# COMPUTER SCIENCE PRINCIPLES YEAR-LONG COURSE A-G APPROVED

## INSTRUCTOR: STAN TWITCHELL SHASTA COLLEGE DUAL ENROLLED

### Show me the money:

Computing careers are the most plentiful, in demand and among the highest paying jobs in our country. The tech industry currently cannot find enough qualified employees to fill jobs and they are recruiting employees from overseas. Skills taught in this course prepare students in a field hungry for qualified American employees and begins a pathway to incredible opportunity.

#### Overview: The BIG picture.

The Computer Science Principles curriculum framework specifies the concepts and computational thinking practices central to the discipline of computer science, and is organized around fundamental principles essential to thrive in future college courses and a variety of computing and STEM careers.

#### The Curriculum:

- Unit I Computational thinking and problem solving with algorithms using MIT SCRATCH
- Unit II Web development using HTML and CSS
- Unit III Android App Development using AppInventor
- Unit IV 3D Modeling and Printing using SketchUP

## **Unit V - Programming Concepts using Python**

Editors, Compilers, Variables, Modules, Input/Output, Branching, Looping, Functions, Interactive Programs, Arrays and Object Oriented Programming

Unit VI - Robotics and Automation using Vex Robots and RobotC programming language

Unit VII - Game Development using Unity game engine and CSharp programming language

### STUDENTS AND PARENTS PLEASE READ!!!!!!!!!!!

This course is challenging but I believe all students and learn computational thinking and programming. I believe concepts delivered in this course are extremely beneficial and directly relate to the number 1 job industry in the USA.

#### **Shasta College Dual Enrollment:**

This class is dual enrolled with Shasta College's <u>CIS 76 Mobile Applications Development</u>. That means students can enroll for free and receive college credits that are transferable to many 4 year institutions. Please take advantage of this incredible opportunity to get ahead in college.

Grading: All points are earned from projects and quizzes: 90%↑ A, 80%↑ B, 70%↑ C, 60%↑ D

#### Finally!!! About the instructor.

I have worked hard the past few years learning 4 programming languages online and at summer trainings in programming and robotics. I want to be able to offer these skills to our students. I strongly believe this field gives a diverse population a great start to what could be an amazing career. Please sign below. On the *comment line*, write something that proves you are not a robot. *(and you read this)* Thanks,

Stan Twitchell stwitchell@rbhsd.org	
Student Signature	Parent Signature