

# Vishwakarma University (VU), Pune

## Bachelor of Computer Science AI

4 Years – 8 Semesters Full Time Programme

Effective from AY 2023 – 2024

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
Indian Knowledge System concepts and applications in Engineering
Capstone Project
Induction training

### SEM-II

Corporate Communication
Prompt Engineering
Linear Algebra and Statistics
Processor Architecture
Logic Development and Programming
Logic Development and Programming Lab
Processor Architecture Lab
Technical Skill development Lab-1 (OOP using C++)
Computer Hardware Software Knowledge
Capstone Project

### SEM-III

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

## SEM-IV

Data Warehouse and Multidimensional Modeling
Data Warehouse and Multidimensional Modeling 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
Data Warehouse and Multidimensional Modeling
Data Warehouse and Multidimensional Modeling
Data Warehouse and Multidimensional Modeling Lab
Database Management System

## SEM-V

Design and analysis of algorithms
Operating System
Operating System Lab
Applied Machine Learning
Applied Machine Learning 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

Deep learning
Deep Learning 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
Seminar/ Case Study
Cloud Computing

## **SEM-VII**

Cluster Computing
Cluster Computing Lab
Seminar
Case Study
Internship
SWMA

## **SEM-VIII**

AI Ethics and Explainable AI
AI Ethics and Explainable AI Lab
AI in Health Informatics
Bioinformatics
Computer Vision and Image Processing
Augmented Reality and Virtual Reality
Research Methodology
Minor Project Track A

**B.Tech (CSE-Artificial Intelligence) 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 (CSE-Artificial Intelligence) 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 (CSE-Artificial Intelligence) 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