

4.2.5. Artificial Intelligence Courses (CAI)

CAI3101 Introduction to Artificial Intelligence

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
CCS1001 & CCS2401	3	5	2	2	0	3

COURSE AIM

- Understand the basic concepts of artificial intelligence.
- Understand state space representation.
- Compare different problem-solving strategies based on algorithms and heuristics.
- Understand the basic concepts of game trees.
- Understand the basic concepts of machine learning using supervised and unsupervised methods.

COURSE WEEKLY CONTENTS

- 1 Introduction to AI: Definition, History and Goals.
- 2 Intelligent Agents and Problem Solving.
- 3 State Space Representation and Search Techniques (Blind search) .
- 4 Search Techniques (Heuristic Search, ...).
- 5 A* Algorithm, Admissibility, Monotonicity and Informedness of a heuristic function.
- 6 Game trees and Alpha Beta Pruning Algorithm.
- 7 Propositional Logic
- 8 First Order Logic
- 9 Introduction to Machine Learning - Supervised Learning.
- 10 Supervised Learning cont.
- 11 Perceptron Learning Algorithm.
- 12 Artificial Neural Networks.
- 13 Unsupervised Learning (K-means).
- 14 New trends in Artificial Intelligence.
- 15 Course Review and Conclusion.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		30	MARKS		→	30
8 to 12	←		20	MARKS		→	20
1 to 15	←		10	MARKS		→	10
16 or 17	40	Final					40

REFERENCES

Textbook RUSSELL, GEORGE, Artificial Intelligence: A modern Approach, Pearson.