3XXX Computer Science: Python

About this course 关于本课

Python is one of the most popular programming languages in the world. With the rapid advancement of Artificial Intelligence, the demand for Python developers has grown dramatically over the fast few years.

This course is for young people (age 10 to 17) who have interests in programming. There is no prerequisite for taking the course. However, we do expect students to take the study seriously and put their best efforts in learning programming skills.

Software Requirements:

PyCharm Community Edition. Going to https://www.jetbrains.com/pycharm/download
WARNING: do not download the very first link that you have seen, it is FOR Professional Developers. You need to scroll down to the end to get the PyCharm Community Edition.

Either Windows or Mac version is fine with me. Remember: Community edition, NOT the professional edition.

Required Textbooks:

Students are required to buy two required textbooks before the first day of class. No exception. Those textbooks are not expensive and easy to understand.

1. Coding Projects in Python (DK Help Your Kids), published by DK Children; Illustrated edition (June 6, 2017), ISBN-13 ： 978-1465461889. Amazon.com price: 12.99 dollars

2. Python All-in-One For Dummies (For Dummies: Learning Made Easy) 3rd Edition by John C. Shovic (Author) and Alan Simpson (Author) ISBN-13 ： 978-1394236152, Amazon.com price: 32.30 dollars.

Words from the teacher:

My name is Max Li (李海飞). I have taught college students for many years (17 to be exact). I also have industrial experiences for 6 years before coming to US for graduate studies. In addition, I have been a researcher at IBM Thomas J. Watson Research Center for 2 years. I got a doctoral degree from the University of Florida (2001), a master's degree from the University of

Florida (1998) and a bachelor's degree from Xi'an Jiaotong University (1990). All my degrees are related to computer science and engineering.

VERY important requirement: A laptop (either Windows or Mac) is required for the course. Please bring the laptop to the classroom every time because every student needs to use his/her own computer for working with the code.

Course Teaching Schedule (for Fall 2024 and Spring 2025)

Fall 2024 (use the first book)

September, 2024

Part 1: Starting with Python

October, 2024

Part 2: First Steps

November, 2024

Part 3: Turtle Graphics

December, 2024

Part 4: Playful Apps

January, 2025

Part 5: Games in Python

Spring 2025 (use the second book)

February, 2025

Book 1: Getting Started and First 2 chapters of Book 2: Understanding Python Building Blocks

March, 2025

Chapter 3, 4, 5, 6, 7 of Book 2: Understanding Python Building Blocks

April, 2025

Book 3: Working with Libraries

May, 2025

Book 5: Doing Data Science

June, 2025

Brief overview of Book 4(AI), 6(Hardware) 7 (Robotics)