

Course Introduction

Brandon Krakowsky



Penn
Engineering

Introduction

Who Am I?

- I'm the Lecturer for this Introduction to Software Development course
- I'm also the Research & Education Director at Wharton Customer Analytics
- What is Wharton Customer Analytics?
 - We partner with companies to provide real-world datasets to Penn students, faculty, and academic researchers for data and analytics projects
 - We teach in-person technical workshops and build online courses for undergrads and MBAs to hone their data management and technical skills



What's My Background?

- I started out as a musician ... then worked in radio broadcasting and audio production
- I started doing Flash programming ... and I developed a live web conferencing platform for Big Pharma
- I received my Masters in Computers & Information Technology from UPenn
- I worked as a programmer at the School of Design
- I started my own company BLeeK, LLC doing programming and freelance web development
- I worked as an application developer for Wharton Computing
- I became the Research & Education Director at WCA
- Most recently, I became a Lecturer at Penn Engineering



More About Me – I Play Bass



More About Me – I Like My Dog, We're Close





OK, Enough About Me!

About This Course

What Will You Learn in this Course?

- Intro to programming using both Python and Java
- Code syntax
- Style and conventions
- You will also learn:
 - Code testing
 - Code debugging
 - Code design
 - Code documentation
 - Computational thinking!



Course Topics for Python

- Intro to Programming/Python, & Jupyter Notebook
- Variables, Conditionals, & IDLE
- Intro to Lists, Loops
- Functions & Modular Programming
- Lists & Strings
- PyCharm, Tuples & Sets
- Unit Testing
- Dictionaries
- Files
- Data Analysis
- Object-Oriented Programming



Course Topics for Java

- Intro to Java, Eclipse
- Classes
- Unit Testing
- Arrays & ArrayLists
- Static Variables & Methods
- Polymorphism - Overloading
- Polymorphism - Overriding
- Access Modifiers & Abstract Classes
- Interfaces
- Debugging
- File I/O & Exceptions
- Collections
- Regular Expressions
- Connecting to Databases



Python

- Why begin with Python?
 - Great first language and easy to get up and running quickly
 - Easier to learn than Java
 - Allows you to spend more time thinking about programming logic and algorithms, and less time thinking about code syntax



Java

- Why transition to Java?
 - More object oriented and robust
 - Used for many applications
 - For example, Android programming is basically Java programming
 - Used in a number of other courses in the CS department at Penn



Resources

- I am providing the names of these books here because they are an easy read for students who would like to supplement the lectures with additional reading
 - Python in Easy Steps (by Mike McGrath)
 - Java in Easy Steps (by Mike McGrath)
- These books are entirely optional
 - I will not cover exactly the same material nor will I assign readings from them



Looking Things Up on the Internet

- You can use the official Python or Java documentation
 - Anything on python.org, for example: <https://docs.python.org/3/tutorial/>
 - Anything in the Java Tutorials: <https://docs.oracle.com/javase/tutorial/>
- Do not use an internet search for keywords in a HW assignment
 - For example, if an assignment requires you to make a poker game, do not Google “Shuffling cards in Java”
 - You’ll be in violation of the course policy!

