



Certification Program in

ESSENTIALS OF PROGRAMMING

Course duration: 4 months

Designed by Yashavant Kanetkar,
Bestselling author of Let Us C

About Us

upGrad Campus is a

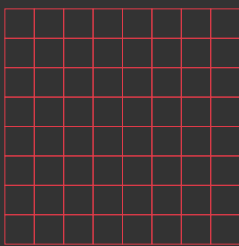
video learning platform for online education,

with certificate courses specially curated for college goers and young adults. As an affiliate of upGrad, India's largest online higher education company, Campus's goal is to make every graduate job ready, with professional skills and practical know-how for sought-after fields of work.

Our aim is simple: We strive to create high-impact, hands-on, high-impact, hands-on experiences that prepare learners for meaningful and productive careers.

Ronnie Screwvala

Co-founder & Executive
Chairman, UpGrad





Essentials of Programming – Your Gateway to a Successful Career

Master the Basics

Whether you're planning to develop software applications or games, set up your website or become an analyst, a firm grasp of programming is a must. Designed by Yashavant Kanetkar – the bestselling author of Let Us C – this course covers all the core concepts from basics to advanced programming and helps you kickstart your career in the IT world.

A foundational knowledge of C Programming, Python and Data Structures will not only allow you to thrive in a dynamic work environment, but will also act as a stepping stone to explore several up-and-coming languages. As C and Python can interface with most high-level programming languages like JavaScript, Java and C++, you can write more complex programs down the road. Because of their universal nature, learning the syntax, formats and structures will enable you to communicate your ideas and solutions for real-world problems.

Who Should Sign up for Our Certification Course?

Considering that the entire world is going digital today, programming lies at the heart of many job opportunities. Anyone who is interested in gaining a foothold in any kind of coding – from writing scripts to automating workflows – must become proficient in the Essentials of Programming.



Why Ace the Essentials of Programming

- **A Fundamental Prerequisite**

Knowing the various types of control structures, data structures and universally applied algorithms is a fundamental requirement if you want to have a career in the tech industry.



- **Umpteen Growth Opportunities**

Learning C Programming, Python and Data Structures can help you get as deep into tech (developing operating systems, AI and machine learning) or business applications (Data analytics, web development, gaming) as you'd like.

- **Join the Tech Giants**

Tech is here to stay and so are the job opportunities. Companies like Google, Intel, Spotify, Netflix, Facebook all use Python. A knowledge of C and subsequently, Python, opens doors to some of the biggest tech giants.

- **High Salary Package**

Programmers, who upskill and deep dive into various specializations, go on to earn high-paying jobs. An entry-level Python developer can earn up to 4.2 lakhs while the national average salary of a Python developer is nearly 7.5 lakhs.



Why Opt for a Certificate Course from upGrad Campus



Excellent Mentors

Here's a chance to learn everything from industry experts as well as world-class faculties.



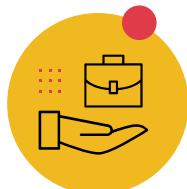
Specially Curated Curriculum

Get a chance to grab excellent skills you need to stroll through the world as a programming expert. The course has been designed by the renowned Yashwant Kanetkar who has authored some of the best books on C, C++ and other programming languages.



Student Support

Strong and friendly assistance from dedicated students throughout the program helps you clear your doubts. Attend live lectures or hang out with them, also known as hangout sessions, where you can learn and enjoy with subject matter experts. Be a part of discussion forums, Q&A to resolve your queries and reinforce learning.



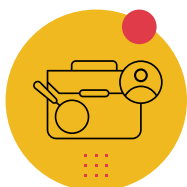
Employment Assistance

Get assured assistance on how to apply for an entry-level position in programming. The project and one-on-one sessions will help you land your dream job.



Multifaceted Development

The intensive nature of this course will allow you to master many basic and advanced topics in programming, C and Python, and Data Structures. This will give you an opportunity to explore several roles and specializations in the field of your choice.



Ready Set Go – Become Job Ready

You will get many opportunities to learn industry-relevant content that will give you an understanding of the challenges faced by renowned organizations in the tech space. You will also be able to apply these learnings to your jobs in live projects.



Benefits of the Program



Learn the industry relevant Skills

Learn skills LIVE from industry experts on a 1-on-1 basis and get access to dedicated upGrad Campus Mentors.



Get practical industry knowledge

Experience these technologies by applying to real-life industry projects, assignments & case studies.



Crack tech interviews

Master the essentials of programming and crack any of the coding interviews to land a dream job in a big organisation.



Personalized assistance

Personalised subjective feedback on your submissions to help you improve.



Course structure

Get 100+ hours of content through

LIVE Classes

Attend LIVE sessions by industry experts.

Recorded Videos

Learn through pre-recorded videos for some lessons.

TA Sessions

Practical & interactive doubt clearing sessions, project sessions, etc.

