UCSD StudentTECH 2020
Beginning Programming for Middle School Students
Sponsored by the San Diego Supercomputer Center, University of California, San Diego

Classic Game Coding with Sphero Robots

July 13-17, 2020

Class meets at the University of California, San Diego from 8:30am - 3:00pm.

Course Overview

Do you love to figure things out? Do you like to solve problems? Do you enjoy games? This fun and exciting class will have you working in teams to provide solutions to design challenges through coding and robotics ultimately designing a classic arcade game.

Students will learn the following through daily design challenges:
- code robots through a variety of design challenges
- design multiple prototypes
- critical feedback reflective process
- collaboration skills

Structure:

This course is taught using a combination video/interactive lessons, group activities, design challenges and individual work. Students will use the Design Thinking process (developed at the Stanford d.school) to work through the design of multiple iterations of their prototype. In addition, students will learn how to reflect on their work as well as provide constructive feedback to peers using a formal protocol.

Requirements (No textbook necessary):

There are no prior skills necessary. However, students must be willing and open to working with others as well as reflecting on their own work to build multiple prototypes.

Course Schedule:

Day 1:
- Teambuilding
- Introduction to Sphero robots and Classic Arcade Games
- Introduction to Coding with Sphero Robots
- Introduction to Critical Feedback Reflection Process
- Team Design challenge #1

Day 2:
- Teambuilding – Sphero Team Challenge
- Coding with Sphero Robots
- Critical Feedback Reflection Process

- Team Design challenge #2

Day 3:
- Teambuilding – Sphero Team Challenge
- Coding with JavaScript - Sphero Robots
- Critical Feedback Reflection Process
- Team Design challenge #3

Day 4:
- Teams Design a Classic Arcade Game Using Sphero Robots
- Create Prototype
- Critical Feedback Reflection and Testing Process
- Create Final prototype

Day 5:
- Complete Final Prototype and Final Tests
- Presentation of Learning – Teams Present Classic Arcade Games
- Let's play the games!