



TechReady

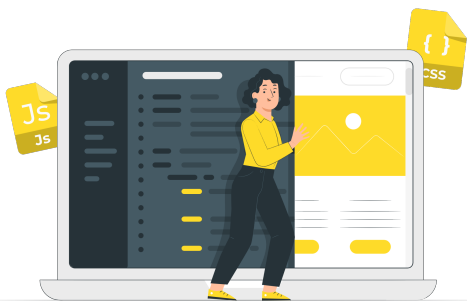
Course Descriptions



Beginner (40 hours)
Technology and Me

Intermediate (40 hours)
Technology and the Community

Advanced (40 hours)
Technology and the World



Technology and Me (Beginner)

40 Hours

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.



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.

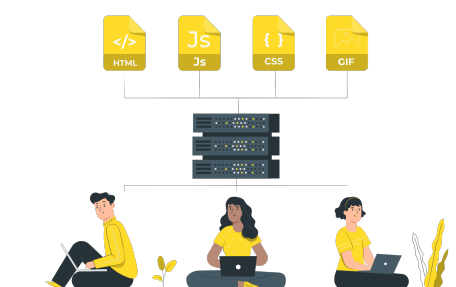


Create

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.

Project	Description	Duration
Recipe Card	Explore introductory concepts in HTML and CSS to design and build a recipe card from a favorite dish. Along the way learn about planning out web designs and how to prepare all of your digital content for development.	4 hours
Personal Webpage	Design and build a personal webpage that includes images, links and descriptions of things that describe who you are and what you do. Explore themes in online privacy to make good choices about what to share and what not to share.	4 hours

Project	Description	Duration
Digital Citizenship Guide	Investigate best practices in online safety before making a digital citizenship guide with the do's and don'ts of online safety. Consider rules to make that keep us safe when interacting online.	6 hours
Online Profile	Design an online presence profile for a fictitious online community that shows your role in the online community. Explore how online communities communicate with respect for privacy.	6 hours
Blog	Create a multi-post blog on an interesting topic and explore how bloggers share what is important to them. Explore how to use license-free imagery to add unique images to the blog.	4 hours
JavaScript Chatbot	Explore JavaScript fundamentals to make an interactive digital conversation game that can be customized with new responses. To build up skills in JavaScript, learn how to make alerts, prompts and how logic operators work.	6 hours
Trivia Game	Expand on JavaScript fundamentals to make an interactive trivia game that can be customized with new questions. To broaden skills in JavaScript, learn how to use variables and math operators.	4 hours
Capstone		
Personal Webpage Sandbox	Elaborate on the Personal Webpage project to include more sections and information to create a full personal web page. Work in Sandbox mode for unlimited creativity.	6 hours
Blog Sandbox	Elaborate on the Blog project to include more posts and information to create a full personal blog on a topic of your choice. Work in Sandbox mode for unlimited creativity.	6 hours



Technology and the Community (Intermediate)

40 Hours

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.



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

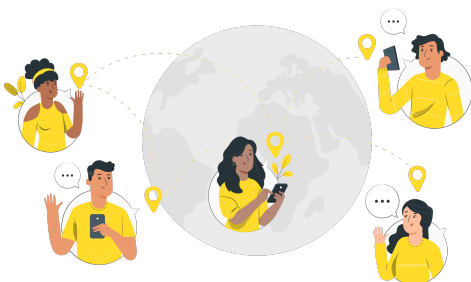
Teachers will lead students through 5 Guided Projects that teach the necessary skills in HTML, CSS and JavaScript to design custom web pages that will continue to cultivate computational thinking. Students will also learn how to gather real-world data for use in projects.



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.

Project	Description	Duration
Interactive Story	Build an interactive story using a combination of logic, JavaScript functions, and creativity to make an organized story tree. Consider design and theme choices to attract targeted audiences.	8 hours
Multi-Page Website	Design and build a multi-page website for a fictional community organisation. Collect user data and feedback on design choices and how to incorporate the needs of the community organization.	6 hours
Volunteer Search	Use data filters to design a web app that can help people find the different types of volunteer organizations. Learn which data filters provide the most beneficial information to users.	4 hours
Donation Calculator	Collect real-world financial data like income and expenses while designing a donation calculator. Analyze raw data and consider user experience in the display data so that it is useful.	6 hours
To-Do List Web App	Design a web app that can track your to-do list and learn how to program with more advanced JavaScript syntax. Explore ways that apps can be designed to fit the needs of multiple different types of users.	4 hours
Capstone		
Interactive Story Sandbox	Elaborate on the Interactive Story project to include story segments and more story choices. Work in Sandbox mode for unlimited creativity.	6 hours
Multi-Page Website Sandbox	Elaborate on the Multi-page Website project to include more pages and detailed information for a proposed customer. Work in Sandbox mode for unlimited creativity.	6 hours



