



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Artificial Intelligence Department

AI240 Introduction To Artificial Intelligence - JNQF Level: 7

First Semester 2023-2024

Course Catalog

3 Credit Hours. An introduction to the basic knowledge representation, problem solving, and learning methods of artificial intelligence. Topics will include specific AI techniques, a range of application areas, and connections between AI and other areas of study (i.e., philosophy, psychology). Techniques may include heuristic search, automated reasoning, machine learning, deliberative planning and behavior-based agent control. Application areas include robotics, games, knowledge representation, and natural language processing.

Text Book

Title	Artificial Intelligence: A Modern Approach
Author(s)	Stuart Russell and Peter Norvig
Edition	4th Edition
Short Name	Ref #1
Other Information	2020

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Artificial Intelligence: Foundations of Computational Agents	David L. Poole and Alan K	3rd Edition	2023
Ref #3	Artificial Intelligence with Python	Alberto Artasanchez and Prateek Joshi	2nd Edition	2020

Instructor

Name	Dr. Ahmad Alzubi
Office Location	-

Office Hours	Sun : 09:00 - 11:00 Mon : 11:00 - 13:00 Tue : 09:30 - 11:00 Thu : 09:30 - 11:00
Email	agalzubi@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: CH2109

Prerequisites		
Line Number	Course Name	Prerequisite Type
1732841	CS284 Analysis And Design Of Algorithms	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction	Ch 1 From Ref #1
Week 2	Intelligent Agent	Ch2 From Ref #1, Ch 1 - Ch 2 From Ref #2
Week 3	Solving Problems by searching	Ch 3 From Ref #1
Week 4	Search in Complex Environments	Ch 4 From Ref #1, Ch 3 From Ref #2
Week 5	Adversarial Search and Games	Ch 6 From Ref #1
Week 6	Logical Agents	Ch 7 From Ref #1
Week 7	Knowledge Representation	Ch 10 From Ref #1
Week 8	Automated Planning	Ch 11 From Ref #1
Week 9	Quantifying Uncertainty	Ch 12 From Ref #1
Weeks 10, 11	Machine Learning (MLP/NN/DL/RL)	Ch 19,22,23 From Ref #1, Ch 3 From Ref #3
Week 12	NLP and Chatbots	Ch 24 From Ref #1, Ch 16 From Ref #3
Weeks 13, 14	Robotics	Ch 26 From Ref #1
Week 15	Computer Vision	Ch 27 From Ref #1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method

Understand the objectives, functions, and use cases of modern Artificial Intelligence. [1SO1][1L7K1]	12%	Midterm Exam, Final Exam
Learn the foundation of intelligent agents, including AI agent capacities, design, functions, and structure. [1SO1][1L7K1]	12%	Midterm Exam, Final Exam
Understand and implement search and adversarial (game) algorithms. [1SO1][1L7K1]	18%	Midterm Exam, Final Exam
Learn different logic formalisms and decision-making in knowledge representation, reasoning, and planning problems. [1SO1][1L7K1]	10%	Final Exam
Have a glance at machine learning algorithms and extracting knowledge models from data [1SO1][1L7K1]	8%	Final Exam
Understand different modern AI areas, including NLP, Chatbots, Robotics, and Computer vision. [1SO1][1L7K1]	10%	Final Exam
Demonstrate practical experience by designing and implementing various applications or systems that act intelligently and learn from experience. [1SO6][1L7C4]	30%	Practical Assignments, Individual Project

Relationship to Program Student Outcomes (Out of 100%)					
SO1	SO2	SO3	SO4	SO5	SO6
70					30

Relationship to NQF Outcomes (Out of 100%)	
L7K1	L7C4
70	30

Evaluation	
Assessment Tool	Weight
Midterm Exam	30%
Final Exam	40%
Practical Assignments	15%
Individual Project	15%

Policy	
Attendance	Attendance is very important for the course. In accordance with university policy, students missing more than 20% of total classes are subject to failure. Penalties may be assessed without regard to the student's performance. Attendance will be recorded at the beginning or end of each class.
Assignments	Cheating is prohibited under JUST strict laws. No late submissions are accepted.
Exams	The format of the exams is theoretical and practical including multiple-choice, essay, and problem-solving questions.

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