

Vishwakarma University (VU), Pune

B.Tech in Artificial Intelligence & Data Science

4 Years – 8 Semesters Full Time Programme

Effective from AY 2024 – 2025

Programme Structure (NEP)

Choice Based Credit System (CBCS) and Grading System Outcome-Based Education

SEM-I

Applied Mathematics
Fundamental of Electronics
Computer Organization
Introduction to Computer Programming
Fundamental of Electronics Lab
Introduction to Computer Programming Lab
Web Technology Lab
Capstone Project-I
Induction Training
Indian Knowledge System Concepts and Applications in Engineering

SEM-II

Prompt Engineering
Linear Algebra and Statistics
Processor Architecture
Logic Development and Programming
Logic Development and Programming Lab
Processor Architecture Lab
Introduction to Microcontroller programming Lab
Technical Skill development Lab-I (OOP using C++)
Capstone Project-II
Corporate Communication

SEM-III

Statistical Data Analysis
Statistical Data Analysis Lab
Data Structures
Data Structures Lab
Financial Literacy and Banking
Project Based Learning - Python
Environmental Science-I
Discrete Structures
Ubiquitous Computing

SEM-IV

Decision Support System
Decision Support System Lab
Database Management System
Database Management System Lab
Technical Skill development Lab-2 (Java)
Project Management
From Campus to Corporate – I
Environmental Science-II
Theory of Computation
Fundamentals of Data warehousing

SEM-V

Design and analysis of algorithms
Operating System
Operating System Lab
Machine Learning for Data Science
Machine Learning for Data Science Lab
Computer Networks / Optimization Algorithms and Applications
Computer Networks Lab / Optimization Algorithms and Applications Lab
MOOC Course
Software Project Management
Intelligent System in Digital Forensics

SEM-VI

Predictive Modelling and Forecasting
Predictive Modelling and Forecasting Lab
Artificial Intelligence
Artificial Intelligence Lab
Natural Language Processing / DevOps
Natural Language Processing Lab / DevOps Lab
Fuzzy Systems and Pattern Recognition / Network Security and Cryptography
Fuzzy Systems and Pattern Recognition Lab / Network Security and Cryptography Lab
Advanced Web Technology
Cloud Computing

SEM-VII

Bigdata Analytics
Bigdata Analytics Lab
Seminar
Case Study
Internship
Secure AI Systems

SEM-VIII

Deep Learning for Data Science
Deep Learning for Data Science Lab
AI in Health Informatics
Bioinformatics
Computer Vision and Image Processing
Augmented Reality and Virtual Reality
Research Methodology
Major Project
Minor Project Track A

**B.Tech in Artificial Intelligence & Data Science with Honors and
Multidisciplinary Minor (Specialization Honors- Blockchain)**

Semester -III	Introduction to Cryptocurrency
Semester -IV	Application Security
Semester -V	Full Stack Development
Semester -VI	Blockchain Development
Semester -VII	Blockchain Applications
Semester -VIII	Honors Project

**B. Tech in Artificial Intelligence & Data Science with Double Minor
(Specialization minor-Cybersecurity)**

Semester -III	Cyber Security and Cyber Laws
Semester -IV	Network Security
Semester -V	Digital Forensics
Semester -VI	Cloud and Mobile security
Semester -VII	Security Architecture and Design
Semester -VIII	Network Security

**B.Tech in Artificial Intelligence & Data Science with Honors with Research
and Multidisciplinary Minor**

Semester -III	Introduction to Cryptocurrency
Semester -IV	Application Security
Semester -V	Full Stack Development
Semester -VI	Blockchain Development
Semester -VII	Research Project-I
Semester -VIII	Research Project-II