**Proposal for certificate course on**

# Programming Essentials in

# Python

Implemented by

ICTACADEMY®

In association with

CISCO. Networking Academy

This exclusive proposal is applicable and valid until

31st December 2021

# 1.  INTRODUCTION TO CISCO NETACAD

ICT Academy in partnership with CISCO proposes to offer Industry specific student skill development programs and certifications for engineering students of its members Institutions. This proposal is submitted to offer training and certification for the students. CISCO through its NetAcad initiative aims to provide industry-recognized credentials that can help students succeed in their design career

With training of teachers and students as the primary objective, ICT Academy has been working through a seven-pillar program in the areas of Faculty Development, Student Skill Development, Entrepreneurship Development, Youth Empowerment, Industry-Institute Interaction, Digital Empowerment and Research & Publications.

In partnership with CISCO Netacad, ICT Academy aims at setting up CISCO NetAcad centres across its member colleges to provide free learning resources to the students and also offer specialized career development program to students on subsidized fees to empower the Indian youth.

# 2. OPPORTUNITY TO BECOME CISCO NETACAD INSTITUTION MEMBER

Cisco Networking Academy transforms the lives of learners, educators and communities through the power of technology, education and career opportunities. Available to anyone, anywhere. ICT Academy as an authorized partner of CISCO NetAcad, is aiming at establishing NetAcad centres across its member institution. This proposal provides an opportunity for ICT Academy member institutions to initiate the process of obtaining CISCO NetAcad membership for your institution.

As part of our extensive IT skills and career-building program, CISCO offer a range of exploratory to career-ready courses that can be combined into complete pathways to prepare students for certification and lucrative, exciting careers that empower the digital economy. CISCO NetAcad provides the following benefits to partnering institutions.

- Partnership branding to position your institution as CISCO NetAcad approved institution.
- High-quality courses, learning tools, education platform and teaching resources-all licensed free of charges for students.
- Discounts on global certification exams.
- Instructor training support from ICT Academy at subsidized course fee for select courses.
- Online simulations, games, quizzes, and assessments in portal.

# 3. PROGRAMMING ESSENTIALS IN PYTHON

## 3.1. ABOUT PYTHON

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built-in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

## 3.2. WHY LEARN PYTHON

- It is omnipresent – people use numerous Python-powered devices on a daily basis, whether they realize it or not.

- There have been millions (well, actually billions) of lines of code written in Python, which means almost unlimited opportunities for code reuse and learning from well-crafted examples.

- It is easy to learn – the time needed to learn Python is shorter than for many other languages; this means that it's possible to start the actual programming faster.

- It is easy to use for writing new software – it's often possible to write code faster when using Python.

- It is easy to obtain, install and deploy – Python is free, open and multiplatform; not all languages can boast that.

- There is a large and very active Python community.

- It will give you a solid foundation and allow you to learn other programming languages (e.g., C++, Java, or C) much easier and much faster.

- It will be fun!

### 3.3. COURSE OVERVIEW

The Certificate course in Python covers all the basics of programming in Python, as well as general computer programming concepts and techniques. The course also familiarizes the student with the object-oriented approach.

| Module 1 | Introduction |
| --- | --- |
| **Module 2** | Data types, variables, basic input-output operations, basic operators |
| **Module 3** | Boolean values, conditional execution, loops, lists and list processing, logical and bitwise operations |
| **Module 4** | Functions, tuples, dictionaries, and data processing |
| **Module 5** | Modules, packages, string and list methods, and exceptions |
| **Module 6** | The object-oriented approach: classes, methods, objects, and the standard objective features; exception handling, and working with files |
| **Module 7** | Database connectivity |
| **Module 8** | GUI (Graphic User Interface) |

### 3.4. COURSE OBJECTIVES

The aim of the course is to:

- Familiarize the student with the universal concepts of computer programming,
- Present the Python programming language syntax, semantics, and the runtime environment,
- Acquaint the student with general coding techniques and object-oriented programming,
- Enable the student to start her/his own studies, and to open a path to the developer's career.

### 3.5. COURSE DURATION

Blended Mode of Delivery including LIVE online experts' sessions and self - paced learning.

| Mode of Training | Duration of Training |
|---|---|
| Virtual Instructor Led Live Online Classes | 12 Hours |
| Self-Learning | 56 Hours |
| Assessment & Certification | 02 Hours |
| **Total Duration** | **70 hours** |

### 3.6. TARGET AUDIENCE

Graduating Students with prior knowledge of any programming language.

### 3.7. ASSESSMENT AND CERTIFICATION

On successful completion of the assessments in course, the student will be eligible for

- ICT Academy Certificate in Python Programming
- PCAP – Programming Essentials in Python

### 3.8. PROGRAM FEE

ICT Academy offers this exclusive course and certification for all ICT Academy Member Institutions as said below, for a minimum of 100 enrolments.

| Programming Essential in Python Training & Certification Fee per student | INR 600 (Inclusive of GST) |
|---|---|
| For Establishment of CISCO NetAcad Centre at institution powered by ICT Academy and training of the first batch of students on Programming essentials in python. | Minimum Students: 100 Course Fee Per Student: INR 600 Total Fee: INR 60,000 |

For more information on training and certification, contact

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