



SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act, 1956)

Re-accredited by NAAC with 'A++' Grade | Awarded Category - I by UGC

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

Course Name: Data Analysis Using Python
Course Code: T3499
Faculty: Computer Studies
Course Credit: 3
Course Level: 4
Sub-Committee (Specialization): Software Solutions Management
Learning Objectives:

The objective of this course is to learn data analysis techniques in python and effectively apply them in real life applications.

Books Recommended:

Book	Author	Publisher
Python Data Analysis - Second Edition 2nd , Kindle		
Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython Book by Wes McKinney,O'Reilly Media		
Python pandas documentation: http://pandas.pydata.org/pandas-docs/stable/tutorials.html		
Data Science from Scratch,First Principles with Python,By Joel Grus,Publisher: O'Reilly Media		

Course Outline:

Sr. No.	Topic	Actual Teaching Hours	Contact Hours Equivalence
1	Numpy: Arrays, Scalars, Array Processing ,Array input, output	6	0
2	Introduction to pandas: Series, Data Frame, Index, Rank, sort, Data Alignment, Missing data, Reading and Files, JSON,HTML,MS Excel files	10	0
3	Working with databases: Relational, NOSQL	7	0
4	Merge, concatenate, Reshape, pivot, Mapping, Rename, replace, binning, outliers, Permutation, Group by Data frames, Group by dictionary, series,Aggrigation,cross tabulation,Time Series analysis	12	0
5	Introduction to Scikit,Histogram, Linear Regression, logistic regression	10	0
Total		45	0

Pre Requisites:

Basics of python

Evaluation:

lab based evaluation
 Assignments
 Project
 Viva

Pedagogy:

Class discussion followed by practical