

B.Tech Artificial Intelligence & Data Science

Modern Course Architecture | Batch 2026-2030

Total Credit
160
8 Semester Structure

Foundation to Core Computing Architecture

The first four semesters build strong foundations in statistics, mathematics, computing, programming, database systems, data structures, application development, machine learning and project-based learning.

8
Semesters

160
Total Credits

AI + DS
Specialized Track

Projects
Practice-Based Learning

Year 1 & Year 2 Course Flow

Semester I

- Statistics for Data Science - I
- Mathematics for Data Science - I
- Computer Fundamentals
- Computational Thinking
- Language Skills for Engineers - I
- VAC / AEC Foundation Components
- Trans-disciplinary Project / Google Agentic AI

Semester II

- Statistics for Data Science - II
- Mathematics for Data Science - II
- Programming using Python
- Computer Organization & Architecture
- Language Skills for Engineers - II
- Prompt Engineering and AI Tools - I
- Trans-disciplinary Project / Google Agentic AI

Semester III

- Database Management Systems
- Data Structure & Algorithms Using Python
- Modern Application Development - I
- Programming Concepts Using Java
- Modern Application Development Project - I
- Language Skills for Engineers - III
- Prompt Engineering and AI Tools - II
- Trans-disciplinary Project

Semester IV

- Machine Learning Foundations
- Machine Learning Techniques
- Modern Application Development - II
- System Commands
- Business Data Management
- Application Development Project - II
- Business Data Management Project

Statistics

Mathematics

Python

DBMS

DSA

Java

Machine Learning

Application Development

Architecture Focus: The first half develops computing fundamentals, programming strength, database capability, AI-tool awareness and machine learning foundations through classroom learning, labs and trans-disciplinary projects.

Advanced AI, Data Science & Industry Readiness

B.Tech Artificial Intelligence & Data Science | Semester V to VIII

Total Credit
160

Internship + BTech Project

Advanced Specialization Architecture

The final four semesters focus on machine learning practice, tools of data science, deep learning, generative AI, software engineering, program electives, internships and a BTech project.

Semester V

ML Practice, DS Tools, ML Project & Internship

Semester VI

Software Engineering, Testing, AI Search & Deep Learning

Semester VII

Advanced Core, Electives & Internship

Semester VIII

Full Semester Internship / BTech Project

Year 3 & Year 4 Course Flow

Semester V

- Machine Learning Practice
- Tools of Data Science
- Machine Learning Project
- Program Elective - I
- Intro to Deep Learning & Generative AI
- Business Analytics
- Deep Learning & Generative AI Project
- Summer Internship

Semester VI

- Software Engineering
- Software Testing
- AI: Search Method for Problem Solving
- Deep Learning
- Strategies for Professional Growth
- Trans-disciplinary Project

Semester VII

- Core Course - VII.1
- Core Course - VII.2
- Program Elective - II
- Program Elective - IV
- Summer Internship

Semester VIII

- Internship BTech Project
- Industry Problem Solving
- Project Report & Presentation
- Final Technical Evaluation
- Career Portfolio Development

Graduate Outcome Architecture

By the end of the program, students develop a strong profile across **Artificial Intelligence, Data Science, Machine Learning, Deep Learning, Generative AI, Software Engineering, Application Development, Business Analytics, Projects and Internships**. The final year converts academic learning into industry-ready capability.

ML Practice

Data Science Tools

Deep Learning

Generative AI

Software Engineering

Software Testing

Program Electives

Internship

BTech Project

Note: Semester VII may be updated as per the final university-approved scheme.