



INTRODUCTION TO PROGRAMMING WITH SCRATCH



A Scratch course to learn the basics of programming. Scratch is the most popular educational programming language to teach children and young people how to program.

The objective is to develop a video game similar to the Stickman's Space Adventure. You will learn gradually the programming logic and how to use the Scratch user interface: stage, sprites, loops, conditionals, logical operators ... At the same time, you will also learn mathematics competences.

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**Recommended course and / or school stage:**

Primary and Secondary Educational

**Recommended age:**

For a range of ages

**Languages:**

☒ Spanish ☒ English

**Estimated teaching hours:**

10 hours

**Technologies:**

Scratch

**Curriculum and key competencies:**

[BOCM 48/2015](#)

**Course accreditation / Technological Youth Passport**

The contents of this course are a part of the Basic Scratch qualification/Scratch expert/expert video game programming Certificate.



Technological objectives:

- Know how to use the Scratch user interface
- Learn stage dimensions and main directions
- Create and edit stages
- Use "When green flag is clicked" block
- Edit character's costumes
- Switch character's costumes
- Move objects
- Change the objects position
- Learn to create motion paths
- Learn how to use loops, conditionals, math and logic operators, variables, etc.
- Learn the modes of interaction between:
 - objects and user
 - objects and backdrop
 - objects

Curricular skills:

- Use the different programming environment tools.
- Place and move objects along a specific direction.
- Start and stop running a program.
- Use the main groups of blocks correctly.
- Analyze the code of a program and find out how it works.
- Edit the appearance of objects. Create new objects: characters, backgrounds and sounds.
- Use variables and lists correctly.
- Describe the animation designing process and the main game development phases.



Course content:

First steps in Scratch

Basics of Scratch
Introductory video support
How is the Scratch interface?
How can I create my own designs?
How to use the appearance blocks?
How to do what actions happen?
How to make the characters move?

Project Objective: Programming a video game Stick-Man's Space Adventure

What do we have to do? Presentation of the
Objective Material of Professor
Graphic resources

Step 1: Place objects

Step 2: Prepare keyboard events and collisions

How to make the characters interact?
Video: Interacting with Paso

Objects Step 3: Preparing the variables of our program

What is a variable?
Video: Variables

Step 4: Prepare the animations of our program

How to make the character change costume?
Video: costumes
What is the expected block?
Support video: Standby URL

Project resolution