



UNIVERSITY OF ENGINEERING AND TECHNOLOGY PESHAWAR, KOHAT CAMPUS

Lab 1: Python introduction, installation, and good practices

Lab Title: EE-271 “OOP & Data Structures Lab”

Date: Sunday, October 29, 2023

Time: 3hrs

1. Install IDE: Recommended ide python or anaconda.
 - a. Anaconda: <https://www.anaconda.com/download>
 - b. Python: <https://www.python.org/downloads/>

2. Make a GitHub account.

- a. <https://github.com/>

3. Helping websites

The following are some of the website that will help in code development

- a. Introduction to stack overflow: This is helpful for code debugging.

<https://stackoverflow.com/>

- Search the answer for most common programming questions.
- Search for error messages to see what cause them.
- Ask programming questions to get Answer from programmer worldwide.
- Gain valuable insights about programming in general.

- b. Real python: A great, in depth, and to the point resources.

- <https://realpython.com/>
- <https://www.youtube.com/@realpython>

- c. Geeks For Geeks

- <https://www.geeksforgeeks.org/>

- d. W3School

- <https://www.w3schools.com/PHP/default.asp>

4. Jupyter Notebook:

- a. The following link will help in understanding of how to use jupyter notebook conveniently. This is like walk through video.

<https://www.youtube.com/watch?v=HW29067qVWk&t=27s>

5. **Virtual environments** allow to manage Python projects, packages, and versions efficiently. Must make a virtual environment. For guid line how to make a virtual environment use the following YouTube link.

- a. <https://www.youtube.com/watch?v=23aQdrS58e0&t=10s>
6. Use online code editor: Run your code online on google colab if python is not installed on your machine.

<https://colab.google/>

7. Courses

- a. Complete the following two courses on coursera. Click on the following link.

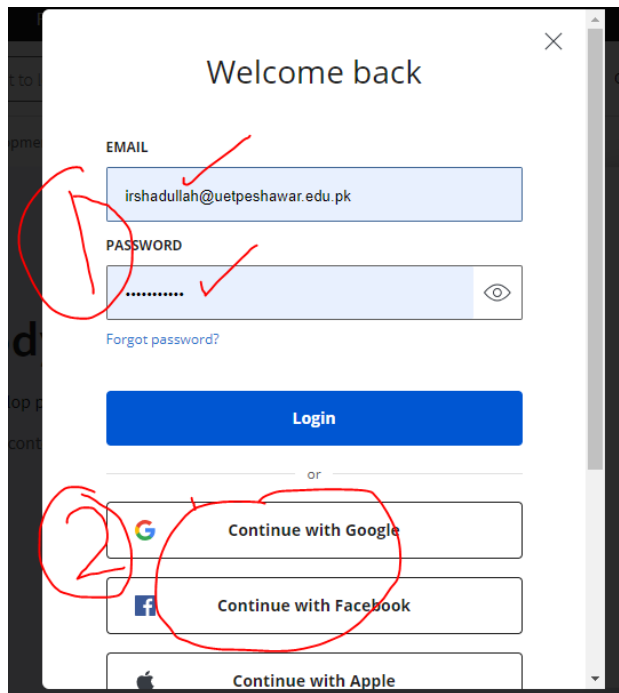
<https://www.coursera.org/specializations/python>

The screenshot shows the Coursera website interface. At the top, there are navigation links for 'For Individuals', 'For Businesses', 'For Universities', and 'For Governments'. Below this is the Coursera logo and a search bar. The main content area displays the 'Python for Everybody Specialization' by the University of Michigan. The page includes a description of the course, the instructor's name (Charles Russell Severance), and an 'Enroll for Free' button. A sidebar on the right provides additional details about the specialization, including a 4.8 star rating, beginner level, 2-month duration, and flexible schedule.

- b. Click on the enrolment.

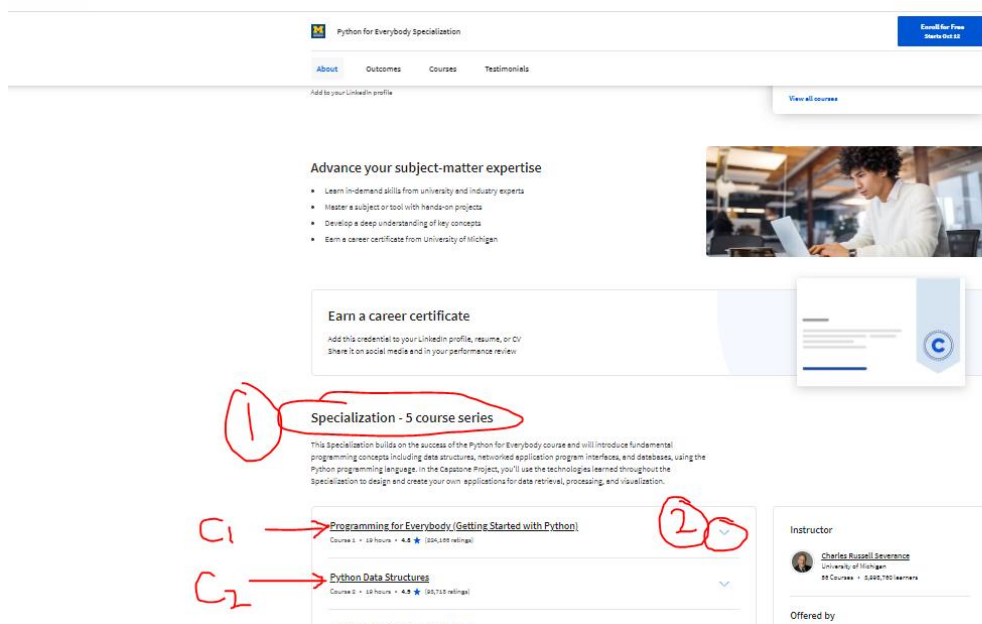
This screenshot is identical to the previous one, but with a red circle drawn around the 'Enroll for Free' button, highlighting it as the next step in the enrollment process.

