



Open Elective – I

Course Title : Python Programming			
Course Code: P18CSO651	Semester : 6	L:T:P - 3 : 0 : 0	Credits: 3
Contact Period : Lecture :52 Hr, Exam: 3Hr		Weightage :CIE:50% SEE:50%	

Course Content

Unit-1

Why should you learn to write programs, Variables, expressions and statements, Conditional execution, Functions.

Self study component: Fruitful functions and void functions

11 Hours

Unit-2

Iteration, Strings, Files

Self study component: Using try, except, and open, Writing files

10 Hours

Unit-3

Lists, Dictionaries, Tuples, Regular Expressions

Self study component: Bonus section for Unix / Linux users

10 Hours

Unit-4

Object oriented programming, using Databases and SQL

Self study component: Spidering Twitter using a database.

11 Hours

Unit-5

Simple Graphics and Image Processing: “turtle” module; simple 2d drawing - colors, shapes; digital images, image file formats, image processing; Simple image manipulations with 'image' module (convert to bw, greyscale, blur, etc). Graphical user interfaces; event-driven programming paradigm; tkinter module, creating simple GUI; buttons, labels, entry fields, dialogs; widget attributes - sizes, fonts, colors layouts, nested frames.

Self study component: Manipulating a Turtle's Screen

10 Hours

Course outcomes: The students should be able to:

1. Develop python programs using modular approach.
2. Demonstrate proficiency in handling Strings and File Systems.
3. Implement Python Programs using data structures.
4. Develop application using object oriented and database concepts.
5. Create graphical user interface for the applications.

Text Books:

1. Charles R. Severance, “Python for Everybody: Exploring Data Using Python 3”, 1st Edition, CreateSpace Independent Publishing Platform, 2016. (http://do1.drchuck.com/pythonlearn/EN_us/pythonlearn.pdf)
2. Fundamentals of Python: First Programs- Kenneth Lambert, Course Technology, Cengage Learning, 2012, (module 5 –chapter 7 and 9) ([http://www.jgyan.com/courses/uploads/Fundamentals%20of%20Python_%20First%20Programs%20\[Lambert%202011-03-22\].pdf](http://www.jgyan.com/courses/uploads/Fundamentals%20of%20Python_%20First%20Programs%20[Lambert%202011-03-22].pdf))



Reference Books:

1. Charles Dierbach, "Introduction to Computer Science Using Python", 1st Edition, Wiley India Pvt. Ltd. ISBN-13: 978-8126556014
2. Mark Lutz, "Programming Python", 4th Edition, O'Reilly Media, 2011. ISBN-13: 978-9350232873
3. Wesley J Chun, "Core Python Applications Programming", 3rd Edition, Pearson Education India, 2015. ISBN-13: 978-9332555365
4. Roberto Tamassia, Michael H Goldwasser, Michael T Goodrich, "Data Structures and Algorithms in Python", 1st Edition Wiley India Pvt. Ltd, 2016. ISBN-13: 978-8126562176
5. Reema Thareja, "Python Programming using problem solving approach", Oxford university press, 2017

Course Articulation Matrix (CAM)														
Course Outcomes	Program Outcomes (PO's)												PSO's	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	1	2		1									
CO2	2	1	2		1									
CO3	2	1	2		1									
CO4	2	1	2		1									
CO5	2		2		1									