



# COURSE SYLLABUS SUMMER CODING CLASSES

Best Summer Coding Camps

| Pag | AGES 6-8 YEARS    |
|-----|-------------------|
|     | Minecraft Creator |

| Page | AGES 8-10 YEARS                                     |
|------|---|
| 2    | Remake Classic Games with Scratch                   |
| 3    | Take Your First Steps in Coding and Web Development |
| 3    | Master Spells and Potions with Code                 |

| Page | AGES 10-12 YEARS                           |  |
|------|--|--|
| 4    | uild Your Green Startup                    |  |
| 4    | Nonster Battle Game Maker                  |  |
| 5    | 3D Game Design and Development with Roblox |  |
| 5    | Design and Code Your First Code            |  |

| Page | AGES 12+ YEARS                               |  |
|------|--|--|
| 6    | Build Your Tech Startup                      |  |
| 6    | Code The Future with Artificial Intelligence |  |
| 7    | Code Your Own World with VR                  |  |
| 7    | Mobile Game Developer                        |  |



## **Minecraft Creator**

Minecraft is much more than just a game!

In this camp, we will challenge your child to build their own interactive 3D world. We'll have lots of fun with storytelling, science, design, and structures. Not only will they learn how to make weapons and characters, but they'll also learn how to visualize physics and chemistry along the way!

With Minecraft, you can simulate magnets, circuits, a gladiator, and more! Despite being a game, Minecraft is a place with absolute creative freedom. We'll also pair up Minecraft with MakeCode, where kids can write programmes to automate the construction of structures. What's more? Kids will build circuits and game contraptions for their friends to explore!

**Explore** the automation of structure construction in programming.

**Learn** how to visualise physics and chemistry.

**Create** a simulation of magnets, circuits, architectural structures, and more.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 2200 HK\$    | 2300 HK\$     | 2 Hours every Mon, Tue, Wed, Thu & Fri |

#### **Remake Classic Games with Scratch**

Old Name: Scratch 3.0 Build Your Own 2D Arcade Games

Get a great introduction to programming with the new and improved version of Scratch.

Students will learn the basics of game design and character animation in a well-structured and easy-to-learn environment as they reimagine classic arcade games, such as Tetris and Flappy Bird. What's more, they will learn to make art with code using the new code blocks in Scratch.

No previous experience is required for this course.

**Explore** how popular arcade games became famous, how they are programmed and how to recreate them with Scratch.

**Learn** about the essentials of game design and character animation using Scratch. With inspiration from classic games, make your own updated versions.

**Create** a variety of 2D arcade games with animated characters, including coin collectors, maze hunters and side scrollers.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 2200 HK\$    | 2300 HK\$     | 2 Hours every Mon, Tue, Wed, Thu & Fri |



# **Take Your First Steps in Coding and Web Development**

Old Name: 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.

Students will end the course with a tech portfolio of the projects they've created which will act as a foundation to future projects that they build.

**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.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 2200 HK\$    | 2300 HK\$     | 2 Hours every Mon, Tue, Wed, Thu & Fri |

## **Master Spells and Potions with Code**

Old Name: Magic, Myths, and Monsters

Create your own magical experience with digital spells and potions using code!

In this course, students will build engaging experiences such as potion matching games and a witch race, and bring out their inner wizard by mixing digital potions. A perfect place to start to learn HTML, CSS and JavaScript, students will develop a solid understanding of coding/programming languages and build skills in design and game development.

Students will create a total of 5 mini-games around the theme of magic which can be shared with family and friends.

**Explore** the magical world of code by making several unique mini-games and see how games are designed for online play.

**Learn** fundamental skills in HTML, CSS and JavaScript to develop web-games and learn to animate characters and creatures for in-game elements.

Create 5 different mini-games that have characters and game elements that can be customized.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 2200 HK\$    | 2300 HK\$     | 2 Hours every Mon, Tue, Wed, Thu & Fri |



## **Build Your Green Startup**

Old Name: Build a Green Business

For aspiring environmental entrepreneurs, this start-up course gives students the opportunity to address pressing environmental issues our world is facing today.

Utilizing Google Innovation Principles and The Design Thinking Process, students will master the art of innovative ideation and identify tech-infused business solutions and business plans for the matters they care about most.

At the end of the course, students will have created a full business plan, coded an online presence with a mobile friendly website and built a professional presentation to elevator pitch their ideas.

**Explore** solutions to pressing environmental issues using frameworks like Google Innovation Principles to see how entrepreneurs apply design thinking to develop with technology.

**Learn** how to develop creative solutions to environmental problems and green conservation efforts by building a green business idea.

**Create** your own business plan, an online presence and a mobile friendly website to present your entrepreneurial ideas in a professional pitch.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | -             | 3 Hours every Mon, Tue, Wed, Thu & Fri |

# **Monster Battle Game Maker**

Old Name: Digital Character Creation

Ever wanted to build your own version of Pokémon? In this course, students will have a blast using their creativity and computational thinking skills.