Skills you will learn

Fundamentals of C
Python Programming
Data Structures



Course Curriculum

Essentials of Programming

Fundamentals of C

Programming in C

Setting up C
Running a program in C
Decision Control Structure
Loop Control Structure

Arrays

Arrays and Array Applications
Arrays and Pointers
Multi Dimensional Arrays

Memory Allocation and File Operations

Memory Layouts in C Programs
Linked Lists
Secondary Data Types
Number System and Bitwise operator

Introduction to Fundamentals of C language

Case Control Structure
Function
Pointer
Data Type

Strings and Structures

Strings
Structures



Python Programming

An Introduction to Python

Getting Started with Python
Basics of Python

Functions in Python

Basics of functions
Recursive Functions
Functional Programming
Modules and Packages
Identifiers, Variables, and their scope

Object Oriented Programming in Python

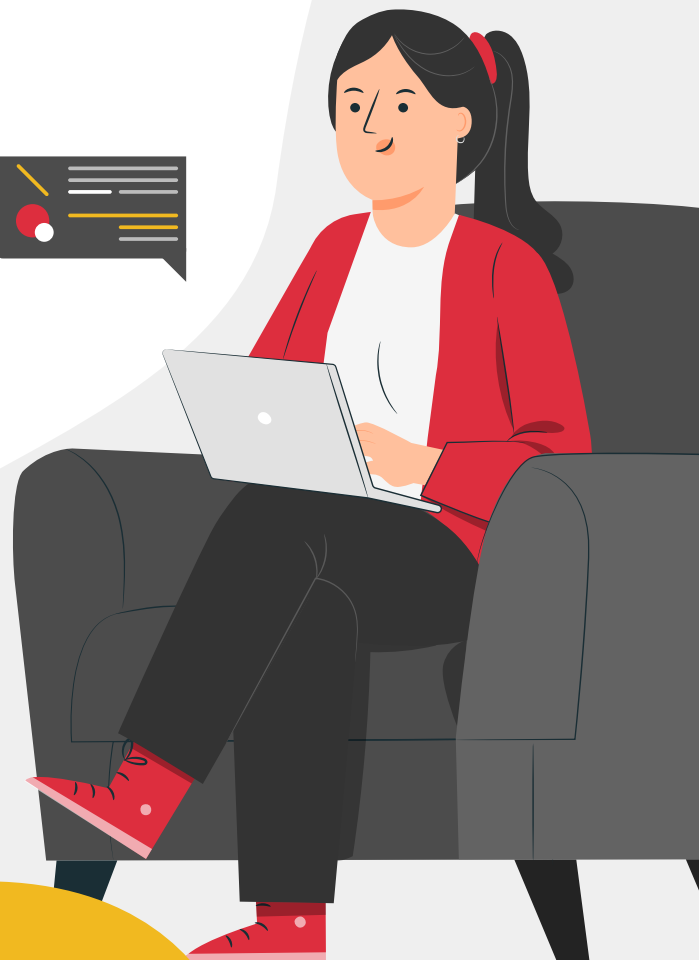
Classes in Python
Intricacies of Objects
Mechanisms for Code Reuse
Iterators and Generator Functions

Debugging in Python

Handling Errors and
Exceptions

Programming with Python

Python Expressions and instructions
Repetition Control Instructions aka loops
Interacting with consoles
Data representation using list
Data representation using tuples
Data representation using sets
Data representation using Dictionaries
Comprehensions in Python



Data Structures

Welcome to the Course

Introduction to the Course

Introduction to Data Structures and Algorithms

Problem Solving with Algorithms

Introduction to Data Structures

Introduction to Programming Concepts

Setting up C

Running a program in C

Decision Control Structure

Loop Control Structure

Case Control Structure

Assessments

Fundamental Concepts of data structures

Functions & Pointers

Data Types

Arrays & Structures

Linked Lists & Polynomials

Stacks & Queues

Assessments

Trees and their implementations

Tree terminologies

Binary Tree

Implementation of Binary Search Trees

Let's Code

Lab Session

Graphs terminologies and its various representations

Introduction to Graphs

Traversal methods and Spanning Tree

Assessments

Sorting and Searching Techniques

Linear Search and Binary Search

Sorting

Quick Sort Algorithm

Assessments

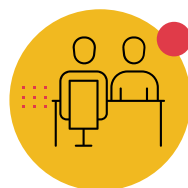


Placement and Career Support



Help polish your CV

An impressive CV will help you introduce yourself to the industry before you appear for an interview. We provide constructive feedback from industry experts, that make sure your CV stands out.



Get access to upGrad's exclusive job portal

Here you can increase your chances of landing an interview with a prospective employer by three fold.



Makes you job ready

Mock interviews with industry experts is the key to preparedness for you to face the employers in the real world with confidence.



Soft skill training

Get trained on group discussions and your personal skills with upGrad Campus training sessions.



Pick what's best for you

Ask/Talk to our experts to identify the best-suited career opportunities for you.



Job offers

You can secure a job after 3-6 months of enrollment with us through our hassle-free process.

Program Details

Course starts

**Please refer to the website
for program start dates**



Fee structure

₹ 20,000/-

Duration

4 Months



Program hours

Online sessions: 100+

For admissions contact

+91 8147354051

admissions.campus@upgrad.com

upGrad
Campus 

