جامعة الشرقية
A' SHARQIYAH UNIVERSITY

Proposed Academic Year	2021/ 2022	Last Reviewed Academic Year	2020/2021
Course Code	INTE460	Course Title	Artificial Intelligence
Credit hours	3	Level of study	Undergraduate
College / Centre	COBA	Department	MIFS
Co-requisites	None	Pre-requisites	

1. COURSE OUTLINE

[Artificial intelligence represents the new direction in information technology fields that recently has a high impact on both the society and the world economy. The course topics explore the various AI's basics and methodology. It introduces issues, including search techniques, machine learning techniques, and deep learning.

2. AIMS

This course aims to introduce the students with the fundamentals of AI including the various AI techniques, and concepts.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive) Upon successful completion of this course, students will be able to:	Teaching and Learning methods (Indicative)	Assessment (Indicative)	
1 Demonstrate an appropriate understanding of Artificial intelligence fundamentals	e.g., lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Commitment to national development and Omani ethical values. Innovative spirit. Global insight. Adaptability to changing environments.
2 Explain the power and capabilities of AI in presenting creative technologies by providing examples from current AI researches (e.g., driverless cars)	e.g., lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Commitment to national development and Omani ethical values. Innovative spirit. Global insight. Adaptability to changing environments.
3 Demonstrate a proper understanding	e.g., lectures, online videos tutorials and seminars, online group	e.g., tests, assignments,	Knowledge of a discipline.

of how to use AI technologies.	discussions using LMS, independent readings, individual or group work, presentation.	individual or group project, participation	Commitment to national development and Omani ethical values. Innovative spirit. Global insight. Adaptability to changing environments.
4 Ability to apply AI techniques in problem-solving	e.g., lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Commitment to national development and Omani ethical values. Innovative spirit. Global insight. Adaptability to changing environments.

4.   ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Mid-term Exam	30
Final Exam	30
Assignments	30
Participation	10
TOTAL	100%

5.   ACHIEVING A PASS

Students will achieve 3 credit hours for this course by achieving a minimum overall score of 50%
NB *Ensure that ALL learning outcomes are taken into account

6.   COURSE CONTENT (Indicative)

LECTURE TOPIC	TIME (HOURS)
Introduction to Artificial Intelligence	2
AI Basics	4
Fields of AI applications	4
AI with search techniques and games	
• Heuristics	4
• Pathfinding with A* search	4
• Game AI with Minmax algorithm	4
Regression	4

Classification	3
Trees for predictive analysis	3
Clustering	3
Deep learning with neural networks	4
Implementation of AI	3
AI challenges	1.5
AI Future	1.5
TOTAL HOURS	**45**
Plus **RECOMMENDED INDEPENDENT STUDY HOURS**	
TOTAL COURSE HOURS	**45**

7. RECOMMENDED READING

Core text/s:

1. Nagy, Z. (2018). *Artificial Intelligence and Machine Learning Fundamentals: .* Birmingham : Packt publishing.
   2. Ralf T. Kreutzer, Marie Sirrenberg. (2019). *Understanding Artificial Intelligence: Fundamentals, Use Cases and Methods for corporate AI Journey.* Switzerland: Springer.
   3. Taulli, T. (2019). *Artificial Intelligence Basics: A Non-Technical Introduction.* Monrovia: APress.

   4. Any other reading or online reading resources seen appropriate by the instructor>>

Library + online resources: ASU library
ASU online resources (ProQuest and ebrary)
Sultan Qaboos University Library (by agreement