

**UPPER LEVEL EDUCATIONAL INSTITUTE**

# **TECH TITANS**

## **VACATION CAMP**

**TUE 16TH JULY - THUR 15TH AUGUST**

**\$500 per module (all modules \$2000)**

## **COURSE CONTENT**



**TUE 16, WED 17 & THUR 18 JULY**

# WEEK 1: CODING



## **Topics:**

### 1. ***Introduction to Programming***

- o What is programming?
- o Overview of different programming languages.

### 2. ***Basic Syntax and Structure***

- o Variables, data types, and operators.
- o Writing and running your first program in C#.

### 3. ***Control Structures***

- o Sequential constructs.
- o Conditional statements (if, else).
- o Loops (for, while).

## **Activities:**

- Interactive coding exercises.
- Mini-project: Create a simple calculator using pseudocode and then implement it in C#.

**Tue 23, Wed 24 & Thur 25 JULY**

# WEEK 2: GAME DEVELOPMENT

## Topics:

### 1. **Introduction to Game Development**

- o What makes a good game?
- o Overview of game development platforms.

### 2. **Game Design Basics**

- o Storyboarding and planning your game.
- o Designing characters and backgrounds.

### 3. **Programming Game Mechanics**

- o Player controls and input handling.
- o Collision detection and game physics.

### 4. **Adding Interactivity**

- o Scoring systems and levels.
- o Sound effects and animations.

## Activities:

- Game design brainstorming sessions.
- Mini-project: Create a simple 2D platformer game.



**Mon 29, Tue 30 & Wed 31 JULY**

# WEEK 3: Web Development



## Topics:

### 1. **Introduction to Web Development with WordPress**

- o What is WordPress and why use it?
- o Overview of WordPress features.

### 2. **Setting Up WordPress**

- o Installing WordPress.
- o Exploring the WordPress dashboard.

### 3. **Creating Content**

- o Adding and managing pages and posts.
- o Using the WordPress editor.

### 4. **Customizing with Themes and Plugins**

- o Selecting and installing themes.
- o Adding functionality with plugins.

### 5. **Web Hosting and Deployment**

- o Choosing a web hosting service.
- o Deploying your WordPress website.

## Activities:

- Hands-on website building sessions with WordPress.
- Mini-project: Create and deploy a personal portfolio website using WordPress.

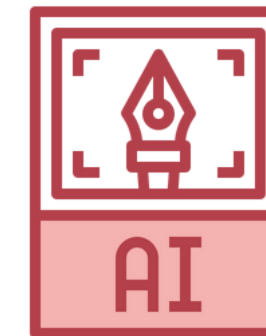


**TUE 6, WED 7 & THUR 8 AUGUST**

# WEEK 4: AI TOOLS FOR SCHOOL STUDENTS

## Topics:

1. Introduction to AI for Lower School Students
  - o What is AI and how does it work?
  - o Examples of AI in everyday life.
2. Prompt Engineering
  - o What is prompt engineering?
  - o Creating effective prompts for AI tools.
3. Using AI Tools
  - o AI tools for image generation (e.g., DALL-E).
  - o AI tools for video generation.
  - o AI tools for animation.
4. Ethical Considerations
  - o Understanding the ethical implications of AI.
  - o Discussing privacy and bias in AI.



## Activities:

- Interactive demonstrations of AI tools.
- Mini-project: Create an AI-generated image, video, or animation using prompts.

**TUE 13, WED 14 & THUR 15 JULY**

# WEEK 5: ROBOTICS



## **Topics:**

### **1. Introduction to Robotics**

- o What are robots and how do they work?
- o Overview of robotics applications.

### **2. Basic Robot Programming**

- o Setting up your robot (hardware and software).
- o Basic movement commands.

### **3. Sensors and Actuators**

- o Understanding different types of sensors.
- o Using sensors to control robot behavior.

### **4. Simple Robotics Projects**

- o Line-following robots.
- o Obstacle-avoiding robots.

## **Activities:**

- Hands-on robot programming sessions.
- Mini-project: Program a robot to navigate a simple maze.