

ARTIFICIAL INTELLIGENCE

This AI course covers all machine learning fundamentals, practical applications, working examples, and case studies. It gives detailed descriptions of important machine learning approaches used in predictive analytics. Main approaches are explained in very simple terms without using much technical jargon. Each approach is described using algorithms and mathematical models illustrated by detailed examples. The course is suitable for those with basic computer science, engineering, mathematics, or statistics background

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A. Course Framework		
Credits: L-T-P-C: 1 – 0 – 0 - 1		Syllabus Version: 1.0 Date:
Contact Hours / Week: 5	Total Contact Hours: 15	Level: 100
Prerequisite: (If applicable)	NA	
Course Learning Objectives:		
CLO1: Understand the fundamental concepts and techniques in artificial intelligence. CLO2: Appreciate the breadth of applications and techniques used in artificial intelligence. CLO3: Design and implement basic machine learning algorithms. CLO4: Identify and classify different types of natural language processing problems. CLO5: Understand the fundamentals of image processing		
Course Outcomes: On successful completion of the course, Students will be able to		
CO1: To provide an overview of fundamental concepts and techniques in artificial intelligence. CO2: To introduce the principles and applications of machine learning. CO3: To explore how natural language processing can be used in intelligent systems. CO4: To discuss the basics of vision and perception. CO5: To investigate reasoning and planning in artificial intelligence.		
B. Syllabus		
Module:1: INTRODUCTION TO AI		Hours: 5
<ul style="list-style-type: none"> - Introduction to the field of artificial intelligence. - Defining intelligence and the Turing Test. - Overview of AI applications. 		
Module:2: MACHINE LEARNING		HOURS: 6
<ul style="list-style-type: none"> - Supervised learning. - Unsupervised learning. 		

- Reinforcement learning.
- Optimization algorithms.
- Hands-on exercises in implementing basic machine learning algorithms.

Module:3: NATURAL LANGUAGE PROCESSING

Hours: 4

- Language models.
- Part of Speech tagging.
- Named Entity Recognition.
- Topic Modelling.
- Sentiment Analysis.
- Hands-on exercises in natural language processing.

C. References

1. Artificial Intelligence - *A Modern Approach* by Stuart Russell & Peter Norvig
2. Artificial Intelligence And Machine Learning *by Vinod Chandra S. S*