings and trust that it will be ok.

We've done these classes for a few years now, and below are some of our tips for how to succeed.

- **Stay consistently engaged!** Spread your practice throughout the week rather than cramming it into one space. Don't procrastinate and then try to catch up — you won't actually learn the content, and often this will lead you to feel overwhelmed and you'll be tempted to drop out.
- **Ask questions!** Trust us, if you have a question, somebody else has probably had it too. Don't be afraid to reach out and get help.
- **Form relationships with other students.** One of the coolest things about Code the Dream (in our opinion) is the community. Your fellow students are a great resource for answering questions, bouncing ideas off each other, and building connections. We even hope that students near each other geographically will meet up in person! If you're near CTD's office in Durham, feel free to drop by.

Part Five: CTD Labs and Next Steps

All students who finish the class are invited to apply for CTD Labs, a paid internship program in which interns gain real-world experience building apps for nonprofits, local government, and minority-owned startups. Internships can be in-person at Code the Dream's office in Durham, NC or remote, although we expect interns in the Triangle area to be in-person. Interns are expected to be full-time.

CTD Labs is a highly-competitive program; we accept only about 5-15 interns out of each cohort, depending on our funding and space available in the program. When we make decisions on who to hire, we think about a candidate's:

- Knowledge of course materials and readiness to contribute to projects
- Participation in the course and perceived commitment to CTD
- Ability to engage with and play a positive role in the CTD community

Some students will be ready to apply for jobs when they finish the class, and some will want more time to learn. Regardless, we want you to succeed, and will enthusiastically help you through the job search process.

Some of the projects that CTD Labs interns have worked on recently include:

- **Upstate**, a web app that tracks legislation in the North Carolina legislature. Users can follow specific bills or issues, and use the app to find and contact officials who are working on specific legislation.
- **Vamos**, an app that lets farmworker advocacy organizations track farmworker camp locations, plan site visits, and keep track of previous outreach.
- **Mariposa AR**, an augmented-reality app for the North Carolina Museum of Art that links two murals in downtown Durham to an exhibit on Frida Kahlo's art.

> Code the Dream changed my life. I've learned a lot about myself, discovered what I am capable of, and I'm creating programs that do good in the world.
>
> CRYSTAL WILLIAMS-BROWN
> FULL STACK DEVELOPER

> Finding Code the Dream was a dream come true. In just a few months, I've built websites and apps and met with potential employers. It is an incredible program and it has changed my life.
>
> KWASI YEBOAH
> FULL STACK DEVELOPER