Master21 Coding Bootcamp Curriculum

Why? Goals

- Get an overview of the most important topics and concepts of modern web development
- You'll understand how key technologies work and get a solid foundation
- Connect the dots between design, frontend, backend and databases
- You'll understand technical jargon and be able to put new terms, tools and technologies into context
- We'll work on a real project, from idea to launch. By writing actual code, programming will no longer feel like rocket science.
- In the future, you'll know how to approach technical challenges and get answers to your questions.

How? Learning methods

- 6 full days hands-on practice on campus at the Impact Hub in Zurich. The first two days are an intensive kick-off, then you'll learn every second Saturday with fellow bootcampers.
- Weekly online video lecture, assignments and hands-on work on projects. Ideally, you reserve 4-8h / week for this.
- Weekly online calls with the group to ask questions, follow-up and stay on track.

What? Concepts and Technologies

We will have a look at the following concepts and technologies. We start with the basics. No prior knowledge is required. You can request additional topics for the AMA (ask me anything) sessions.
Learn in your own pace and style. If you miss a session, no worries, we have recordings for you. The course language is English. Feel free to ask your questions in (Swiss-)-German.

Frontend	Backend	Frameworks	Developer tools
- HTML - CSS	- Ruby - APIs - Databases	- Rails - Bootstrap - & more	- Text-editor - Command-line - Git and Github

Concepts
- The Internet - Basics of object-oriented programming - Operating systems (our programming environment) - Web development: From idea to go-live

Project

You will work on one large project throughout the bootcamp. Step by step, you will apply your learnings and knowledge and extend the project until it's live.

Schedule

Week 1 - Week 2

Module 1: Web, Operating Systems & Developer Tools

- Introduction to the internet and its concepts
- Technologies: HTML, CSS
- Fundamental concepts and differences of operating systems
- Command line
- Version control with Git / Github
- Deployment of a Website

Project

Start off your project as a static website (HTML & CSS)

Week 3 - Week 6

Module 2: Learning a Programming Language (Ruby)

- General Introduction to software development
- Ruby basics
- Libraries in Ruby (tools written by other people)
- Write a simple game with Ruby
- Object oriented programming concepts with Ruby
- Learn to formulate abstract concepts in code

Project

Implement business logic in Ruby code

Module 3: Learning a Web Framework (Rails)

- Introduction to the MVC (model - view - controller) concept of web applications
- Introduction to Ruby on Rails framework to create web applications quickly
- Introduction to databases and data models, the long-term memory of your application

Project

Integrate your static website (HTML, CSS) & your Ruby code into a Rails application