

Artificial Intelligence

Course Name	Course type (credit/hours)	Elective course(3/3)		Course code	F043
	Target students Division/major/grade	Software and Computer Engineering/Senior		Opening semester	2019 2ND SEMESTER
	Class time and classroom	Mon E(Pal407)Wed E(Pal407)		English Grade	A(100%English)
Reference to this course	Prerequisite courses	자료구조 (Data Structure)			
	Related basic courses				
	Recommended concurrent courses				
	Related advanced courses				
Instructor	Name (title/division)		Minkoo Kim(Professor, Software and Computer Engineering)		
	Office Room Number	팔달관 606	Office phone Number	2437	e-mail
	Office hours	월, 목 13:30-14:30		Homepage address	
Teaching Assistant	Name (title/division)				
	Office Room Number		Office phone Number		e-mail

1. Introduction

In this course, I will introduce AI in general. Specifically, we will study definition and history of AI, intelligent searching algorithms, logic-based knowledge representation and reasoning, probability-based knowledge representation reasoning. I will also introduce machine learning and data mining. Specifically, we will briefly study classification, clustering, Bayesian Networks, Neural Networks, and reinforcement learning. Practically, we will solve some big data analysis and pattern recognition problem.

2. Course Objectives

교육목표

전산학을 전공하는 고학년학생들에게 지능적 프로그래밍의 기본적인 이해와 지능적 기술의 적용 방법을 습득케 하는 것을 목표로 한다.

교과목 학습성과

- 1) 서술 논리에 기반한 논리적 사고력을 키운다.
- 2) 지식공학에 기반한 선언적 지식 방법의 문제 해결 능력을 기른다.
- 3) 기계학습 이론과 방법을 배운다.
- 4) 지식표현 기계학습의 적용 능력을 기른다.

3. Class types and activities

lecture, homework, projects

4. Teaching Method

- | | |
|---|---|
| <input checked="" type="checkbox"/> lecture | <input type="checkbox"/> discussion and debate |
| <input checked="" type="checkbox"/> team project(presentation and case studies) | <input type="checkbox"/> experiments(role-playing,etc) |
| <input type="checkbox"/> designing and production | <input type="checkbox"/> on-site learning(on-site training) |
| <input type="checkbox"/> others | |

5. Support Systems in Use

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> AjouBb | <input type="checkbox"/> automatic recording system | <input type="checkbox"/> web-based assignment |
| <input type="checkbox"/> cyber lecture | <input type="checkbox"/> online content | |
| <input type="checkbox"/> class behavior analyzing system | <input type="checkbox"/> others | |

6. Teaching Tools

- | | | |
|--|---|---|
| <input type="checkbox"/> PBL(Problem Based Learning) | <input type="checkbox"/> CBL(Case Based Learning) | <input type="checkbox"/> TBL(Team Based Learning) |
| <input type="checkbox"/> UR(Undergraduate Research) | <input type="checkbox"/> FL(Flipped Learning) | <input type="checkbox"/> DSAL(Data Science Active Learning) |
| <input type="checkbox"/> others | | |

7. Knowledge and ability required for taking this course

자료구조 및 프로그래밍(C언어 혹은 Java) 능력을 요구한다.

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		10%	
midterm exam	1	30%	
final exam	1	30%	
quiz			
presentation			
discussion			
homework	6	24%	
etc	2	6%	quiz
study hours	6시간		

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Introduction to Artificial Intelligence	Wolfgang Ertel	Springer	2011

10. Class system and Class shedule

진도계획 참조

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introduction	K/E	Minkoo Kim	강의	중간지필고사	
2	Propositional Logic	K/E	Minkoo Kim	강의	중간지필고사	
3	First-order Predicate Logic	K/E	Minkoo Kim	강의	중간지필고사	
4	Logic Programming with PROLOG	K/E	Minkoo Kim	강의	중간지필고사	
5	Search, Games, and Problem Solving	K/E	Minkoo Kim	강의	중간지필고사	

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Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
6	Search, Games, and Problem Solving	K/E	Minkoo Kim	강의	중간지필고사프로젝트평가	
7	Reasoning with Uncertainty	K/E	Minkoo Kim	강의	중간지필고사, 프로젝트평가	
8	중간고사	K/E	Minkoo Kim	시험		
9	Reasoning with Uncertainty	K/E	Minkoo Kim	강의	숙제평가, 기말지필평가	
10	Machine Learning and Data Mining	K/E	Minkoo Kim	강의	숙제평가, 기말지필평가	
11	Machine Learning and Data Mining	K/E	Minkoo Kim	강의	숙제평가, 기말지필평가	
12	Machine Learning and Data Mining	K/E	Minkoo Kim	강의	숙제평가, 기말지필평가	
13	Neural Networks	K/E	Minkoo Kim	강의	프로젝트평가, 기말지필평가	
14	Neural Networks	K/E	Minkoo Kim	강의	프로젝트평가, 기말지필평가	
15	Reinforcement Learning	K/E	Minkoo Kim	강의	기말지필평가	
16	기말고사	K/E	Minkoo Kim	시험		

11. Other items of notification