

Hello!

Welcome to Computer Science at Classical Cottage School! I am Bob Carhart, your instructor for Computer Science I. Starting September 18th, we'll embark on a fun, challenging journey which assumes NO prior experience with computer programming.

This course is a general introduction to the field of computer science -- the central aspect of which is programming -- i.e., making computers do useful and interesting things for us humans. In this course, we will study many dimensions of computer science as expressed in the Python programming language. As a Computer Science major myself, I look forward to sharing the joy of programming as our students discover that they can make computers print things on a screen, do mathematical computations, communicate with users, present data in various formats, read files and process batches of data, create files, sort, search, log what they're doing, run more complicated computations/algorithms and all sorts of cool things.

We will cover all the basics of programming using the Python language and environment, from both a data perspective and flow-of-control perspective. We will also take a brief foray into one or two other languages like Java and/or C (from a highly scripted lab exercise perspective only) to compare/contrast language style and certain aspects of programming languages like strong v. weak typing, approach to function calls, scope, global v. local variables, etc. We will give rudimentary coverage to the software engineering process itself, including software design in pseudocode, algorithm design, implementation/development and testing. I am confident the students will enjoy the creativity, the sense of accomplishment and the growth that occurs through writing, debugging and testing programs.

Each student should have a laptop to work on and the ability to install a 90 MB local Python development environment. I will help the students as needed to install any needed software. Additionally, I will provide a copy of the Zelle textbook (Zelle, [Python Programming: An Introduction to Computer Science](#), ISBN 978-1590282755 © 2017 Franklin, Beedle), from which the students will read weekly and do programming assignments.

Our class syllabus is attached.

This material should be challenging, but manageable and fun for the students. I expect the students to put in 3-4 hours per week of work outside class. Looking forward to this year as we learn together in a nurturing, supportive class environment.

-Bob