Course Specifications

Course Title:	Artificial Intelligence
Course Code:	**CSI 411**
Program:	**Computer Sciences and Information**
Department:	**CSI**
College:	**Science in AL Zulfi**
Institution:	**Majmaah University**

Table of Contents

A. Course Identification

1. Credit hours: 3
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 7th Level
4. Pre-requisites for this course (if any)**:** Design and Analysis of Algorithms CSI 321
5. Co-requisites for this course (if any)**:** NA

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80 %
2	**Blended**	6	10 %
3	**E-learning**	3	5 %
4	**Correspondence**		
5	**Other**	3	5%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	20
3	**Tutorial**	10
4	**Others** (Presentations & group discussions)	
	Total	60
Other Learning Hours*		
1	**Study**	20
2	**Assignments**	15
3	**Library**	10
4	**Projects/Research Essays/Theses**	5
5	**Others** (seminars)	
	Total	50

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course provides an introduction to the types of problems and techniques in Artificial Intelligence. Problem-Solving methods and major structures used in Artificial Intelligence programs, constraint satisfaction problems. Study of knowledge representation techniques such

as predicate logic, non-monotonic logic, and probabilistic reasoning. Application areas of AI such as game playing, expert systems, Machine learning and natural language processing.

Project: cover some course areas using a logic programming tool (Prolog language for example).

2. Course Main Objective

1. Provide an introduction to Artificial Intelligence programming by exploring Common Lisp and Prolog languages.
2. Updating the study material of the course in order to incorporate the new research in the field.
3. Use online resources and animations to help students to enhance knowledge about the topics that are presented in the course.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Have an understanding of space search and search algorithms, logic based knowledge representation of issues in reasoning methods.	a1
1.2	Have an understanding of the limitations of current symbolic AI paradigm.	b3
2	**Skills :**	
2.1	Be able to select appropriate search paradigms for selected problems	b3
2.2	Be able to design a simple agent system with its associated ontology	c1
2...		
3	**Competence:**	
3.1		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction	4
2	Intelligent Agents	8
3	Problem solving	12
4	Lisp programming	8
5	Informed search methods	8
6	Constraint satisfaction problems	4
7	Adversarial search	4
8	Logical agents	4
9	First order logic	8
10	Inference in first order logic	8
11	Knowledge representation	8
12	Learning from observations	4
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Have an understanding of space search and search algorithms, logic based knowledge representation of issues in reasoning methods.	Lectures, Lab demonstrations Case studies Individual presentations	Written Exam Homework assignments Class & lab Activities Quizzes
1.2	Have an understanding of the limitations of current symbolic AI paradigm.	Lectures Lab demonstrations Case studies Individual presentations Team work Exercises	Written Exam Homework assignments Lab assignments Class Activities Quizzes
2.0	**Skills**		
2.1	Be able to select appropriate search paradigms for selected problems	Lectures. Lab demonstrations. Case studies. Individual presentations. Brainstorming.	Written Exam Homework assignments Lab assignments Class Activities Quizzes
2.1	Be able to design a simple agent system with its associated ontology		
3.0	**Competence**		
3.1	Work in groups and learn how to manage the time.	Small group discussions.	Written Exam Homework
3.2	Present short report in a written form orally using an appropriate scientific language.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First written mid-term exam	6	10%
2	Second written mid-term exam	12	10%
3	Presentation, class activities, and group discussion	Every week	10%
4	Homework assignments	After Every chapter	10%
5	Practical exam	15	20%
6	Final exam	16	40%
	Total		100%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Office hours: Sun: 1-3, Mon. 12-1, Wed. 12-1
Office call: Sun. 12-1 and Wed 9-10
Email: y.qawqzeh@mu.edu.sa

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Artificial Intelligence: A Modern Approach, Stuart Russell & Peter Norvig, Prentice Hall, Published Date: Dec 1, 2009
Essential References Materials	George F. Luger, Artificial Intelligence: structures and strategies for complex problem solving, Addison-Wesley; 6 edition, (March 9, 2011)
Electronic Materials	http://nptel.ac.in/courses/106105077/ http://cs.mcgill.ca/~jpineau/comp424/schedule.html
Other Learning Materials	Video and presentations that available with the instructor

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Laboratories are available at the college of science at Al-Zulfi.
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Boards, software, data shows and AV technological resources are available.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	N/A

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	