



Programme: B.Sc. (Artificial Intelligence and Data Science)
Batch: 2025-28

1. Program Mission

The program aims to equip students with the necessary skills and competencies to excel as professionals in the fields of artificial intelligence, machine learning, data science, and computing applications. The program focuses on building a strong foundation in mathematics, computing fundamentals, programming, data analysis, and problem-solving skills. Students will develop the ability to communicate effectively with diverse stakeholders, while fostering a professional demeanor with a commitment to ethics, societal impact, and workplace diversity. The program encourages a drive for excellence, instils courage in conviction and action, and prepares graduates to address real-world challenges with innovative AI and data-driven solutions.

2. Programme Educational Objectives/Goals(PEOs)

- i. Students will be able to plan, design, develop, and troubleshoot AI-driven systems and data science solutions to address complex real-world problems in artificial intelligence and data science applications.
- ii. Students will apply a strong foundation in mathematics, algorithms, statistical techniques, machine learning principles, and data analysis practices to systematically solve problems and derive data-driven insights.
- iii. Students will assess the societal, ethical, cultural, legal, and environmental implications of AI and data science technologies and apply contextual knowledge to address their impact on sustainable development.
- iv. Students will apply modern AI and data science tools, programming languages, and machine learning frameworks to complex problems, understanding their capabilities, limitations, and appropriate usage in different contexts.
- v. Students will demonstrate professionalism, effective communication skills, and behavioral competencies that enhance their ability to collaborate, present solutions, and work effectively in diverse teams.
- vi. Students will be well-prepared for successful careers in AI, data science, and related fields within both Indian and multinational organizations or will pursue advanced studies in the domain.
- vii. Students will develop a strong understanding of professional ethics, responsibility, and the norms of AI and data science practices, ensuring their work aligns with industry standards.
- viii. Students will cultivate an awareness of the need for lifelong learning and continuous improvement in the rapidly evolving fields of artificial intelligence and data science.

3. Programme Operational Objective (POOs)

- i. The B.Sc. (AI & DS) programme intends to facilitate an academically conducive environment and infrastructure to achieve excellence in teaching, learning and research.
- ii. The B.Sc. (AI & DS) programme will provide ample opportunities to its students to participate in curricular, co-curricular and extra-curricular activities for their holistic development.
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- iv. The B.Sc. (AI & DS) programme will inculcate core values and ethical conduct amongst students, faculty, and staff members.
- v. The B.Sc. (AI & DS) programme will encourage cultural diversity and a sense of social and environmental responsibility.
- vi. The B.Sc. (AI & DS) programme will provide ample opportunities for international exposure to faculty members and students

Program Structure of Three Years B.Sc. (Artificial Intelligence and Data Science) Program

Semester - I			
Course Code	Course Name	Course Type	Credit Unit
CSIT143	Problem Solving using Computers & Python Programming	Allied Courses	6
CSE201	Database Management Systems	Core Courses	5
BC109	Communication Skills - I	Communication Skills	3
AIML105	Fundamentals of Artificial Intelligence	Core Courses	3
MATH114	Applied Mathematics- I	Allied Courses	4
	Foreign Business Language	VAC	2
Total			23
Semester -II			
Course Code	Course Name	Course Type	Credit Unit
CSIT365	Analysis of Algorithms and Data Structures	Core Courses	5
CSE416	Applied Probability and Statistics	Core Courses	3
BC206	Communication Skills - II	Communication Skills	3
CSE202	Operating System	Core Courses	4
CSIT118	IT Applications in Business	Human Social Sciences & Management Courses	3
CSIT359	Introductions to Data Science	Allied Courses	4

	Foreign Business Language	VAC	2
		Total	24
Semester - III			
Course Code	Course Name	Course Type	Credit Unit
AIML202	Machine Learning: Theory and Applications	Core Courses	4
BS105	Individual Excellence & Social Dynamics	Behavioural Science	3
CSE207	Digital Electronics and Computer Organization	Allied Courses	5
CSE454	Analysing, Visualizing and Applying data science with python	Core Courses	4
IT421	Cloud Infrastructure Services	Core Courses	4
ETTP101	Term Paper - I	Non Teaching Credit Course	3
	Foreign Business Language	VAC	2
		Total	25
Semester - IV			
Course Code	Course Name	Course Type	Credit Unit
BS208	Creativity for Team Excellence	Behavioural Science	3
CSIT606	Introduction to Data Analytics	Specialisation Elective Courses	5
CSE402	Digital Image Processing and Computer Vision	Core Courses	5
CSE471	Time Series Analysis for AI	Specialisation Elective Courses	5
CSE302	Data Communication and Computer Networks	Core Courses	4
CSIT151	Software Engineering and Software Modelling	Specialisation Elective Courses	6
	Foreign Business Language	VAC	2
		Total	25
Semester - V			
Course Code	Course Name	Course Type	Credit Units
CSIT373	Introduction to IoT	Core Courses	5
AIML203	Deep Neural Networks	Core Courses	4
CSE315	AI Tools	Domain Elective Courses	3
CSE461	A.I. in Autonomous Vehicles	Specialisation Elective Courses	4

CSE462	A.I. in Healthcare	Specialisation Courses	Elective	4
PFE301	Professional Ethics and Social Responsibility	Professional Ethics		2
ETMN100	Minor Project	Non Teaching Credit Course		4
	Foreign Business Language	VAC		2
Total				24
Foreign Business Language				
Course Code	Course Name	Course Type		Credit Unit
AIML303	Generative Artificial Intelligence (Generative AI)	Specialisation Courses	Elective	4
CSE469	Recommender System	Specialisation Courses	Elective	4
IT424	Big Data Analytics	Specialisation Courses	Elective	4
New Course	AI Model Deployment and MLOps	Specialisation Courses	Elective	4
ETMJ100	Major Project	Non-Teaching Credit Course		6
	Foreign Business Language	VAC		2
Total				20
Minimum Prescribed Credit Requirement - 143				

4. Education Outcome Assessment Plan:(as per the University format)

Type	Assessment/PLO
Direct	Comprehensive examinations
	End Semester Examinations
	Viva Voce
Indirect	Exit interviews
	External Reviewers

5. Programme Learning Outcomes (PLOs)

- i. The student will be able to apply in-depth knowledge of artificial intelligence, machine learning, data science, and related mathematical concepts to solve real-world problems.
- ii. The student will be able to design, analyse, implement, and evaluate AI and data science models, algorithms, and systems.
- iii. The student will be able to apply data analysis and machine learning techniques to

- process large datasets and extract meaningful insights.
- iv. The student will be able to communicate effectively, both written and oral, with technical and non-technical audiences.
 - v. The students will function effectively on teams and contribute to collaborative efforts in AI and data science projects.
 - vi. The student will be able to exhibit professional, ethical, and legal responsibility in AI and data science projects.
 - vii. Students shall be able to follow ethical principles/norms and commit to professional ethics and responsibilities/norms of AI and data science practices.
 - viii. The student will be able to strategize and manage AI and data science projects, applying business and management theories.
 - ix. The student will understand the importance of lifelong learning and staying updated with advancements in AI and data science.
 - x. The student will be able to assess the societal, cultural, and environmental impact of AI and data science solutions and develop sustainable solutions.
 - xi. The student will be able to create, compare, and analyse different methods for storing and retrieving information in the context of AI and data science.