ACES Academic Enrichment Center

2019 Summer Enrichment Course Syllabus

Course Name: Scratch Programming Beginner I for 3rd – 5th Graders

Course Description

Scratch Camp is the perfect opportunity for elementary students to practice and improve critical thinking, computational thinking and problem-solving skills. Not everyone will grow up to be a programmer, but everyone can benefit from the problem-solving experience that computer programming provides. **Scratch** is used as the introductory **programming language** because its creation of interesting programs is relatively easy and skills learned can be applied to other **programming languages** such as Python and Java.

This summer, we will be using Scratch to learn about programming fundamentals, 2D sprite-based animation, the Cartesian coordinate system, variables, algorithms, program design, and debugging. The curriculum will base on **"Creative Computing Curriculum" developed by the Harvard Graduate School of Education**. We will begin by working on templates and tutorials to develop a greater understanding of computer programming. Students will then have the opportunity to design, write, and improve some of their own Scratch projects. We will be using curriculum designed to allow students of any experience level to improve their programming skills this summer.

Course Objectives and Student Competencies

1. Introduce students to the world of computer programming and computational thinking
2. Get familiar with the Scratch environment by creating Scratch projects
3. Become familiar with the concept of sequence, loops, events, parallelism, control, broadcast, presentation mode, bitmap, vector, animation, gallery walk, experimenting and iterating, testing and debugging, sprint, motion, looks, sound, and costume.
4. Create two personalized/creative projects to combine blocks and concepts learned.

Date	Topics
7/8	Getting Started, intro to scratch, create account, Design Journal, Scratch Surprise, Scratch Studio
7/9	Programmed Dance – express a sequence, Step-by-step create first project, 10 blocks project
7/10	My studio, debugging and work on about me project
7/11	Performing scripts, build-a-band, Make it alive
7/12	Debugging existing projects with bugs and build music video