WEB DEVELOPMENT IMMERSIVE SYLLABUS

COURSE OVERVIEW

By the end of this course, students will be able to:

- Understand how we use modern computing devices to create programs that solve problems
- Use best practices and design patterns to write efficient code demonstrating knowledge of computer science concepts
- Create and maintain a development environment and workflow
- Understand web architecture and HTTP
- Use core web browser technologies (HTML, CSS, JavaScript) to build web applications
- Build a dynamic web application using a front-end web development framework like Backbone or Angular, using data from an API
- Develop a web application using an MVC web development framework (like Ruby on Rails) and a relational SQL database in a cloud hosting environment
- Integrate their applications with third party APIs and data sources
- Collaborate with others to build software in an agile environment and using source control

TOPIC: PROGRAMMING FUNDAMENTALS

Environment	*Understand how to set up your development environment to work efficiently as a developer and set your projects up for success.*
Fundamentals	*Learn the basics of computing, networks, data structures, and programming.*

TOPIC: THE BASICS OF PRODUCT DEVELOPMENT

Data modeling	*Define what a user should be able to do with your app by appropriately modeling your data.*
Planning and wireframing	*Develop simple wireframes to discuss the intent of an application before writing code.*

TOPIC: FRONT-END WEB DEVELOPMENT

JavaScript	*Understand how to write high-quality code in JavaScript – the only programming language that works both on the server and in the browser.*
JavaScript libraries	*Build a dynamic, front-end to your web application using modern JavaScript frameworks (like jQuery, Backbone and/or Angular) that work with data from APIs.*
CSS	*Use CSS to layout and style your application.*

TOPIC: BACK-END WEB DEVELOPMENT

MVC web development	*Build full-stack web applications from the ground up using a modern programming language and MVC framework (like Ruby on Rails).*
Data and APIs	*Build quality APIs and integrate data from other apps (like Twitter or Yelp) into a project.*
Deployment and hosting	*Learn how to deploy your apps via cloud-based hosting providers (like Heroku, Digital Ocean, or Amazon AWS).*

TOPIC: WORKING WITH TEAMS

Collaboration and teamwork	*Effectively work with a team to develop, maintain, change, and secure high-quality software.*
Version control	*Learn to track a development process and set your projects up for success, using Git and Github.*