UCSD StudentTECH 2020

Computer Science for High School Students

Sponsored by the San Diego Supercomputer Center, University of California, San Diego

Introduction to Android App Development & Android Studio

Monday- Friday, June 29 - July 3, 2020

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

Introduction to Android App Development & Android Studio

Course Overview

This workshop introduces students to object oriented mobile app development using the Java programming language and Google's Android Studio. All software is free and cross platform. Students will learn basic haptic programming concepts and techniques including tap selection, animation, sliders, list tables, along with many other interactive constructs. All apps students design and create can be instantly loaded for use on their Android devices: phones and/or tablets.

Students should have some familiarity with the Java programming language prior to taking this class. In addition, while the Supercomputer Center will provide students with desktop computers during the week, they are encouraged to bring their own laptops, either a Windows or MacBook.

Course Goals and Learning Outcomes

- Develop Android Apps that conform to industry standards and expectations.
- Develop Android Apps that employ haptic object interactions for users

Structure

This course is taught using classroom and lab instruction employing lecture/demonstration, in-class exercises, student participation, and class activities leading to a final project. Classes will include introductory concept presentations, followed by in-class exercises. While students are invited to bring their own laptops to class, the UCSD lab will have all necessary hardware and software installed for their use each day. Android Studio is cross platform and may be run under Windows, Mac OS X or Linux.

Topics to be covered during the week

Module 1: -Introduction to Android Studio
-Introduction to the palette environments
-Loading Apps on Devices
-Input/Output

Module 2: -Conditional & Iterative Control Structures
-Android Object Methods & Parameters
-Algorithm Development

Module 3: -Information Storage and Security
-Animation & Gaming
-Google Play

Module 4: -Final Projects: Putting the pieces together.

Prerequisites:

- Must be a current high school student in grade 9-12.
- Successful completion of Algebra 2 or Integrated III. **Please provide transcripts**.
- A basic understanding of computers.