



Python Programming



CHRIST
COLLEGE (AUTONOMOUS)
IRINJALAKUDA, KERALA
Reaccredited by NAAC with 'A' grade

COURSE CODE

NAME OF THE COURSE

CPCC08

PYTHON PROGRAMMING

OFFERED BY

ABOUT COLLEGE

**DEPARTMENT OF
VOCATIONAL STUDIES**

Christ College (Autonomous), Irinjalakuda established in the year 1956 by CMI fathers has always been a place where young generations are moulded towards a bright future. College has excellent infrastructure, with state-of-the-art laboratories, seminar rooms and lecture halls. The campus is Wi-Fi enabled. Presently College is home for 4500+ students, 200 teaching staff and 45 supporting staff. The strength of the College lies in its hardworking and tech-savvy teachers who are eager to involve in all matters of students. The lush green campus with gardens and open gym is moving towards the next phase on education both offline and online.

COURSE COORDINATOR

JEENA GEORGE
Department of
Vocational studies

COURSE DETAILS

Python programming is a certificate course intended for degree-level students. This course is of five months in duration (75 hours). Admission to Python courses requires minimum eligibility of 10+2 with prior knowledge about computers. On the successful completion of this course, students will get a completion certificate with appropriate grade and also a government-approved NACTET certificate. A laptop with internet connectivity is a must for the successful course completion.

WHAT IS THE COURSE

Python programming is a beginner-level course, which teaches you the fundamentals of the Python programming language. You will learn to represent and store data using Python data types and variables. The course also teaches you how you can define and document custom functions, handle errors, how to use the latest technologies to create Python applications for data retrieval, processing, and visualization. Python tutorial will help you learn Python Programming Language in the most efficient way, with the topics from basics to advanced (like Web-scraping, Django, Deep-Learning, etc.) with examples.

SCOPE OF THE COURSE

Python is currently the most widely used multi-purpose, high-level programming language.

Python programming language is being used in web development, Machine Learning applications, along with all cutting-edge technology in the Software Industry. Python language is being used by almost all tech-giant companies like – Google, Amazon, Facebook, Instagram, Dropbox, Uber... etc.

LEARNING OUTCOMES

To learn and understand Python programming basics and paradigm. To learn and know the concepts of file handling, exception handling and database connectivity. To learn and understand python looping, control statements and string manipulations. Learn to implement various type of classification methods including SVM, Naive bayes, decision tree, random forest.

Interpret Unsupervised learning and learn to use clustering algorithms.

SYLLABUS

UNIT-I Introduction, Language, Statements And Programming Concepts

UNIT- II Functions

UNIT -III Multithreading Data Structures

UNIT -IV OO Paradigm Using Python

UNIT -V API'S

UNIT -VI Graphics Programming

UNIT -VII PYTHON – GUI Programming (Tkinter)

UNIT -VIII Introduction To Database Connectivity Using Python

SYLLABUS

UNIT-I INTRODUCTION, LANGUAGE, STATEMENTS AND PROGRAMMING CONCEPTS

(i) Introduction to Python. Variables Expressions and Statements.

ii) Operators & Operands, Order of Precedence, String Operations.

iii) Boolean Expressions, Recursion, Encapsulation and generalization.

iv) Meaning of meditation and its types and principles. Regular expression and pattern matching.

UNIT- II FUNCTIONS

i) Calling functions, Type conversion and coercion.

ii) Composition of functions, mathematical functions, User defined functions.

iii) Parameters and arguments, Anonymous functions – Lambda

UNIT -III MULTITHREADING DATA STRUCTURES

i) Strings and lists

ii) Set.

iii) Tuples and dictionaries.

UNIT -IV OO PARADIGM USING PYTHON

i) Class, objects, members

ii) Class attributes vs Instance attributes.

iii) Data hiding.

iv) Inheritance.

UNIT -V API'S

i) Introduction to API's, API requests.

ii) Type of requests and status codes.

iii) End points, Query parameters.

iv) Working with JSON data

v) Content type and response headers

UNIT -VI GRAPHICS PROGRAMMING

i) Introduction to programming vector graphics using Turtle.

ii) Creating basic drawings.

iii) Moving Turtles, colors, filling.

UNIT -VII PYTHON – GUI PROGRAMMING (TKINTER)

i) Tkinter Widgets and standard attributes.

ii) Geometry management.

UNIT -VIII INTRODUCTION TO DATABASE CONNECTIVITY USING PYTHON

i) Database handling and connectivity using Python & My SQL database

ii) Creating tables and manipulating data.

iii) Basic queries and aggregate functions.

iv) Filtering, Sorting & Joins