Students will design their own digital characters and bring them to life using code. Whether they create a friendly digital unicorn or a scary three-headed dragon, they will build their very own monster battle game using HTML, CSS and JavaScript.

**Explore** animation, digital creations and programming fundamentals to find out how professional animators and game designers build new characters.

**Learn** how to develop characters and bring them to life with digital design using coding languages and programming concepts in HTML, CSS and JavaScript.

**Create** a unique character or creature using JavaScript and animation. With your imagination, the options are limitless.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |



# 3D Game Design and Development with Roblox

Old Name: Roblox Game Design

Students will use the world-famous gaming platform, Roblox Studio, to design and develop their own games. They will use programming logic like function, loops, and conditions to customize and develop an engaging story that captures the player's interest, and design heroes that take on the interactive world.

Students will work on their game design skills and learn to think creatively about designing worlds, creating themes and setting objectives and goals, mimicking how professional developers think about game development! Students who have advanced skills will dive into more complex Lua coding to customize their games further. At the end of the course, students can launch their games for their friends and family to enjoy.a

**Explore** how other creators have developed advanced games using Roblox and see how Roblox games are made from start to finish.

**Learn** to design and develop fully interactive 3D games using Roblox Studio and Lua programming.

**Create** a custom 3D game using Roblox. Develop unique characters and scenes that can be shared and played by friends.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |

## **Design & Code Your First Game**

Want to get started on coding and also love gaming? 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. At the end of the course, all the games created can be shared with family and friends to enjoy!

**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.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |



## **Build Your Tech Startup**

Old Name: Tech Entrepreneur

For aspiring technologists, this start-up course teaches students about cutting-edge new technology to help them innovate a fresh new tech startup idea. Starting with fundamentals of technology, students will learn how programming works using HTML, CSS and JavaScript.

Following this, students will identify a real-world problem that they would like to solve. Through design thinking activities and their newly acquired coding skills, they will design and prototype a working tech solution. Working independently or in small teams, students will then develop a business plan, company brand, and digital online presence. At the end of the course, students will have created a fully programmed chat-bot simulator, a tech prototype and a business plan presented as a website.

**Explore** cutting-edge new technologies that entrepreneurs use to develop business ideas using the same technologies that empower the major tech companies of today.

**Learn** the tools that entrepreneurs use to launch businesses, like design thinking, advertising, coding, marketing and brand development.

**Create** a chat-bot simulator to learn HTML, CSS and JavaScript, then prototype a business website and a digital portfolio that can be shared online. Use what you learn to launch your own business.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |

#### **Code The Future with Artificial Intelligence**

Old Name: Building Al

Al is a part of our future. There is no better time to start learning the inner workings of how it functions and powers the world around us.

Students will learn about the design and programming behind modern digital assistant softwares like Alexa, Siri, and Cortana and explore the technology powering in-car navigation.

Students will use Machine Learning and code to develop and train their own AI personality that can answer questions, complete requests, and chat about topics of their choice.

**Explore** the Al technology behind modern digital assistants and chatbots.

**Learn** to design and program Al tools using JavaScript and HTML.

**Create** a fully-responsive AI smart assistant and chatbot.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |



## Code Your Own World with VR

Old Name: Construct a Virtual Reality World

From forests to Mars, students will bring their imaginations to life by coding their own virtual reality world.

Developed with HTML, CSS, JavaScript and A-Frame, they will code and add their own customized textures, elements and interactions to complete their realistic simulated 3D environments.

Students will also be able to easily share their work with friends and families, as well as immerse themselves into their creations.

**Explore** how developers assemble and approach the design of virtual reality worlds and explore how professionals consider elements like, placement, backgrounds, settings and genres.

**Learn** the fundamentals of A-Frame along with HTML, CSS and JavaScript to customise textures, elements and virtual interactions. A-Frame is a professional framework for designing and coding virtual experiences.

**Create** a unique world with custom themes, backgrounds and textures. Once the world is complete, it can be shared with friends to experience online or with a VR headset.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |

## **Mobile Game Developer**

Old Name: Mobile App Game Development

In this course, students will learn how to program and design games for both iOS and Android at the same time.

Using JavaScript, students will utilize the mobile's core features such as the Gyroscope to give the players of their game a unique way to navigate. At the end of the course, students will be able to generate QR codes to share their custom built games with friends and family.

**Explore** how game developers create and design games for tablets and other mobile devices.

**Learn** the HTML, CSS and JavaScript fundamentals for game design. Gain a deeper understanding of user experience and user interface of well designed games.

**Create** a mobile game that is interactive and shareable. Design unique game elements, characters and backgrounds to make your game unique.

| Online Price | On-Site Price | Duration                               |
|--------------|---------------|--|
| 3300 HK\$    | 3450 HK\$     | 3 Hours every Mon, Tue, Wed, Thu & Fri |