Beyond CS Camp

2023 Spring & Summer Classes

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Info Session and Registration at: www.beyondcscamp.com

Class	Instructor	Dates	Schedule	Tuition
Java Programming / AP CS Preview	Bethany Wang	06/19 – 07/20 (15 classes)	**M, W, Th** 7:00 - 9:00 pm	$900
Fundamental Data Structure and Algorithms in Java	Gordon Su	03/05-04/30 (8 classes)	**Su** 7:00 - 9:00 pm	$480

Discount: 25% off for siblings **Platform:** Zoom Online **Grade Level:** 8th grade and up

Purposes:

- To allow students to explore computer science and build a solid foundation in programming.
- (Java) To prepare high school students for AP Computer Science A.
- (Data Structure) To prepare students interested in competitive programming, or a head start in learning a computer science degree.

Background:

Beyond CS Camp was offered for the past four summers. Founder and lead Instructor Bethany Wang is an adult career training teacher with over 18 years of experience designing and teaching programming and computer application courses to adults, as well as middle and high school students. She earned her MS degrees in Computer Science and California teaching credential in Math and CS. She worked in hi-tech companies as a software engineer before turning to teach.

Ms. Wang designed her programming curriculum in a hands-on practical approach. Through providing scaffolding examples and assigning plentiful exercises, she makes complicated concepts easy to understand and make learning programming an efficient and enjoyable experience. As it turned out in the past, the learning outcomes from her students were successful.

Instructor Gordon Su is a graduate student at USC majoring in Computer Science. He taught Java for Beyond CS for two years in the past and received very positive feedback from students and parents.

Why Us?

- Well designed, systematic and structured curriculum
- Plentiful coding examples, exercises, and hands-on projects
- Additional office hours available for one-on-one support
- Notes and summaries, guides, examples, and answers keys will be provided
- Student's work will be checked and graded
- Practical, effective, and engaging! Guaranteed quality and satisfaction!

Course Description

Java Programming /AP Computer Science Preview

Java is one of the top programming languages used for developing a wide range of applications. With its strong logic and clear structure, Java becomes the top Object-oriented programming language. High school AP Computer Science A is about using Java language to solve problems.

In this course, students will be introduced to critical thinking for developing efficient computer programs such as functional abstraction and OOP paradigm. Major topics include basic data types, conditionals, loops, methods, objects and classes, abstraction and encapsulation, polymorphism and inheritance, array and ArrayList, input and output, file operations, exception and error handling, graphic user interfaces, basic algorithms, and, etc. Upon completion, students will be able to design, code, test, and debug multi-class JAVA programs.

Fundamental Data Structure and Algorithms in Java

This course serves as an introduction to data structures and algorithms in Java, and it is intended for motivated students interested in competitive programming, a computer science degree, or a head start in software development interview preparation. A familiarity with Java is assumed. By the end of a packed 8 weeks, students will be well equipped with various tools for analyzing and implementing efficient solutions to programming problems.

Major topics include Runtime Complexity, Recursion, Lists: Arrays, ArrayLists, Linked Lists, Stacks, Queues/Deques, List Sorting Algorithms, Binary Search, Trees and Related Algorithms, Graphs Introduction, Heaps and Priority Queues, Hashing, Sets, and etc.