

Introduction to Python for Finance Course

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Prerequisites: No Prerequisites

Course Description: This course provides a beginner-friendly introduction to Python, focusing on its application in finance. Students will learn the fundamentals of Python programming, including data types, control structures, functions, and basic data analysis techniques. Through hands-on exercises, the course will explore how Python can be used to perform financial calculations, manipulate financial data, and automate simple tasks. No prior programming experience is required, making this course an ideal starting point for anyone interested in leveraging Python in the finance industry.

By the end of the course, students will have a solid foundation in Python, enabling them to further explore its more advanced applications in finance.

Credits: 1 Credit

Grading:

Homework	30 %
Midterm	30 %
Final Project	40 %

Textbooks:

Dive into Python, <http://www.diveintopython.net>

Python for Data Analysis, Wes McKinney, O'Reilly Media, 2012

LinkedIn Learning course on Getting Started with Python for Finance by Matt Harrison

Homework's: There will be 4 homework assignments throughout the course out of which the best of 3 would be considered for final grading. Students are encouraged to tackle these on their own, without relying on online resources. The goal is to practice and apply what you've learned in class independently.

Midterm Exam: The midterm exam will assess your understanding of the key concepts covered in the first half of the course. It will include a mix of multiple-choice questions, and coding exercises. The exam is designed to test both your theoretical knowledge and your ability to apply Python to solve finance-related problems. Make sure to review all the topics discussed in class, as well as the homework assignments, to prepare effectively.

Final Project: Around the third week, you'll be given a list of questions to choose from for your final project. Feel free to use any online resources to help you complete your project—just make sure the work you submit is your own. While we'll cover several packages in class, don't feel limited to just those. The more technical skills you bring into your project, the better!

Lecture Outline

Week	Topic	Submission
1	Introduction to Google Collab, Installation of Python and Google Collab	
2	Introduction to Data Types, Variables, Operators,	
3	List, Tuples, Sets, Dictionary	Homework 1
4	Introduction to Loops and Functions	
5	Classes and introduction to Libraries	Homework 2
6	Midterm	
7	NumPy	
8	Pandas - I	Homework 3
9	Pandas – II	
10	Data Visualization (MatPlot Lib and Seaborne)	Homework 4
11	Introduction to Machine Learning – I	
12	Introduction to Machine Learning – II	

13	Final Project Presentation	Final Report
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