

Advising Notes as you finish CS 121

- The required CS sequence for most students is CS 121 -> CS 141 -> CS 143
- Putting a gap between CS 121 and CS 141 is totally fine (even a year gap is fine!)
- CS 141 requires MATH and ENGL pre-reqs, so you might *need* a gap to complete those courses
- I do *not* recommend a gap between CS 141 and CS 143, so plan your courses so those can be taken one after the other
- Summer CS 141 and CS 143 are online only
- CS 151 (C++) is an optional course that we only offer in Spring quarter
- CS 211 (Computing & Society) is an optional course that has no coding, but discusses ethics and how computing intersects with society; this course is usually not offered more than once a year (if at all)

Preparing for CS I (CS 141)

Reviewing CS 0 (CS 121) material

Computer Science is a subject where you typically learn by doing. This means that you also tend to forget by *not doing*. If it has been a quarter or few since you last coded, it is recommended that you get back in the habit before starting CS I. One way that you can do this (if your previous experience with coding is in Python) is by working through several problems on codingbat.com or the python section of codestepbystep.com.

It is expected that coming into CS 141 you are *already exposed to* the following concepts:

- Constructs (in Python or another language): *variables*, *functions*, *conditionals* (if/elif/else), *loops* (for/while), *strings* and associated operations (slicing/len/etc), *lists* and associated operations (iterating over/accessing elements in/etc)
- How and why to use *pseudocode* to plan code
- How to read and work with unfamiliar code
- How to test and debug code

[Dr. Hess's CS 121 "Online Textbook" \(python\)](#)

Python to Java Transition

CS 141 is taught in Java. As Shoreline's CS 121 is taught in Python, here you will find a couple resources that should help you with the transition from Python to Java.

- [Python to Java Syntax Guide](#)
- [youtube video - Python to Java Tutorial](#)

Why Preview CS 141 Material?

Previewing material allows you to gain exposure to a concept before tackling the computational thinking behind the concept. When you see material at a high level beforehand, you are able to become familiar with vocabulary and reflect on how this new concept relates to the concepts you already know.

The purpose of previewing material is NOT to understand the material at 100%.

The purpose of previewing material is to gain a high level understanding of the concept - in this case, to make connections between your prior programming exposure (presumably Python) and Java.

CS 141 Preview Guiding Questions

Below is a collection of guiding questions that you should try to answer as you preview material.

- Find, run, and tinker with a "Hello World" program in Java.
 - What is the importance of the main method?
 - What is the difference between `System.out.print` and `System.out.println`?
- Declaring Variables
 - Assuming `int x = 10;`, what does `System.out.println("x = " + x);` print to the screen.
 - Declare `int`, `double`, and `String` variables to have values and then print those values to the screen.
- If statements
 - Write an if statement to test if a variable `x` is 10. If it is, print `x is ten` otherwise print `x is not ten`.

- For Loops
 - Write a for-loop to print the values 1 to 10 to the screen.
- Methods (Functions)
 - Define a method `printTo` to print the values from 1 to n (where n is a parameter passed to the method)
 - Call the method with the value 10. Then call the method again with the value 20.

Textbook

Over the course of the entire quarter, we will cover the material in Chapters 1 through 10 of:

- [Building Java Programs: A Back to Basics Approach, 4th edition by Stuart Reges and Marty Stepp](#)
 - Chapter 1: Introduction to Java
 - Chapter 2: Primitive Data and Definite Loops
 - Chapter 3: Parameters and Graphics
 - Chapter 4: Conditional Execution
 - Chapter 5: Program Logic and Indefinite Loops
 - Chapter 6: File Processing
 - Chapter 7: Arrays
 - Chapter 8: Classes
 - Chapter 9: Inheritance and Interfaces
 - Chapter 10: ArrayLists

YouTube videos by Publishers of the Textbook

Below you will find some of the early chapter's publisher resources for the textbook for this course. It is recommended that you watch the videos listed below in Chapters 1 and 2 before our first class as we will fly through the first couple chapters of material.

- [Building Java Programs YouTube Videos](#)

Open Access Version of Textbook (read: FREE)

- -----> Check out this [Open Access Version](#) of the textbook. <-----