

## BOOTCAMP - 20 hours

Beginner Course, No Prior Experience Required

### First Steps in Game Development

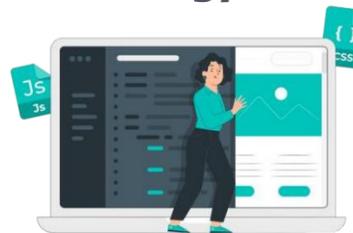


This course is the perfect introductory experience for learning digital skills in the world of gaming and programming.

Students will learn how to plan, design, and develop their very first web-based game using HTML, CSS, and JavaScript. They will pick up valuable skills along the way such as storyboard planning, designing gaming assets, and creating digital special effects.

## INTERMEDIATE - 40 hours

### Technology and Me



As new explorers of technology, students will make connections to technology by participating in entry-level Guided Projects that allow them to share their own personal experiences and interests. Students will learn introductory skills in HTML and CSS while exploring basic concepts in JavaScript. Students will create their own personal web page, a blog, make their own quiz game, and develop other similar digital artifacts. These projects will teach the basics of web design along with critical digital skills like design thinking, prototyping, and digital citizenship.

### Video game Design with Phaser



Start programming games like a professional with this course. Using the popular desktop and mobile gaming framework, PhaserJS, students will learn how to create a platformer game.

Engaging their creativity and design thinking skills, they will create, customize and enhance their games by adding their own set of characters, environments, gravity, and world physics.

Using Design Thinking methodology, students will gather feedback from classmates and iterate to improve their games.

## SUMMIT - 120 hours

### First Steps in Coding



Gain an understanding of HTML, CSS, and JavaScript and get a solid head start in website development!

Using real-world technology, students will create websites and web-based applications. They will build their own coding posters, trivia games, and personalized websites.

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### Technology and Me



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### Technology & The community



Students will explore intermediate-level Guided Projects that connect to community themes like making a mobile app, designing a health logger and multi-page website for a community organization. By building on previous learning from Technology and Me, students will learn more skills in developing with HTML, CSS and JavaScript. Along with learning more advanced coding concepts, students will explore best practices in digital design for optimal user experience, data analysis and digital communication.

## First Steps in Game Development



Explore: game development using design techniques to plan games. See how professional game designers take an idea to market.



Learn: the basic skills in HTML, CSS, and JavaScript needed to make a game and how to develop game assets and game mechanics.



Create: an online adventure game with special effects that can be shared online. Customize everything about the game to keep the adventure going.

### Skills

- Learn digital skills for gaming & programming
- Storyboarding
- Designing game assets and mechanics
- Creating digital special effects

## Technology and Me



Explore: Students will be introduced to methods and design protocols that real web designers use and will explore how to interact and engage safely in online environments through activities that develop digital citizenship.



Learn: Teachers will lead students through 7 Guided Projects that teach the necessary skills in HTML, CSS, and JavaScript to design custom web pages that will start to cultivate computational thinking. Students will also learn how to plan out project ideas as a design process.



Create: Students will create 7 unique projects throughout the course. At the end of the course, students will be asked to customize a project of their choice as a capstone to the course. Each of the projects will be customizable and can be shared using a public URL or QR code.

### Skills

- Learn methods and design protocols used by real web-designers
- Explore how to interact and engage safely online
- Develop Digital Citizenship
- Build 7 projects and publish to the Internet

## Video game Design with Phaser



Explore: JavaScript-based video game development and play-test example games to understand best approaches for 2D game design.



Learn: Platformer game design with Phaser and gain real-world game development skills. Learn advanced JavaScript concepts by programming game physics and multiple game levels.



Create: A Platformer 2D game that contains custom characters, backgrounds, levels, and more. Once the game is completed, it can be shared online with friends.

### Skills

- Program & design games like a professional
- Use a popular & powerful desktop/mobile gaming framework: Phaser JS
- Create a platformer game
- Engage creativity and design thinking skills
- Add own set of characters, environments, gravity, and world physics

## First Steps in Coding



Explore: coding concepts that are needed for basic web development and uncover the different elements of a simple web page.



Learn: the fundamental languages HTML, CSS & JavaScript used to develop web pages and websites. By using a simple structure for a web page, learn how to take an idea online.



Create: a variety of simple projects, including a personal portfolio of posters, websites & trivia games. Each of the projects, once finished, can be shared online with friends.

### Skills

- Intro to HTML, CSS & JavaScript Coding Real-world technology creation
- Build Websites & Web Based Applications Code a Trivia Game
- The idea of digital artifact creation

## Technology & The Community



Explore: Students will be introduced to methods and design protocols that real web designers use and will explore how data is used to inform the design of applications. By looking at industry examples of applications and designs, students will consider how user experience affects design decisions.



Learn: Teachers will lead students through 5 Guided Projects that teach the necessary skills in HTML, CSS, and JavaScript to design custom web pages that will continue to cultivate computational thinking. Students will also learn how to gather real-world data for use in projects.



Create: Students will create 5 unique projects throughout the course. At the end of the course, students will be asked to customize a project of their choice based on the 2 project briefs that are provided. Each of the projects will be customizable and can be shared using a public URL or QR code.

### Skills

- Build community-oriented projects like mobile apps, a health logger, and multi-page website
- Learn best practices in digital design
- Learn about optimal user experience, data analysis, and digital communication
- Learn how data is used to inform the design of applications