Vivekanand Education Society's

College of Arts, Science and Commerce

(Autonomous)

Sindhi Society, Chembur, Mumbai, Maharashtra - 400 071.
Accredited by NAAC "A Grade" in 3" Cycle-2017
Best College Award- Urban Area, University of Mumbai (2012-13)
Recipient of FIST Grant (DST) and STAR College Grant (DBT)

Credit Based System for Holistic Development

Syllabus for

T. Y. B. Sc. Data Science & Data Analytics

Undergraduate Program As per NEP 2020

With effect from academic year 2025-26

Courses Structure

B. Sc. (Data Science & Data Analytics) Program

B. Sc. (Data Science & Data Analytics) is a 3/4 year undergraduate course designed to provide theoretical and practical knowledge of Data Science & Data Analytics along-with core subjects inthe field of computer science and information technology. To master the skills, a learner should have strong mathematical, statistical and computational skills. The course aims to cover all the important subjects required for the same.

Course Highlights

Name of the Course	B.Sc. (Data Science & Data Analytics)
Level	**Undergraduate**
Duration	**3 /4 Years**
Minimum Academic Requirement	**10 + 2**
Minimum Aggregate Score Requirement	**Mathematics as compulsory subject in 12th**
Stream Requirement	**XII Science / Commerce / Arts** **with Mathematics subject (Merit List on Mathematics marks)**
Course mode	**Full – Time**
Exam Type	**Semester**

Objectives of the Course:

The objective of the course is –

- To get an understanding about the amount of data needed today for business decisions is increasing, which is covered in Machine Learning, Business Intelligence, and Big Data Analytics.
- To develop positive attitude and skills which enable them to become multi-facet personalities.
- To Prepare professionals conversant with current and advanced technological tools to carry out investigation, analysis and synthesis by developing various computer-oriented applications and solutions.
- To make them aware of effective machine learning and Artificial Intelligence-baseddata analytics and inference required for Industrial Application.
- To inculcate a passion for lifelong learning by introducing principles of group dynamics, public policies, environmental and societal context.

Outcomes of the Course

After completion of the course, students would be able to:

- Obtain data from a variety of sources. Know the principles of data and data sharing.
- Understand and be able to apply the basic tools for data cleaning and manipulation.
- Understand the concise, precise and rigorous nature of Data Science.
- Develop the skill to pleasant exposition for successful presentation for any career interview with confidence.
- Work as a team player striving for self-excellence and communicate effectively with an elite audience.
- Apply principles of data science and analytics in various domains

(THIRD YEAR) DIPLOMA IN DATA SCIENCE AND DATA ANALYTICS

Semester - V

TYPE OF COURSE	COURSE CODE	PAPER TITLE	CREDIT	No of Theory Lecturs per week	No of Practical Sessions per week
MAJOR	UMMDSS5-301	Data Engineering	4	4	
	UMMDSS5-302	Big Data Analytics	4	4	
	UMMDSS5-303	Practical of (Data Engineering AND Big Data Analytics)	2		4 Per Batch
MINOR	UMNDSS5-316	Computer Vision	3	3	
	UMNDSS5-317	Practical of Computer Vision	1		2 Per Batch
VSC	UVSDSS5-326	Data Visualization with Power BI	2		4 Per Batch
MAJOR ELECTIVE	UMEDSS5-311	Social media and Marketing Analytics	4	4	
	UMEDSS5-312	Sports and Healthcare Analytics	4	4	
FP	UFPDSS5-365	Field Project	2		
		Total	22		

(SECOND YEAR) DIPLOMA IN DATA SCIENCE AND DATA ANALYTICS

Semester - VI

Type of Course	COURSECODE	PAPER TITLE	CREDIT	No of Theory Lectures per week	No of Practical Sessions per week
MAJOR	UMMDSS6-301	Soft Computing	4	4	
	UMMDSS6-302	Natural Language Processing	4	4	
	UMMDSS6-303	Practical of (Soft Computing + Natural Language Processing)	2		4
MINOR	UMNDSS6-316	Deep Learning	3	3	
	UMNDSS6-317	Practical of Deep Learning	1		2
Major ELECTIVE	UMEDSS6-311	Cyber Security	4	4	
	UMEDSS6-312	Blockchain	4	4	
OJT	UJTDSS6-373	On The Job Training	4		
		Total Credits	22		