

Orientation on AI&ML Stream based Open Elective Courses
DEPARTMENT OF INFORMATION TECHNOLOGY
Offered to all branches except CSE,AIML & IT

Today, AI technologies are widely used in healthcare, manufacturing, transportation, agriculture, finance, cybersecurity, robotics, smart cities, and many other domains. Recognizing the growing demand for AI-skilled professionals across all engineering disciplines, the Department of Information Technology offers an AI & ML Open Elective Stream that equips students with fundamental programming, mathematical foundations, artificial intelligence concepts, and machine learning techniques.

The stream is carefully structured to help students progressively build the knowledge and skills required to understand and apply AI technologies in their respective engineering domains.

Courses Offered

Semester	Course
III Semester	Computing using Python (2 Credits)
IV Semester	Essentials of Mathematics for Machine Learning using Python (3 Credits)
V Semester	Introduction to Artificial Intelligence (3 Credits)
VI Semester	Introduction to Machine Learning (3 Credits)

The stream is designed as a step-by-step learning journey:

III Semester – Computing using Python

Students learn programming fundamentals, data structures, functions, file handling, and problem-solving using Python, which serves as the primary programming language for AI and ML.

IV Semester – Essentials of Mathematics for Machine Learning using Python

Students gain the mathematical foundations required for AI, including linear algebra, probability, statistics, vectors, matrices, optimization, and numerical computing using Python.

V Semester – Introduction to Artificial Intelligence

Students explore intelligent agents, search algorithms, knowledge representation, reasoning, planning, expert systems, and the real-world applications of Artificial Intelligence.

VI Semester – Introduction to Machine Learning

Students learn supervised and unsupervised learning, regression, classification, clustering, model evaluation, feature engineering, and practical implementation of Machine Learning algorithms.

Why Should You Choose This Stream?

Artificial Intelligence is no longer limited to computer science and information technology. Every engineering discipline is increasingly adopting AI-enabled technologies to improve efficiency, automate processes, and support intelligent decision-making.

By choosing this stream, students will:

- Build a strong foundation for higher studies in AI, Data Science, Robotics, and Intelligent Systems.
- Strengthen their profile for campus placements and internships.
- Acquire practical knowledge applicable across multiple engineering domains.
- Be better prepared for interdisciplinary innovation and research.