

## Artificial Intelligence & Machine Learning

### 25-Class Module (University Level, Python)

Course Duration: 25 hours (1 hour × 25 classes)

Level: University (Beginner-friendly)

Goal: Build fundamental AI/ML understanding with small projects

Class	Topic	Objectives	Practical / Activity
1	What is Artificial Intelligence?	Understand definition, history, applications	Discuss examples of AI in daily life
2	Types of AI (Narrow, General, Super AI)	Learn classification and examples	Compare real-world examples
3	AI Domains	Explore NLP, CV, Robotics, Expert Systems	Case study videos
4	Python for AI Basics	Review Python syntax, variables, loops	Write simple Python programs
5	AI vs ML vs Deep Learning	Understand differences and connections	Diagram or short quiz
6	What is Machine Learning?	Learn ML concepts and workflow	Simple data input-output example
7	Types of ML (Supervised, Unsupervised, Reinforcement)	Understand ML categories	Small dataset example in Python
8	Data Preprocessing	Learn cleaning, encoding, normalization	Use pandas to clean data
9	Train/Test Split & Model Evaluation	Learn how to divide and test data	Use train_test_split
10	Mini Project 1	Apply preprocessing + simple model	Predict student performance (CSV dataset)
11	Linear Regression	Understand regression basics	Predict house price using sklearn
12	Logistic Regression	Classification concept	Predict pass/fail or yes/no outcomes
13	Decision Tree Algorithm	Learn tree-based models	Visualize decision tree
14	Naïve Bayes Classifier	Understand probabilistic model	Spam detection example
15	Mini Project 2	Combine 2–3 models and compare accuracy	Simple comparison report
16	Introduction to Clustering	Learn concept of unsupervised learning	Visualize data groups
17	K-Means Clustering	Understand K-Means algorithm	Cluster iris dataset
18	Dimensionality Reduction (PCA)	Learn PCA basics	Reduce dataset features

19	Mini Project 3	Apply K-Means or PCA	Group customers by spending pattern
20	Introduction to Neural Networks	Understand neurons & perceptron	Simple perceptron demo
21	AI in Image Recognition	Understand basic CNN idea	Discuss image classification
22	AI in NLP (Text Analysis)	Intro to sentiment analysis	Text preprocessing with Python
23	Ethics in AI	Discuss fairness, bias, data privacy	Group discussion
24	Mini Project 4	Build final small project	Example: sentiment analysis / image classifier
25	Course Summary & Evaluation	Review all concepts, test understanding	Final quiz & feedback

- All Class get Recorded.
- Support Class Get via Google meet live.
- Get Update video on Sunday & Tuesday.
- Get certificate after complete the course.

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