Introduction to Programming with SCRATCH

Dates of Course

TBA

Course Description

This online course provides participants with a dynamic way to teach computer programming at the elementary level. Teachers will have hands-on experience conversing with a computer, which will allow them to spur their students' interest in computer science in a fun and enticing way.

Scratch is the new programming language from the MIT Media Lab. It is a graphical language that removes most syntax issues and supports 21st Century learning skills.

Software Required

Students will need to download and install Scratch from http://scratch.mit.edu/

Course Goals

- Students will understand the purposes of different computer languages
- Students will become familiar with the Scratch interface
- Students will create an interesting and efficient script
- Students will plan and create a multi-dimensional animation
- Students will improve their computer instruction

Course Objectives

Students will be able to

- categorize computer languages based on function and basis
- use the stage, script, and blocks palette
- work with sprites, backgrounds and costumes
- experiment with the different kinds of blocks that control motion, looks, sounds
- create basic scripts
- collaborate and compare ways to create a script
- create a plan for a simple animation
- create an animation complete with background, sound effects and movement
- correlate Scratch skills with 21st Century learning skills

NYS MST – Technology Education Standards Addressed

Standard 1 - Analysis, Inquiry, and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

Standard 5 - Technology: Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

Standard 6 - Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

Standard 7 - Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

Instructor Information

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Computer Teacher
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I am the computer teacher at Taft Elementary School. I am in my 20th year of teaching instructional technology. I have a BA in Mathematics with a focus in Computer Programming. I have an MS in Educational Technology. I have been a professional development instructor for 15 years for my district and now the Washingtonville Teacher Center. I am also a certified Thinkfinity Field Trainer.

I have programmed in FORTRAN, COBOL, Assembly, Basic, Logo and Scratch. I have used Logo in my K-5 classes for 20 years and now include Scratch in order to expose my students to algorithmic thinking.

Prerequisite Skills/Requirements

- Students should know how to use Microsoft Word (Mac or Windows) - creating, attaching, and downloading documents.
- Students should be able to access the Internet and use e-mail.

Recommendation for credit

- Participation in class discussions, completing required readings and posting completed assignments is essential to success in the course.
- All participants in the class are expected to post constructive criticism and to comply with normally accepted behaviors.
- Completion of the course means that all assignments are completed at a satisfactory level.
- Students who plagiarize will not be recommended for in-service credit.
- In-service hours recommended will be directly associated with outcomes of the course.