اعتماد
NCAAA

T4

2020

Course Specifications

Course Title:	Artificial Intelligence
Course Code:	501481-3
Program:	Bachelor in Computer Science
Department:	Department of Computer Science
College:	College of Computers and Information Technology
Institution:	Taif 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: 11/4

4. Pre-requisites for this course (if any)**: 501324-3**

5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4	80%
2	Blended		
3	E-learning	1	20%
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	40
2	Laboratory/Studio	
3	Tutorial	
4	Others (online)	10
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

Introduce fundamental concepts and techniques of intelligent systems. Topics include knowledge representation and interpretation, search strategies and control, active research and applications in intelligent agents and expert systems.

2. Course Main Objective

Students at the end of this course are able to:
- Develop intelligent systems by constructing programs to solve concrete computational problems.
- Knowledge of blind methods as well as informed search and ability to practically apply them to real life.

General understanding of major concepts and approaches of knowledge representation, and machine learning.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Represent the knowledge space of an AI problem	K1
2	**Skills :**	
2.1	Apply different search techniques within a given knowledge space.	S1
2.2	Use AI programming tools to write basic programs	S1
2.3	Apply different reasoning techniques	S1
2.4	Outline & design basic AI applications	S2
3	**Values:**	
3.1		
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Artificial Intelligence	Theory=5
2	Represent the Knowledge Space of an AI problem using variety of techniques (e.g. Semantic networks, production rules)	Theory=5
3	Search the Knowledge Space of an AI problem: uninformed search	Theory=5
4	Search the Knowledge Space of an AI problem: informed search	Theory=5
5	AI and Games	Theory=5
6	Logic Programming	Theory=5
7	Logic Programming (cont.)	Online=5
8	Expert Systems	Online=5
9	Reasoning under uncertainty	Theory=5
10	Artificial Neural Networks and Some applications of AI	Theory=5
	Total	50

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 and Understanding**		
1.1	Represent the knowledge space of an AI problem	Lectures	**Direct Assessment Tool** Quizzes / Homework/ Exams **Indirect Assessment Tool**

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Course Exit Survey
2.0	**Skills**		
2.1	Apply different search techniques within a given knowledge space.	Lectures Project	**Direct Assessment Tool** Quizzes / Homework/Project/ Exams **Indirect Assessment Tool** Course Exit Survey
2.2	Use AI programming tools to write basic programs	Lectures Project	**Direct Assessment Tool** Quizzes / Homework/Project/ Exams **Indirect Assessment Tool** Course Exit Survey
2.3	Apply different reasoning techniques	Lectures Project	**Direct Assessment Tool** Quizzes / Homework/Project/ Exams **Indirect Assessment Tool** Course Exit Survey
2.4	Outline & design basic AI applications	Lectures Project	**Direct Assessment Tool** Quizzes / Homework/Project/ Exams **Indirect Assessment Tool** Course Exit Survey
3.0	**Values**		
3.1			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	StudentParticipation/Attendance	Every week	5%
2	Project/Homework	Week6&9	15%
3	Quizzes	Week4&8	10%
4	MidtermExam	Week 5	20
5	Final exam	Week 10	50%

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 :

- 3 hours per week in pre-determined office hours
- Consultation by appointment (as needed)
- Through emails
- Through BlackBoardLearn

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• Artificial Intelligence: A Systems Approach.M. Tim Jones. Edition:2 Publication Year: 2008
Essential References Materials	• Artificial Intelligence: A Modern Approach Stuart Russell and Peter Norvig Edition: 3 Publication Year:2009
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom with 25 chairs
Technology Resources (AV, data show, Smart Board, software, etc.)	• Video projector / data show • White board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	TBA during the course

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Students • Faculty members • Coordinator • Council • Curriculum Committee	• Course exit survey • Feedback from Faculty members • Feedback from Course Coordinator • Feedback from council • Feedback from Curriculum Committees

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	• Students	Students surveys and Students course evaluation
Improvement of Teaching	• Course Coordinator	Deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	• Curriculum Committee	• Review CAF (Course assessment file) • Alumni surveys. Periodic exchange and remarking of tests or a sample of assignments with staff at another

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	CS council
Reference No.	Meeting #12
Date	23-10-1443