



Python

Introduction to the course:

Python is a general purpose computer programming language with support for OOP. Development of Python began in late 1989 by Guido van Rossum, then at CWI (Centrum voor Wiskunde en Informatica, the National Research Institute for Mathematics and Computer Science) in the Netherlands. It was eventually released for public distribution in early 1991.

Numerous contributors have helped develop a rich set of modules for python which make it one of the preferred languages of choice, be it a hobbyist, scientist or an engineer. Today python is being used in the web development, bio-informatics, system administration, graphic, animation and VFX, robotics, embedded systems, networking and many more sectors of the industry. This course work helps you build programming skills in python in a systematic manner.

Here in Mindful Learning India, we believe that learning a language should help you think differently and creatively. A language should be a medium of expressing your creativity.

We think that in an era of computers, not knowing how to program a computer is a serious technical handicap for a person aspiring for jobs in the industry. Therefore, this course is designed to make a layman into a confident programmer. Contrary to the idea that learning to program is difficult, we think that programming computers is easy, fun and thought provoking, provided you follow some important tips and techniques which this course work offers. It noteworthy that, today, programming skill is always an added plus for any student, fresher or professional wanting to progress in their jobs and careers. Having programming in python as one of your skills set and competency is surely a powerful tool in your hands.

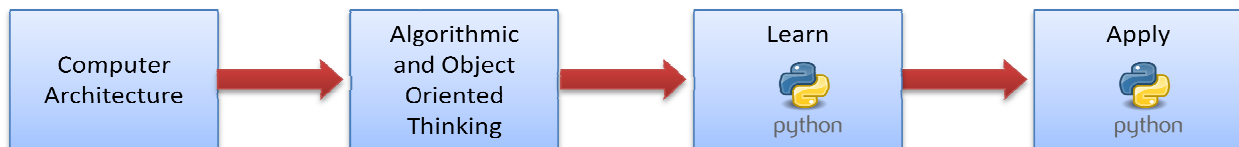
Here are some of the salient features of the course work:

1. Computer architecture should be understood at least on the basic level, in order to develop effective programs. A programmer with knowledge of computer architecture fundamentals is surely more effective than a programmer completely oblivious of the computer architecture. This course starts by a couple of sessions on computer architecture.
2. We believe "Practice makes it perfect", therefore we follow a practical approach by using several examples to impart the essential concepts. In fact, this course has got 80+ examples that help you learn the concepts and apply them.
3. While being technically accurate, we give a lot of importance to covering essential concepts to help you continue with your journey of computer programming independently.



4. Ultimately you start your journey by applying your programming skills to solve problems. Solving a problem is fundamentally a thought process. Here in this course, you will learn what algorithmic and object-oriented thinking is and how to fine-tune your thought process for achieving optimal solutions to problems.
5. We offer you enough tips and techniques with which you can learn any other programming language easily and effectively.
6. It is also important to know how python is used in your chosen field. In this course work, the last module will be a case study in a given list of topics.

The following figure represents the suggested four-stage learning process:



Course Objectives:

By the end of this course, you should be able to:

1. Explain various components of a computing system
2. Think algorithmically and apply your thought process for problem solving
3. Use python constructs for writing programs or scripts
4. Use regular expressions
5. Use object-oriented programming techniques in python
6. Develop data structures in python
7. Use various built-in modules in your scripts
8. Use graphic tool kit in python
9. Use python for socket programming and networking
10. Use python for data base handling
11. Use python for writing automation scripts
12. Explain multi-threading in python
13. Have an understanding of how python can be used in your chosen area of work

Who should attend?

This course is highly recommended for students, fresh engineers and professionals wanting to develop their programming skills for quick progress in their careers.



Pre-requisites:

1. Undergoing or completed graduate level course
2. Fair knowledge of computer programming (but not a strict necessity)

What should you bring?

Laptop with Windows or Linux

Contents:

1. Computer architecture fundamentals
2. Algorithmic and object oriented thinking, problem solving techniques
3. Introduction to python
4. Tools for running python scripts
5. Operators and expressions, Basic I/O
6. Programming with numbers and strings
7. Decision making structures
8. Loops
9. Lists, Dictionaries and Tuples
10. Functions and Recursion
11. File I/O
12. Exception handling
13. Regular expressions
14. Object Oriented Programming
15. Modules and packages
16. Introduction to GUI development
17. Introduction to networking and socket programming
18. Introduction to data base management
19. Understanding automation using python
20. Multi-threading in python

Follow up: A case study (PS: The topics will be discussed when you approach us for discussion)

Duration:

Approximately 30 hours to be completed in maximum of 2 months. See schedule in last page.



