Mobile Web Specialist Nanodegree Syllabus

Become a Professional Mobile Web Developer

Before You Start

Congratulations on considering the Mobile Web Specialist Nanodegree program! Before you get started, make sure to set aside adequate time on your calendar for focused work, and double-check that you meet the requirements: you should have prior programming experience that includes HTML, CSS, and JavaScript programming along with experience using Git and GitHub.

The Mobile Web Specialist Nanodegree program is comprised of advanced web development curriculum organized into three parts and three projects. Each project you build will be an opportunity to demonstrate what you've learned. Your completed projects become part of a career portfolio that will demonstrate your mastery of mobile web development to potential employers.

This Nanodegree program will transform intermediate front-end web developers into mobile web specialists. By the time you graduate, you'll be prepared for the Google Mobile Web Specialist Certification. If your goal is to get hired as a mobile web developer, this is the program for you.

You can reach us for help with your enrollment at mobileweb-support@udacity.com.
For help from Udacity Mentors and your peers, join the community discussion on Slack or visit the Udacity Classroom where you will find LiveHelp support.

Part 1: Building Accessible and Responsive Web Apps

Courses	Learning Outcomes
Responsive Web Design Fundamentals	➔ In this course you'll learn the fundamentals of responsive web design with Google's Pete LePage! You'll create your own responsive web page that works well on any device - phone, tablet, desktop or anything in between. ➔ You'll start by exploring what makes a site responsive and how some common responsive design patterns work across different devices. From there, you'll learn how to create your own responsive layout using the viewport tag and CSS media queries. As you proceed, you'll experiment with major and minor breakpoints, and optimizing text for reading.
Responsive Images	➔ Did you know that images account for more than 60% of the bytes on average needed to load a web page? ➔ In this course you will learn how to work with images on the modern web, so that your images look great and load quickly on any device. ➔ Along the way, you will pick up a range of skills and techniques to smoothly integrate responsive images into your development workflow. By the end of the course, you will be developing with images that adapt and respond to different viewport sizes and usage scenarios.
Web Accessibility	➔ In this course you'll get hands-on experience making web applications accessible. You'll understand when and why users need accessibility. Then you'll dive into the "how": making a page work properly with screen readers, and managing input focus (e.g. the highlight you see when tabbing through a form.) You'll understand what "semantics" and "semantic markup" mean for web pages and add ARIA markup to enable navigating the interface with a range of assistive devices. Finally, you'll learn styling techniques that help users with partial vision navigate your pages easily and reliably.

Project: Restaurant Reviews App—Stage One

In this Nanodegree program, you will build a Restaurant Reviews App. To do this, you will incrementally convert a static webpage to a mobile-ready web application in three stages. In Stage One, you will take a static design that lacks accessibility and convert the design to be responsive on different sized displays and accessible for screen reader use.

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Part 2: Building Offline Capable Web Apps

Courses	Learning Outcomes
[Asynchronous JavaScript Requests](#)	➔ This course covers everything a developer needs to know to asynchronously send and receive data in their web applications. You'll dive into how asynchronous requests work by using the XHR object to create and send asynchronous requests for image and news article data. Then, you'll see how you can perform async requests more easily using third-party libraries and APIs like jQuery's Ajax and the Fetch API.
[ES6 JavaScript Improved](#)	➔ ECMAScript 6, or ES6, has brought about a ton of changes to the JavaScript programming language. In this course, you'll explore those changes to learn about the latest features and improvements to the language including new keywords, arrow functions, the Class syntax, Promises, and so much more. Discover how much cleaner and more concise your JavaScript code can be!
[Offline Web Applications](#)	➔ This course is focused squarely on user experience, and seeks to show developers how thinking offline-first is the best way to ensure that applications perform their best in all scenarios, not just ideal ones. You'll learn to recognize the differences between good, poor, intermittent, and missing connectivity for your users, and master how to make applications that navigate these conditions with ease.
[Web Tooling and Automation](#)	➔ In this course, you'll learn how to setup your development, get super productive during daily work and iteration, prevent yourself and your site from disasters and save a lot of time and effort with automatic optimization and automation. Finally, you'll learn how to do all this while being confident your code runs on a multitude of devices in the real world.

Project: Restaurant Reviews App—Stage Two

In this Nanodegree program, you will build a Restaurant Reviews App. To do this, you will incrementally convert a static webpage to a mobile-ready web application in three stages. In Stage Two, you will be given a back-end server and the code from Stage One and add the ability to read JSON from the server and display this data in the app, store data in a database for offline use, and meet a site performance target.

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Part 3: Building Performant Web Apps

Courses	Learning Outcomes
[Client Server Communication](#)	➔ We use websites all the time, but how does clicking a link in your browser or typing in a URL in the address bar get you to a website? How does the server know what information you're looking for or how to send you that information once it's figured that out? How can you protect your users from attackers? ➔ This course will guide you through how a client communicates with a server. You'll learn about HTTP's request and response cycle, dig into HTTP headers and verbs, distinguish HTTP/1 from HTTP/2 capabilities, all while experiencing the importance of security by digging into the details of HTTPS. Throughout the course, you'll learn both security best practices, as well as ways to improve the performance of your web apps. We'll provide you with handcrafted servers where you'll diagnose problematic server setups, issues with SSL certificates, and even have a chance to hack an example bank website to transfer funds.
[Browser Rendering Optimization](#)	➔ Performance matters to users. Web developers need to build apps that react quickly and render smoothly. ➔ Google performance guru Paul Lewis is here to help you destroy jank and create web apps that maintain 60 frames per second performance. ➔ You'll leave this course with the tools you need to profile apps and identify the causes of jank. You'll explore the browser's rendering pipeline and uncover patterns that make it easy to build performant apps.

Project: Restaurant Reviews App—Stage Three

In this Nanodegree program, you will build a Restaurant Reviews App. To do this, you will incrementally convert a static webpage to a mobile-ready web application in three stages. In the final stage, Stage Three, you will advance the project from Stage Two. You will implement login and review submission logic on the client side, add search capability to the database so that users can store and look at reviews, and leverage offline capabilities so that users will be able write a review offline or mark a review or restaurant as a favorite while offline, defer it, and have it sent to the server when it's back online.

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