Technology and the World (Advanced) 40 Hours

By participating in advanced-level Guided Projects, students will explore technology themes that relate to global interests such as artificial intelligence and game development. With more emphasis on JavaScript programming, students will create projects like a scrolling video game, a vertical jumper game, and explore how artificial intelligence is used in art and music. To enhance the development of projects, students will also explore ethical decision making of AI technologies and video games.



Explore

Students will be introduced to real-world examples of AI technologies and video games to better understand the ways that new technologies are helping the world. Students will also look at AI developments with a critical lens to determine ethical practices in the use of data in AI systems.



Learn

Teachers will lead students through 5 Guided Projects that teach more advanced concepts in JavaScript, like using a database to store and retrieve data. Learn how to program using advanced JavaScript libraries for gaming like Phaser and how to make use of machine learning libraries for image recognition. Gain an understanding of how AI and machine learning systems work.



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.

Project	Description	Duration
Endless Runner Game	Build a classic side-scroller game using the Phaser library and learn how to use Phaser functions. Along the way, learn how video game designers implement intuitive game play as a design practice.	8 hours
Space Adventure Game	Build an interactive game that uses Phaser library functions that make game creation easier. Explore how professional game designers approach game design development.	4 hours
Space Jumper Game	Make a character jumping game that uses physics to simulate gravity and check for collision between the player and the platforms. Explore how game designers plan for game advertising and marketing.	8 hours
AI in Music	Using the Magenta JavaScript library, create a custom beat loop maker. Explore how musicians and engineers are creating music using a synthesis of AI and real instruments.	6 hours
AI in Art	Design an app that can transfer the style of a famous artist on to any image that you provide using the ML5 JavaScript Library. Explore how artists are using AI to generate digital and physical art.	8 hours
Capstone		
Endless Runner Game Sandbox	Elaborate on the Endless Runner game to include more obstacles and scenes. Work in Sandbox mode for unlimited creativity.	6 hours
Game Promotion Webpage	After making a new version of the Infinite Runner game, design a promotional webpage that can be used to advertise and share about the game.	6 hours



Code Is: Your Voice (Beginner)

5 Hours

This introductory course allows students to use code as a way to share what is important or interesting to them. All of the projects in this mini-course provide ways for students to either follow along in the lesson or create their own unique projects, all while learning to program in HTML, CSS and JavaScript. Students are guided through the experience with video tutorials, live coding and access to the BSD code glossary. This course is also a great resource as a primer for educators to learn the basics of HTML, CSS and JavaScript that will prepare them for teaching with other BSD courses.



Explore

Students will be introduced to coding through projects that allow them to share their unique voices and interests. By focusing on content creation, students will have the opportunity to reflect on their own ideas to design customized projects.



Learn

Each of the guided projects is aided by video tutorials that walk through each step of the coding process, allowing for an easy transition into coding with HTML, CSS and JavaScript.



Create

Students will create 5 unique projects throughout the course. The projects increase in difficulty and range of customization, ultimately allowing for code to become “your voice”. Each of the projects can be shared using a public URL or QR code.

Project	Description	Duration
The People Who Inspire Me	Build a simple web page showing the top 3 people who inspire you while learning introductory skills in HTML and CSS.	1 hour
My Favorites Website	Expand on using CSS to create and enhance a simple web page telling us your 3 favorite things.	1 hour
Trivia Game Maker	Build an interactive trivia game and make your own trivia questions. Along the way, learn to start using JavaScript to make interactive web pages.	1 hour
Jokes and Riddles	Using JavaScript, build a set of cards that flip to reveal the answer to your favorite jokes or riddles. Customize the questions using HTML and CSS.	1 hour
Support My Cause	Learn the basics of how to store data in a database using JavaScript to build a landing page to collect the email addresses of supporters of your favorite cause.	1 hour
Bonus Projects	*no video tutorials	
Animated Text	Learn more about CSS to create an animated text object with your name or any other text.	1 hour
Robot Builder	Build a robot costume changer and customize the images to make your own unique robot designs.	1 hour