# INTRODUCTION TO COMPUTER SCIENCE (2022-2023)

## INSTRUCTOR INFORMATION:

Mr. Ran Shen          Email: ranshen@crosspointacademy.org,

## COURSE DESCRIPTION:

The purpose of this class is to introduce the student to major computer science concepts and vocabulary. This class will cover the uses of computers in all areas of human endeavor from school to the sciences to instant around-the-world communication to big data and computer aided design. During the first semester, students will learn to write web pages. The second semester is devoted to mastering the Python programming language. This combination of computer skills will prepare the students for further study at the AP and college levels.

## COURSE OBJECTIVES:

1. Students will be exposed to computer industry vocabulary, coding practices and key concepts to enable them to explore computer science as a potential career.
2. Students will learn coding skills to prepare them for AP Computer Science, University Computer Science courses or computer internships.
3. Students will learn how to use HTML5, CSS3 and JavaScript to write simple webpages. Webpage design and use will be covered. The students will have exposure to bootstrap and a wide set of webpage-writing tools.
4. Students will learn how to program in Python.
5. Students will get an introduction to advanced topics like robotics, machine learning, big data manipulation, the internet of things and computer-aided prototyping.

## REQUIRED MATERIALS:

There is no textbook for this course. We will use online materials which are constantly updated instead. Online materials: W3Schools HTML, CSS, JavaScript and Python tutorials to support classroom instruction. Software: Visual Studio Code, BootStrap, HTML5, CSS3, JavaScript, and several others. PLEASE do not download until instructed by the teacher.

Other materials:

A laptop computer with the minimum specs: i5 and 8G RAM.

## GRADING:

| Quarter Grades | Semester Grades |
|---|---|
| Tests – 30% | First/Third Quarter – 42.5 % |
| Quizzes – 20% | Second/Fourth Quarter – 42.5% |
| Classwork – 30% | Semester Final Exam – 15% |
| Homework -20% | |

## ACADEMIC INTEGRITY

California Crosspoint Academy expects that students will do their own work and that their quizzes, tests, examinations, laboratory work, research papers, essays, projects, and all other assignments honestly reflect their own learning and knowledge in the course.

Student (Print): _____          Signature: _____

Parent/Guardian(Print)_____          Signature: _____