- c. Signup while using 2 in the following image or if you have account then use your email and password as mentioned in 1 below.



- d. The specialization has 5 courses. There are two courses that cover the basic you need that are c1 and c2.

Click on the small icon 2. This is a drop-down menu which includes detail.



- e. The course detail are shown in the following image.

Python for Everybody Specialization Enroll for Free Starts Oct 12

About Outcomes **Courses** Testimonials

Programming for Everybody (Getting Started with Python) [Course details](#)

Course 1 • 19 hours • 4.8 ★ (224,166 ratings)

What you'll learn

- ✓ Install Python and write your first program
- ✓ Describe the basics of the Python programming language
- ✓ Use variables to store, retrieve and calculate information
- ✓ Utilize core programming tools such as functions and loops


Skills you'll gain

Python Syntax And Semantics Data Structure Tuple Python Programming


Python Data Structures

Course 2 • 19 hours • 4.9 ★ (93,718 ratings)

Instructor

 **Charles Russell Severance**
University of Michigan
56 Courses • 3,998,760 learners

Offered by

 **University of Michigan**
[Learn more](#)

Activate Windows
Go to Settings to activate Windows.

f. Click on the course section. Click on the underline line.

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g. The following course will be opened.


For Individuals For Businesses For Universities For Governments


coursera [Explore](#) What do you want to learn? [Log in](#) [Join for Free](#)

UNIVERSITY OF MICHIGAN

Programming for Everybody (Getting Started with Python)

This course is part of [Python for Everybody Specialization](#)


 Taught in English | [8 languages available](#) | Some content may not be translated

 Instructor: [Charles Russell Severance](#)

[Enroll for Free Starts Oct 12](#) Financial aid available

2,960,232 already enrolled

Course
Gain insight into a topic and learn the fundamentals

4.8 ★ (224,166 reviews) |  98%

Beginner level
No previous experience necessary

19 hours (approximately)

Flexible schedule
Learn at your own pace

[View course modules](#)

Activate Windows
Go to Settings to activate Windows.

h. Scroll down to the end.

Programming for Everybody (Getting Started with Python)

This course is part of the [Python for Everybody Specialization](#)

Taught in English | [Learn more about this course](#) | Some content may not be available

Instructor: [Charles Russell Severance](#)

[Enroll for Free](#) Starts Oct 12

3,986,222 already enrolled

Included with [Coursera Plus](#) | [Learn more](#)

Course
Get ready to take a step and learn the fundamentals

4.8 ★ (35,959 ratings) | 98% positive feedback

Beginner level
No previous experience necessary

18 hours (approximately)
Learn at your own pace

[View course modules](#)

About **Outcomes** **Modules** **Recommendations** **Testimonials** **Reviews**

What you'll learn

- ✓ Install Python and run your first program
- ✓ Describe the basics of the Python programming language
- ✓ Use variables to store, retrieve and calculate information
- ✓ Utilize some programming constructs such as functions and loops

Skills you'll gain

[Computer Programming](#) [Python Programming](#)

Details to know

Shareable certificate
Add this certificate to your LinkedIn profile, resume, or CV
Share on social media and in your performance review

See how employees at top companies are mastering in-demand skills

[Learn more about Coursera for Business](#)

Build your subject-matter expertise

This course is part of the [Python for Everybody Specialization](#). When you enroll in this course, you'll also be enrolled in this Specialization.

- Learn new concepts from industry experts
- Gain a foundational understanding of a subject or skill
- Develop job-relevant skills with hands-on projects
- Earn a shareable career certificate

Earn a career certificate

Add this certificate to your LinkedIn profile, resume, or CV
Share on social media and in your performance review

There are 7 modules in this course

This course aims to teach everyone the basics of programming computers using Python. It covers the basics of how one can write a program from a series of simple instructions to Python. The course has requirements, and weekly assignments and quizzes. Anyone who makes the computer experience should be able to master the materials in this course. This course will cover Chapters 1-4 of the textbook "Python for Everybody". Once you finish this course, they will be ready to learn more advanced programming courses. This course covers Python 3.

Chapter One - Why we Program?
Modules: 1 • 1 hour to complete

Installing Python
Modules: 2 • 2 hours to complete

Instructor
Instructor ratings: 4.8 ★ (35,959 ratings)

Charles Russell Severance
University of Michigan
56 Courses • 3,998,760 learners

i. Click on the video mark by 1 and contain 7 videos.

Programming for Everybody (Getting Started with Python)

[Enroll for Free](#) Starts Oct 12

About **Outcomes** **Modules** **Recommendations** **Testimonials** **Reviews**

Chapter One - Why we Program?
Module 1 • 1 hour to complete

These are the course-wide materials as well as the first part of Chapter One where we explore what it means to write programs. We finish Chapter One and have the quiz and first assignment in the third week of the class. Throughout the course you may want to come back and look at these materials. This section should not take you an entire week.

What's included

[7 videos](#) [7 readings](#)

[Show info about module content](#)

Instructor
Instructor ratings: 4.8 ★ (35,959 ratings)

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Activate Windows

- j. The courses are available online on YouTube.

https://www.youtube.com/watch?v=UjeNA_JtXME&list=PLIRFEj9H3Oj7Bp8-DfGpfAfDBibIRfI5p

- k. Use the following GitHub link to copy any code of this book.

<https://github.com/SyedHasnat/OOP-in-Python-UET/tree/main>

Recommended books

- Python Tricks: The Book by Dan Bader
- How to think like a computer scientist by Allen Downey
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