



SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act 1956)

Re - accredited by NAAC with 'A' Grade

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

(Established under section 3 of the UGC Act 1956, by notification No.F.9-12/2001-U3
Government of India)

Sub Committee - Specialization for Curriculum Development

Post Graduate/ Under Graduate

Course Name: Applied Data Analytics with Python

Course Code: T3490

(UG/PG): PG

Number of Credits: 3

Level: 4

Learning Objective(s): This course explores the applications of data analytics with Python programming.

Students are able to learn the different packages of Python on machine learning, neural networking, analysis of networks.

Students are also able to do hands on for problem solving.

Pre-learning:

Knowledge of Python programming along with data science packages. Introductory knowledge of neural network, data analytics.

Pedagogy:

- Class room sessions
- Hands on Practical
- Presentations
- Problem solving
- Case studies

Course Outline:

Sr.No.	Topic	Hours
1	Introduction to data analytics with Python: Web scraping and Database handling, Scraping Webpages ,Beautifulsoup package Real time project with web scraping, Handling database with python	8
2	Introduction to Machine learning: What is machine learning? Introduction to statistics, Types of Learning, Hypothesis space, inductive bias, Evaluation of hypothesis, Analysis of networks.	9
3	Machine Learning Algorithms: Linear regression algorithm, Decision tree algorithm, Linear regression vs Logistic regression KNN algorithm, Clustering with k-means, Building models and evaluation with Scikit, collective intelligence	12
4	Introduction to Big data: Hadoop ecosystem, HDFS, Mapreduce Hive	6
5	Case Studies to apply data analytics with Python	10
	Total	45

Books Recommended:


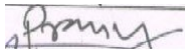
1. Introduction to Machine Learning with Python by Andreas C. Mueller, Sarah Guido 2016
2. Building Machine Learning Systems with Python by Luis Pedro Coelho, Willi Richert 2015
3. Advanced Machine Learning with Python by John Hearty 2016
4. Programming Collective Intelligence by Segaran 2007

Suggested Assessment/ Evaluation Methods:

Mid-term test
Case studies
Problem solving

Benchmarked against similar courses in other national/ international universities /organizations:

S.No.	Name of the course	Name of the university where it is offered
<u>1</u>	Introduction to python data analytics	University of Iowa, Iowa
<u>2</u>	Data Science and Big data	American University of Science & Technology, Lebanon.

Name of Member	Mr. Shrikant Mapari	Dr. Pravin S. Metkewar			
Designation	Assistant Professor	Associate professor			
Org. / Inst.	SICSR	SICSR			
Signature					

Name of Experts	Suhas Negi				
Designation	Developer				
Org. / Inst.	Zensar Technologies Ltd				
Signature					

Signature of Dean:

Date: 16/06/2017

