

Introduction to Vibe Coding

High School - One Month (20 hours)

Course Overview and Goals

Artificial Intelligence (AI) is transforming the way we live, work, learn, and code. In this one-month course, students will explore core AI concepts and learn how to create with AI. Students learn about AI training data, bias, and safety considerations when using AI. Then, students learn how to write better AI prompts followed by analyzing and improving the initial output they get. Finally, students learn about online design and how they can create. Through hands-on activities and critical discussions, students will gain foundational AI literacy while creating fun, exciting personal projects.

Learning Environment

This course utilizes a blended classroom approach. The content is fully web-based, with students working within the CodeHS platform. Each module of the course is broken down into lessons. Lessons consist of content delivered through notes, quizzes, AI-coding activities, discussions, and free-response activities.

Technology Requirements

Students will use the CodeHS Vibe Coding environment within the course to complete activities and create websites with AI.

Prerequisites

This course is designed for complete beginners with no previous background in coding or AI but can be taken by students who have experience with these fields.

More Information

Browse the content of this course at <https://codehs.com/course/28364/explore>

Course Breakdown

Module 1: Artificial Intelligence (4 hours)

In this module, students will gain an understanding of the main concepts around AI including what it is, how it works, how to use it safely, and how to review output for bias or misinformation.

Objectives / Topics Covered	<ul style="list-style-type: none">● What is Artificial Intelligence● How to Use AI Tools Safely● How AI Generates Text● Bias and Hallucinations in AI output
Example Assignments	<ul style="list-style-type: none">● Your First Prompt<ul style="list-style-type: none">○ Students start sending prompts and reflecting on the generated output in the first lesson in the course● Write a Letter: How to Stay Safe Using AI<ul style="list-style-type: none">○ After learning the basics of AI safety, students write a letter teaching someone how to use AI safely and responsibly● Can You Fix the Bot?<ul style="list-style-type: none">○ Students analyze a set of training data and make suggestions of how it can be improved

Module 2: Ideation, Prompting, and Debugging (6 hours)

In this module, students practice putting ideas into words and adding relevant details to write better AI prompts. Students employ the process of iteration and debugging with AI to improve their outputs. Students learn how to manually edit the text content of HTML to further customize their generated websites.

Objectives / Topics Covered	<ul style="list-style-type: none">● Explaining Your Ideas in Words● How to Write Better AI Prompts● Iterative Design● Identifying and Fixing Errors in AI-generated Code● Manually Editing Text in HTML
Example Assignments	<ul style="list-style-type: none">● Details in Prompts<ul style="list-style-type: none">○ Students write three different prompts with varying levels of specified details and reflect on how the AI output changes as a result● Go Fish!<ul style="list-style-type: none">○ Students practice the process of iteration by playing and improving an AI-generated card game● Your Favorite Trip<ul style="list-style-type: none">○ Students create a website about a trip then manually edit the text on the page to include the information they want to include

Module 3: Project: Digital Record (2+ hours)

In this module, students complete a personal, customizable project where they create a digital record with AI.

Objectives / Topics Covered	<ul style="list-style-type: none">● Using AI to Create a Personal Website● Planning and Peer Reviewing
Example Assignments	<ul style="list-style-type: none">● Plan<ul style="list-style-type: none">○ Before creating their project, students plan what they want their project to look like and include● Build Your Digital Record<ul style="list-style-type: none">○ Students create a digital portfolio, scrapbook, or yearbook● Peer Review<ul style="list-style-type: none">○ After creating their project, students review each other's projects and give feedback

Module 4: Design (4 hours)

In this module, students are introduced online design considerations. Students learn about user experience, user testing, and online accessibility so they can make their websites work better for everyone. Students learn how to customize the colors and fonts of a website as well as how and why to build prototypes.

Objectives / Topics Covered	<ul style="list-style-type: none">● User Experience and Testing● Online Accessibility● Customizing Colors and Fonts● Prototyping
Example Assignments	<ul style="list-style-type: none">● Test a Website<ul style="list-style-type: none">○ Students roleplay user testing a website to identify where the user experience could be improved● Fix it: Make This Page Accessible<ul style="list-style-type: none">○ Students use AI to improve the accessibility of a website and check their work with an online accessibility checker● Compare Your Prototypes<ul style="list-style-type: none">○ Students create two prototypes of a website then compare them and their effectiveness

Module 5: Project: Build a Website for a Client (2+ hours)

In this module, students learn how websites are created for clients then create a website with AI.

Objectives / Topics Covered	<ul style="list-style-type: none">● Using AI to Create a Website with Specifications● Creating Wireframe Designs● Working With Clients● Conducting Interviews and Product Meetings
Example Assignments	<ul style="list-style-type: none">● The Interview<ul style="list-style-type: none">○ Students play the role of a client building a website for their business● Design the Wireframe<ul style="list-style-type: none">○ Students make an initial design for a website based on their client interview before they begin generating anything● Client Retro<ul style="list-style-type: none">○ After completing the project, students have a retro meeting to reflect on the process and final product

Module 6: Project: AI-Powered Game Studio (2+ hours)

In this module, students create a game of their choosing with AI-coding.

Objectives / Topics Covered	<ul style="list-style-type: none">● Designing and Creating Online Games with AI● Playtesting and Writing Feedback● Reading Feedback and Making Improvements
Example Assignments	<ul style="list-style-type: none">● Build Your Game: Version 1<ul style="list-style-type: none">○ After writing a game pitch, students use AI to build an initial version of their game● Playtest Your Own Game<ul style="list-style-type: none">○ Students practice the process of playtesting in order to find areas for improvement in their game● Reading Feedback like a Developer<ul style="list-style-type: none">○ Students learn how to parse feedback to make meaningful changes and improvements to their game

Supplemental: Coming Soon.....

Additional supplemental material coming soon!