

mwdc

Introduction to Modern Web Development

Introduction

The technical job market is becoming increasingly competitive. Companies large and small have plenty of individuals to choose from when it comes to filling roles. The candidates who stand out during interviews are the ones who both understand and have embraced modern and cutting-edge technologies and best practices. The candidates who are confident and well prepared on the ones well posed to land their dream jobs.

Many educational institutions are well behind the times, teaching technologies which are considered aging by both startups and larger enterprises.

This proposal seeks to outline a course curriculum which can be catered to various formats ranging from a one day boot camp (several hours) to a 4–7 week course. This course can also be customized as an introductory to advance course. This proposal outlines how in later sections.

Popular educational alternatives

Students wishing to learn cutting-edge web development skills often have to resort to expensive and specialized boot camp oriented training centers. These centers offer an immersive learning program which is often only best suited for students with an aptitude for the material. Often students who attend such courses either drop out or complete the course without having obtained the skills they need for continued study and entry into the job market.

See the following popular examples:

- General Assembly, <https://generalassemb.ly/>
- Fullstack Academy, <http://www.fullstackacademy.com/>

Course goals

The primary goal of this course is to introduce students to modern web development practices whereby preparing them for today's competitive technical job market.

It's often said that "we don't know - what we don't know". This course is aimed at giving students a lay of the landscape - a gentle, yet broad introduction into the various aspects of modern web development. As students gain an understanding of what's involved, we'll incrementally discuss each aspect in greater detail. During every step of the way students are exposed to free tools which they can use to explore topics in greater depth - in and outside of class. So a key goal in this course is to reveal a roadmap for further growth.

Upon completion of the course, students leave with an understanding of web development that can in various aspects exceed that of individuals already employed who haven't kept up with the fast paced march of technological advancements. Further, students leave with a set of software tools which they can freely utilize to build their own business, apply for employment or advancement in their current jobs.

Who should attend this course?

This course is for anyone (with or without prior experience) who wants to get a sense of how modern web development is done at the world's leading technology companies. This course is intended to answer the question: "What is the current state-of-the-art in web development?"

- ***Students without prior job experience:*** Individuals who may be considering or preparing for a job in web development will gain a sense of what it takes to compete at the highest level.
- ***Web professionals with experience:*** Students with prior knowledge will gain a deeper understanding of how to further advance their careers.
- ***Current and future web entrepreneurs:*** Current and future Internet entrepreneurs can get a sense of how successful products are built. This is valuable regardless of whether they'll do the work themselves or contract others to build their products. Understanding the correct way products are developed increases their odds of success.

- **Educators:** Educators looking to improve their understanding of how Internet services are built and how to best present current developments to their students.
- **Artist and designers:** Artistically inclined individuals who are interested in applying their talents to supporting Internet facing products.
- **Project managers:**
 - Managers who want to transition to managing web related projects.
 - Managers interested in understanding modern web development challenges in order to better manage their existing projects.
- **Business stakeholders:**

What this course is not

This course is not intended to be an extensive hands-on introduction to computer programming or software requirements gathering. While this course doesn't require students to already know a programming language, those who do have prior experience will gain the most for this course. At all levels of exposure, students will benefit from a broad look at the state-of-the-art in web development and leave equipped to take what they'll learn and begin applying it to their own web interests and goals.

Course materials

Students won't need to purchase text books or other materials. All of the books and software tools can be obtained freely and legally online. Students can continue exploring what they learn at the school's computer lab and on their own personal computers.

Course syllabus

Course overview

Upon completion of the course students will be able to:

- Express an understanding of modern web development and explain how it differs from the past.

- Fully understand what is required to compete for today's technical job market.
- Understand the roles of HTML, CSS and JavaScript and how each of those technologies can be used together to build web sites, mobile applications and online services.
- Describe the various tools used by modern web developers.
- Effectively use freely available tools to build their own development environments.
- Understand where they can go online to continue to improve their skills while outside of class.
- Learn about freelance opportunities where they can use their new skills to increase their income.

Course topic plan

Introduction

- Instructor introduction. This is where I introduce myself, what I've done and what I do when I'm not teaching. The material will be a quick recap of the bio listed at the end of this proposal.
- General topic introduction. Overview of what this course is intended to cover. Essentially a review of the course overview listed above.

A behind the scenes look at popular online services

- A look at Amazon, Netflix, Google, Twitter and Dropbox. What do these services offer and how do they work?
- Computers don't drive companies - people do! Understanding the role of people in successful services.
- What sorts of job roles can be found in each of those companies?

Job Roles in Web development

- Programmers
- UI/UX

- Designers
- Product managers
- Project managers
- Quality Assurance testers

Web development past and present

The languages of the web

Front-end vs Back-end

Tools of the trade

- Web browsers: Google Chrome, Firefox and Safari
- Text Editors: Brackets, Atom
- Online programming environments: JSBin, JSFiddle, CodePen, Cloud9IDE
- A brief look at Node.JS
- Project management software. A look at Pivotal Tracker and Trello.
- Software for designers: Photoshop and GIMP
- The Cloud: Amazon and Heroku

Testing software

Working remotely

- GitHub

Potential course formats

Introductory format

Three level format

- Introductory
- Intermediate

- Advanced

Intensive one/two day bootcamp format

Instructor bio



Carlos Justiniano ([LinkedIn](#)) is a 25+ year veteran of the computer software industry. He has served technical roles ranging from a senior software developer to V.P. of Engineering. He has extensive experience working with small privately funded start-ups to large Fortune 100 companies on small applications to large scale enterprise systems.

Mr. Justiniano has helped launched startups in New York and San Francisco and is currently an advisor to startups in the US and in India.

During his career he has contributed to the release of over 14 commercial products ranging from business applications to computer games.

In 2005 he was awarded a Guinness World Record involving Distributed Computation. Mr. Justiniano is also a published author and has written for two technical books published by Prentice Hall and Springer, and his research work has been published by leading technical associations and journals such as: ACM, IEEE, IBM, O'Reilly, and the Linux Journal.

He is still heavily active in the software industry and is currently a Senior Lead Engineer with a large online advertising company in midtown New York.

In his spare time Mr. Justiniano contributes to Open Source (via Github) and pursues a strong interest in Photography. He lives with his wife, daughter, and their handsome dog Romeo.