Cost:

Rs. 12000/-*

*Attractive discounts for groups and students available

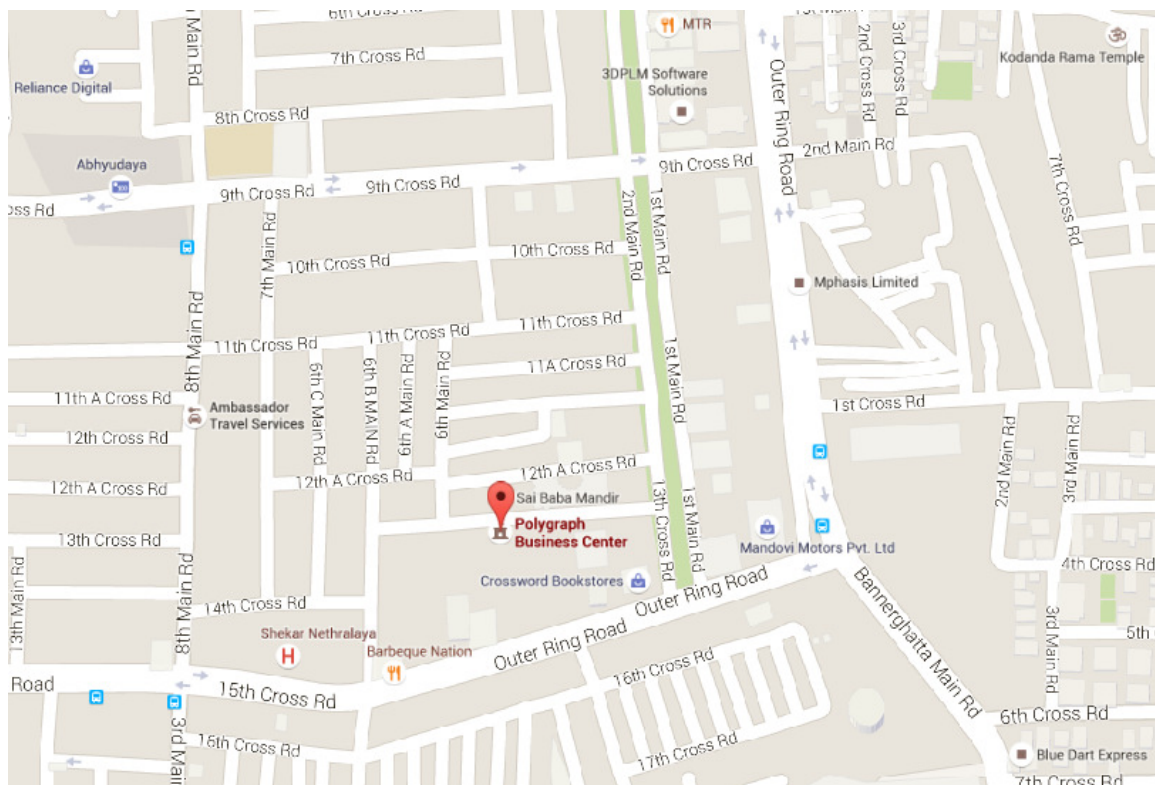
Mode of instruction:

The course is available in one-on-one mode and also in batch mode conducted both on weekdays and weekends.

Venue:

Classes are held at our office at:

Polygraph Business Center,
2nd Main Road, J P Nagar 3rd Phase, Bengaluru – 560078
Landmark: Delmia circle, Sai Baba Temple, EKYA School





Schedule:

Sessions	Topic #1	Topic 2	Topic 3
Session #1	Computer Architecture	Algorithmic and OO Thinking	
Session #2	Introduction to Python	Python tools	Operators and Expressions, Basic IO
Session #3	Programming with numbers and strings		
Session #4	Decision making structures	Loops	
Session #5	Lists, Dictionaries and Tuples	Comprehensions	
Session #6	Functions and Recursion	Modules and Packages	
Session #7	Regular Expressions		
Session #8	File IO		
Session #9	Object Oriented Programming		
Session #10	Exception Handling	Introduction to GUI/Graphics	
Session #11	Introduction to network and socket programming	Introduction to data base management	
Session #12	Understanding automation using python		
Session #13	Multi-threading in python		
Session #14	Case study/mini-project		

*PS: The schedule above can be modified based on individual or group requirements
Each session is about 3 hours*