



**Symbiosis Skills and  
Professional University**

*(Recognised by UGC & Established under Govt. of Maharashtra Act No. XXXVII 2017)  
(Formerly known as Symbiosis Skills & Open University)*

## **Course Structure B.Sc. in Data Science**

### **Semester - I**

Basics of Data Science

Introduction to C Programming

Probability & Statistics

Linear Algebra and Basics of Calculus

Data Analysis using Spread Sheet (VBA)

Introduction to Business Domain-I

Communication Skills-I

### **Semester- II**

Object Oriented Programming using C++

Data Structures and Algorithm

Python programming -I

Database Management System (DBMS) with SQL

R Programming

Introduction to Business Domain-II

Communication Skill-II

INTERNSHIP/Project

### **Semester- III**

Python Programming-II

Big Data Architecture and Ecosystem

Machine Learning-I

Core Java

Data mining and data warehousing

Advanced Business Domain-I

Personal Enhancement Skill-I

#### **Semester-IV**

Machine Learning-II

Big Data Technologies using Hadoop

SPSS Programming

Advanced Java

Introduction to Artificial Intelligence

Advanced business Domain-II

Personal Enhancement Skill-II

INTERNSHIP/Project

#### **Semester-V**

Apache Spark and Scala

Data visualization using Tools

Data Security and Compliance

Basics of Data Management using Cloud

Introduction to Deep Learning

Professional Skills

#### **Semester- VI**

Environmental Studies (Online)

Full Time Industrial Training/ Internship/Project/Dissertation