Primeasia University

Department of Computer Science and Engineering

Department: CSE	Semester : ○Spring ● Summer ○ Fall	Year	2	0	2	0

Course Outline

Course Code	:	CSE 333	CREDIT	:	3.0
Course Title	:	Artificial Intelligence	Class/Week	:	2

Academic Policy, Class Schedule, Rationale, Objective, LO, Skills & GCD

Administrative Information	Class Routine Day, Time and Venue for Lectures

Mosaddek Adnan Sikder
Lecturer
Department of CSE
Primeasia University, Banani.

Day	Room & Time
Monday	(Star 1610) 03.10 pm-04.40 pm
Wednesday	(Star 1610) 01.35 pm-03.05 pm

Office: Star-1602
Email:
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Cell: +8801685212708

Marks Distribution Policy

Attendance	5%
Assessment (CT, Presentation and Assignment)	25%
Midterm	20%
Final Exam	50%
Total	100%

Teaching Learning Equipments & Aids

Lecture, Orbit OCP, Class Discussion, White Board, Power Point Presentations, MMP, Assignment, Home work, Web Contents.

Grading Policy

Uniform Grading System	
80-100	A+
75-79	A
70-74	A-
65-69	B+
60-64	B
55-59	B-
50-54	C+
45-49	C
40-44	D
00-39	F

General Instruction

Receiving mobile call is prohibited
Sharing calculator is prohibited

Reference Books

1. Artificial Intelligence A Modern Approach By Stuart Russell & Peter Norvig (3rd Edition)

Course Description and Objectives:
This course provides an introduction to the fundamentals of artificial intelligence. It contains a theory component about the concepts and principles that underlie modern AI algorithms, and a practice component to relate theoretical principles with practical implementation. The course divides into four parts. The first part of the course discusses search algorithms (BFS, DFS, UCS, A*, Min-Max trees). The second part of the course discusses probability as a mathematical tool, Bayesian networks and hidden Markov models. The third part of the course overviews machine learning algorithms both supervised and unsupervised. An introduction to learning by reinforcement is included as well. The last part concerns logic and planning algorithms such as value iteration for MDP. Along the course we highlight application domains such as robotics (e.g. particle filters for perception) and natural language processing. The objective is to give an overall idea about the field without delving into advanced details whenever possible.

Learning Outcomes: Upon successful completion of this course, you will be able to:

- List the objectives and functions of modern Artificial Intelligence.
- Categorize an AI problem based on its characteristics and its constraints.
- Understand and implement search and adversarial (game) algorithms.
- Understand mathematical models such as belief networks and Markov decision processes and apply them to a range of AI problems.
- Have a glance at machine learning algorithms and extracting knowledge models from data.
- Learn different logic formalisms and decision taking in planning problems.
- Learn how to analyze the complexity of a given problem and come with suitable optimizations.
- Demonstrate practical experience by implementing and experimenting with the learnt algorithms.

The course will be able to transform following skills:

Transferable Skills

	Skills	How they are developed?
Transferable Skills	Critical Thinking	Problem solving
		Self study and Assignment
		Discussion
	Analyzing Information	Home works
		Book Review Assignment
		Discussion
	Presentation	Discuss the solving techniques
	Creativity	Implement and apply the knowledge
	Communication	Class Discussions
		Case Presentation
	Problem-Solving	Assignment
		Solving Problems

Primeasia University

Department of CSE

Summer Semester 2020

Course title : Artificial Intelligence   Credit : 3.0

Course code : CSE 333   Class/Week : 2

Class duration 90 Minutes

Weeks	Classes or Lectures	Following topics are to be taught	Remarks
Week 1	Lecture 1	Part I – Introduction to Artificial Intelligence • Introduction (Chapter 1) • Intelligent Agents (Chapter 2)	
	Lecture 2		
Week 2	Lecture 3	Part II – Problem Solving Techniques • Problem Solving by Searching (Chapter 3) • Beyond Classical Search (Chapter 4) • Adversarial Search (Chapter 5) • Constraint Satisfaction Problems (Chapter 6)	
	Lecture 4		
Week 3	Lecture 5		
	Lecture 6		
Week 4	Lecture 7		
	Lecture 8		Quiz
Week 5	Lecture 9		
	Lecture 10		
Week 6	Lecture 11		
	Lecture 12		Assignment
Week 7	Lecture 13	Part III – Logic & Planning Logical Agents (Chapter 7)	
	Lecture 14		
Week 8	Lecture 15	First-Order Logic (Chapter 8)	
	Lecture 16	Inference in First-Order Logic (Chapter 9) Classical Planning (Chapter 10)	Quiz
Week 9	Lecture 17	Part IV - Probability and Bayesian networks (Chapter 13,14)	
	Lecture 18		
Week 10	Lecture 19		
	Lecture 20		Assignment
Week 11	Lecture 21	Part V - Machine Learning (Chapter 18,19,20)	
	Lecture 22		
Week 12	Lecture 23		
	Lecture 24		Quiz
Week 13	Lecture 25	Part VI – Reinforcement Learning (Chapter 21)	
	Lecture 26		Assignment

Mosaddek Adnan Sikder

Name of the faculty member   Signature of the faculty member