DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS

COURSE MODULE: Introduction to Python

Course Coordinator: Prof. Prashant R Kaigaddi				Academic Year:**2024-25**	
Department: Bachelor of Computer Application					
Course Code	**Course Title**	**Core/Elective**	**Prerequisite**	**Contact Hours** L:T: P:S	**Total Hrs/ Sessions**
BBCA302	Introduction to Python	PCC		3:0:0:0	40-45(TH)

Course Learning Objective:

1. Understand basics of Python programming
2. Implement various data structures in Python programming
3. Understand implementation of OOP concepts using Python Programming.

Teaching-Learning Process (General Instruction):

1. Adopt different types of teaching methods to develop the outcomes through PowerPoint presentations and Video demonstrations.
2. Adopt collaborative (Group Learning) Learning in the class.
3. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills and develops thinking skills such as evaluating, generalizing, and analyzing information.

Module-1

Introduction: Python programming, history, features, Installing Python, Python Interpreter, IDLE, Keywords, Variables, Constants, Literals, Data Types, Data type conversion, Indentation, Comments, expression, statements, Input & Output functions, range() function , Operators: assignment (single value, multiple values),arithmetic, relational, logical.

TLP: Power Point Presentation, Chalk and Talk

Module-2

Conditional statements: if, if-else, elif, nested if; **Looping statements**: while, for, for each, nested loops; break, continue; Else statement with loop; **Functions Basics**: Built-in Functions, Declaring and calling user-defined functions, Parameters and default arguments, Fruitful functions and void functions, recursive functions.

TLP: Power Point Presentation, Chalk and Talk

Module-3

Strings: Creating and Storing Strings; Accessing Sting Characters; the str() function; Operations on Strings-
Concatenation, Comparison, Slicing and Joining, Traversing; Python built-in String Methods.

List: Creating Lists; Operations on Lists; Built-in Functions on Lists, Python built-in Methods, Nested Lists

TLP: Power Point Presentation, Chalk and Talk.

Module-4

Tuple: Creating Tuples; Operations on Tuples; Built-in Functions on Tuple;
Set: Creating Sets; Operations on Sets; Built-in Functions on Sets; Set Methods.
Dictionaries: Creating Dictionaries; Operations on Dictionaries; Built-in Functions on Dictionaries; Dictionary Methods;

TLP: Power Point Presentation, Chalk and Talk

Module-5

Object Oriented Programming: Defining a class, Instance members, Constructors, Inheritance (single, multi-level, multiple), Special methods (__init__(), __str__()), Polymorphism (method overloading, operator overloading)

TLP: Power Point Presentation, Chalk and Talk

Course outcome (Course Skill Set)

At the end of the course the student will be able to :

Sl. No. Description Blooms Level

CO 1. Understand basics of Python programming

CO2. Understand conditional, looping and function concepts

CO3. Apply string and list data structures to solve real world problems.

CO4. Apply tuple, set, and dictionary data structures to solve real world problems.

CO5. Understand implementation of OOP concepts using Python Programming.

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 50% (50 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

Three Unit Tests each of **20 Marks**

Two assignments each of **20 Marks** or **one Skill Development Activity of 40 marks** to attain the COs and POs

The sum of three tests, two assignments/skill Development Activities, will be **scaled down to 50 marks**

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

The SEE question paper will be set for 100 marks and the marks scored will be proportionately reduced to 50.

The question paper will have ten full questions carrying equal marks.

Each full question is for 20 marks. There will be two full questions (with a maximum of four sub-questions)from each module.

Each full question will have a sub-question covering all the topics under a module.

Suggested Learning Resources:

Books

1. Zero to Mastery In Python Programming by Rakesh K. Yadav, Srinivas Arukonda, Monu Singh, 2nd Edition, Vayu Education of India

2. Think Python How to Think Like a Computer Scientist, Allen Downey et al., 2 nd Edition, Green Tea Press. Freely available online @https://www.greenteapress.com/thinkpython/thinkCSpy.pdf, 2015.

3. Introduction to Python Programming, Gowrishankar S et al., CRC Press, 2019.

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code:BBCA302				TITLE: Introduction to Python					Faculty: PRASHANT R KAIGADDI		
List of Course Outcomes	Program Outcomes										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	2		3		2					
CO-2	3	3	2		3		2					
CO-3	3	3	3	2	3		2					
CO-4	3	3	3	2	3		2					
CO-5	3	3	3	2	3		2					
Total												

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contribution