Artificial Intelligence Course

Course Code:
Course Title: Artificial Intelligence
Semester:
Credits: 02

Rationale

This course provides an introduction to Artificial Intelligence (AI) and is designed for students from all professional and non-professional backgrounds, offering an accessible understanding of AI's impact on everyday file, business and society. Students explore fundamentals of AI, its applications and key components such as supervised, unsupervised, deep learning and reinforcement learning and explores AI applications across industries.

Course Outlines

Contents	No. of Lectures
Unit - I Introduction to AI: What is AI? Definition and History, Why do we need to study AI?, Branches of AI, Types of AI: Type-1; Type-2, Making machines think like humans. Intelligent Agent: Agents and Environments, Concept of Rationality, Nature of Environments, Types of Environments, Structure of Agents.	**4**
Unit -II The Building Blocks of AI: Understanding Data: Role of Data in AI, How AI Learns for Data (Supervised vs. Unsupervised) Introduction to Algorithms: Introduction to AI Algorithms, why are they important? Examples of AI Algorithms in Use Today. Machine Learning Technologies: Supervised Learning Methods, Unsupervised Learning Methods, Deep Learning, Reinforcement Learning.	**4**
Unit – III AI Applications: Application of Artificial Intelligence in areas like healthcare, business, finance, autonomous systems, automotive industry, agriculture, e-commerce, etc. Introduction to Generative AI: Deepfake, ChatGPT.	**4**

Course Outcomes

On completion of this course, the students will be able to:

1. Students able to understand what Artificial Intelligence is, its types, the concepts of Agents, different environments and working structures.
2. Understands role of data in AI and key components (Supervised, unsupervised, Deep Learning and Reinforcement Learning).
3. Students able to explore AI applications across different industries.

Text Books:

1. Artificial Intelligence: A Guide to Intelligent Systems, 3e, Michael Negnevitsky, Pearson Education, 2020

2. Artificial Intelligence Basics: A Non-Technical Introduction, Tom Taulli, Apress, 2019

Reference books:

1. The AI Advantage: How to Put the Artificial Intelligence Revolution to Work, Thomas H. Davenport, MIT Press, 2018
2. The Executive Guide to Artificial Intelligence, Andrew Burgess, Springer, 2024
3. AI for People and Business, Alex Castrounis, First Edition, O'Reilly Media, 2019