

HALF TERM PROGRAMMING WORKSHOP OVER FIVE DAYS – A SINGLE DAY CAN BE BOOKED OR ATTENDANCE AT ALL FIVE.

9 - 3 PM EVERY DAY

Workshop Title: Mixed-Ability Programming Workshop

Duration: 5 Days (Adjustable)

Day 1: Introduction to Programming Concepts

Section 1: Welcome and Icebreaker (30 minutes)

- Introduction to the workshop, facilitators, and participants.
- Icebreaker activity to help participants get to know each other.

Section 2: Overview of Programming (1.15 hour)

- Explanation of what programming is and its relevance in various industries.
- Introduction to common programming languages like Python, JavaScript, or Scratch BBC Micro:BIT and robotics. Practical demonstration and use.

BREAK 11.15-11.30

Section 3: Programming Fundamentals (1.5 hours)

- Variables, data types, and basic operations.
- Control structures: if statements, loops, and branching.
- Hands-on exercises at different difficulty levels to accommodate all participants.

LUNCH 1-1.30PM

Section 4: Collaborative Coding Activity (1.5 hour)

- Participants are divided into mixed-skill groups from different cohorts KS3, KS4 and KS5.
- Each group collaboratively solves a programming challenge that progressively gets more complex.
- Encourages peer-to-peer learning and cooperation.
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Day 2/3: Practical Applications and Skill Development based on day 1 experience. Introduction to Computer Games development practical application and BAFTA competition introduction.

This section can be run as a separate module on computer game design including Python "Tkinter" and "Pygame"

Day 4

Section 1: Introduction to Web Development (Networking 30 minutes).

- How the internet works and connection to the home network.
- Software used to connection and used to develop websites
- Participants can choose between easier or more advanced research tasks based on their skill level.

Section 2: Introduction to Web Development (1.5 hours)

- Basics of HTML and CSS.
- Creating a simple webpage.
- Participants can choose between easier or more advanced tasks based on their skill level. Share findings

BREAK 11.15- 11.30 AM

Section 3: Interactive Elements and JavaScript (1.5 hours)

- Adding interactivity to web pages using JavaScript.
- Introduction to event handling and DOM manipulation.
- Guided coding exercises with options for simpler or more complex implementations.

LUNCH

Section 4: Mini-Project (1.5 hours)

- Participants work on a small project, such as creating a basic interactive website.
- Participants have the freedom to choose the complexity of their project based on their skill level.
- Facilitators provide support and guidance as needed.

Day 5

Section 1 Mini-Project continuation (2 hours)

- Participants work on their project including elements under supervision of facilitators guidance.
- Interim report back to the whole group.
- Facilitators provide support and guidance as needed.

BREAK 11.15 - 11.30

Session 2: Show and Tell (1.5 hour)

- Participants showcase their projects to the group.
- Opportunity for participants to explain their design choices and coding approaches.
- Feedback and positive reinforcement for everyone's efforts.

LUNCH 1 – 1.30

Section 3: Q&A and Next Steps (1 hour)

- Open floor for participants to ask questions.

- Suggestions for further learning resources based on individual skill levels.
- Encouragement for continued practice and collaboration.
- Closure and review with feedback on course.

Additional Considerations:

- pre-workshop materials provided electronically: Links to online tutorials, videos, or reading materials to help participation dependant on experience.
- Learning paths: Participants can choose from different options, allowing them to self-select based on their skill level and interests.
- Collaborative environment: Emphasize is placed on helping one another and working in mixed-skill groups to foster a positive and inclusive atmosphere.
- Flexibility is adopted to make room for individual learning.