Scratch 3rd Grade

General Information:

Course Description:

This course introduces students to fundamental and advanced programming concepts using Scratch, a visual programming language tailored for young learners. Through a series of interactive and hands-on projects, students gradually build their skills by creating games, interactive applications, and creative tools. Key topics include event handling, loops, variables, conditional statements, and sensing blocks, with each chapter incorporating increasingly complex elements such as sound, motion, and sprite customization. Along the way, students also learn essential computational thinking skills like debugging, problem-solving, and efficient coding practices.

Expectations and Outcomes:

- Students will be introduced to how computers think
- Students will learn how they can communicate with computers to create software
- Students learn how to use the character editor in Scratch
- Students learn how to use the background editor in Scratch
- Students will be challenged to learn new vocabulary and show mastery through the creation of different themed scenes.

Course Materials:

Prerequisites:

- None

Device Requirements:

- Any device with Internet connection is sufficient.

Additional Information and Resources:

Course Length	Delivery Method	Recommended Age Group
90 Hours	Online / Classroom	Elementary (Ages 7- 11)

Certifications & Pathway Aligned Standards:

Standards Aligned
CSTA ISTE K-12 Framework Common Core

Attention to Equity and Diversity:

Rex Academy is dedicated to bringing this course to all interested students, regardless of their backgrounds or the zip code which they reside in. As such, special attention has been given to the curriculum in the following manner:

Device:
Rex Academy's Scratch content can run on any device (Chromebooks, tablets, phones, Computers). The Internet connection needs to be minimal. We are determined to remove all obstacles for access.

Environment:
The course can be absorbed in a direct classroom setting or in an after-school environment. Students can learn in groups or individually.

Instruction and Assessment:
Instruction and assessment are performed in various ways, thus accommodating various learning styles.

Interdisciplinary Instruction:

Rex Academy combines technological instructional materials with common core alignment to infuse other disciplines into the curriculum. In the case of Scratch Rex has taken special care to incorporate CSTA, ISTE, and Common Core standards throughout the course.

Course Syllabus:

Unit Number:	Topic:	Brief Description:
Lesson 1	Introducing Scratch	Students will learn how to think like a programmer and be introduced to the basics of Scratch programming
Lesson 2	Finding Frank	This chapter introduces Scratch programming basics, covering animation, loops, variables, sound, and debugging over the course of five sessions.
Lesson 3	Tag Me If You Can	This chapter covers sprites, motion, operators, and interactivity.
Lesson 4	Soccer	This chapter teaches students to create an interactive soccer game using Scratch, covering sprites, variables, and conditional statements.
Lesson 5	Tortoise and the Hare	This chapter teaches advanced Scratch features, including sounds, scenes, and simultaneous scripts, enhancing project interactivity and functionality.
Lesson 6	Cat and Mouse	This chapter focuses on algorithms, conditionals, and problem solving.
Lesson 7	Math Maker	This chapter teaches students how to create a math challenge game in Scratch, focusing on event handling, loops, and variables.
Lesson 8	Painting Game	This chapter teaches students how to create an interactive painting app, focusing on variables, control blocks, and

		event-driven programming.
Lesson 9	Making Music	This chapter teaches students the importance of remixing projects ethically, focusing on attribution, creativity, and respecting intellectual property.
Lesson 10	Final Major Project	This final chapter guides students through the SDLC process to create and present comprehensive Scratch projects, emphasizing collaboration and critical thinking.