AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Artificial Intelligence and Applications						
Course Code	MIS510		Couse Level	Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	181 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The aim of this course, students are informed to provide engineering applications of artificial intelligence and related matters.						
Course Content	Artificial intelligence, expert systems, fuzzy logic, artificial neural networks, Neuro-Fuzzy, Genetic Algorithm						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Demonstration, Discussion				
Name of Lecturer(s)							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	P.H. Winston, "Artificial Intelligence".
2	K. Parsaye, M. Chignell, "Expert Systems for Experts".
3	T.J. Ross, "Fuzzy Logic With Engineering Applications".
4	L.H. Tsoukalas, R.E. Uhrig, "Fuzzy and Neural Approaches in Engineering".
5	S. Haykin, "Neural Networks".

Week	Weekly Detailed Course Contents	
1	Theoretical	The basic principles of artificial intelligence
2	Theoretical	Expert systems, Knowledge Engineering, Expert system's general structure
3	Theoretical	Methods of presentation of information, search methods, Inference
4	Theoretical	Expert System Design, Forward chaining, Backward chaining
5	Theoretical	Probability and expert systems
6	Theoretical	Fuzzy sets, fuzzy sets properties, Fuzzy set operations
7	Theoretical	Fuzzy relations, membership functions, hypnotise
8	Theoretical	Inference techniques, rinsing techniques
9	Intermediate Exam	Midterm Exam
10	Intermediate Exam	Midterm Exam
11	Theoretical	Artificial Neural Networks
12	Theoretical	Artificial Neural Network
13	Theoretical	Applications of Neural Networks
14	Theoretical	Neuro-Fuzzy
15	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	16	0	3	48
Assignment	1	0	20	20
Individual Work	26	0	3	78
Quiz	2	0	5	10
Midterm Examination	1	0	10	10

Final Examination	1	0	15	15
		Total Workload (Hours)		181
		[Total Workload (Hours) / 25*] = **ECTS**		7

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Ability to understand the logic of fuzzy
2	Ability to understand the logic of genetic algorithm
3	The ability to design Intelligent System
4	The ability to design an intelligent system using techniques such as neural networks and expert system
5	The ability to understand issues related to Artificial Intelligent

Programme Outcomes *(Management Information Systems Master)*

1	Be aware of the different types of ınformation technologies and systems using in business, have enough knowledge to design a suitable system
2	Analyse the needs for an information systems and have control over the processes at the analysis, design and implementation stages of the database that belongs to the system
3	Convey information about current trends and their own studies both verbally and visually ways.
4	Be able to follow current developments in modern business techniques and technologies, especially information technologies
5	Understand the interaction between his departmant and other relational departmants, if necessary make a team, take responsibility and do the works with team.
6	Know the information technologies and systems using in different types of business, if necessary take the system responsibility.
7	Be aware of the social transformation especially in their own field and social, legal and moral responsbilities belongs to other work field.
8	Develop their knowledge to the level of expertise which they learn them in license level.
9	Carry out a work which requires an expertness in their field.
10	Construct and perform an academic work.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1		4	4	4	4
P2	4	4	5	4	5
P3		4	5	4	5
P4	4	4	5	4	5
P5	4	4	5	4	5
P6	4	4	5	4	5
P7	4	4	5	4	5
P8	4	4	5	4	5
P9	4		5	4	5
P10	4	4	4	4	5