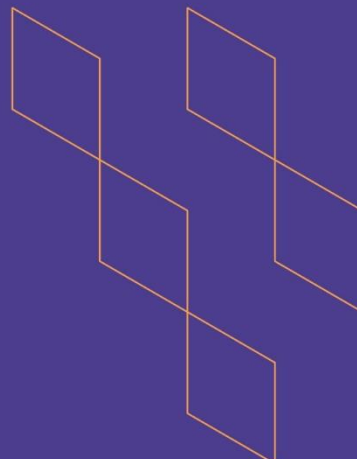




T-104
2022

Course Specification



Course Title: **Introduction to Artificial Intelligence**

Course Code: **IT11103**

Program: **Information Technology**

Department: **Information Technology**

College: **Computer Science and Information Technology**

Institution: **Albaha University**

Version: **1**

Last Revision Date: **30 March 2023**



Table of Contents:

Content	Page
A. General Information about the course	3
1. Teaching mode (mark all that apply)	4
2. Contact Hours (based on the academic semester)	4
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods	5
C. Course Content	6
D. Student Assessment Activities	6
E. Learning Resources and Facilities	7
1. References and Learning Resources	7
2. Required Facilities and Equipment	7
F. Assessment of Course Quality	7
G. Specification Approval Data	8



A. General information about the course:

Course Identification

1. Credit hours: 3

2. Course type

a. University College Department Track Others

b. Required Elective

3. Level/year at which this course is offered: Level 12 / Year 4

4. Course general Description

This introductory course provides a broad overview of the field of artificial intelligence (AI). It is designed for IT students who want to gain a foundational understanding of AI and its basic applications. It provides a broad overview of the field, covering the different subfields of AI and the basic concepts and techniques used in AI, such as machine learning, natural language processing, and computer vision. Moreover, the course explores the ethical and societal implications of basic AI, which are important considerations for IT professionals working with AI. The course also includes basic programming assignments and projects, which will help IT students develop practical skills in basic AI.

5. Pre-requirements for this course (if any):

N/A

6. Co- requirements for this course (if any):

N/A

7. Course Main Objective(s)

By the end of this course the student will be able to:

- Define the fundamental principles and concepts of artificial intelligence, including machine learning, natural language processing, and computer vision.
- Explain the key applications of artificial intelligence in various fields, such as healthcare, finance, and transportation.
- Apply basic machine learning techniques to solve problems, using programming languages such as Python.
- Use natural language processing tools to understand and analyze text data.
- Develop basic computer vision systems to recognize objects in images and videos.
- Evaluate the ethical and societal implications of artificial intelligence, such as bias, privacy, and job displacement.
- Communicate effectively about artificial intelligence, both orally and in writing, to non-technical audiences.



1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	44	100%
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	22
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	22
5.	Others (specify)	
	Total	44



B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define the fundamental principles and concepts of artificial intelligence, including machine learning, natural language processing, and computer vision.	K.1	Lectures	Quiz Exam
1.2	Explain the key applications of artificial intelligence in various fields, such as healthcare, finance, and transportation.	K.2	Case Study	Exam Assignment
...				
2.0	Skills			
2.1	Apply basic machine learning techniques to solve problems, using programming languages such as Python.	S.1 & S.5	Lectures Tutorial	Project
2.2	Use natural language processing tools to understand and analyze text data.	S.1 & S.2	Lectures Tutorial	Assignment
2.3	Develop basic computer vision systems to recognize objects in images and videos.	S.1 & S.2	Lectures Tutorial	Assignment
3.0	Values, autonomy, and responsibility			
3.1	Evaluate the ethical and societal implications of artificial intelligence, such as bias, privacy, and job displacement.	V.1	Case Study	Assignment Class Discussion





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.2	Communicate effectively about artificial intelligence, both orally and in writing, to non-technical audiences.	V.1	Assignment	Presentation
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to AI	2
2.	Data Mining	2
3.	Knowledge Representation	2
4.	Machine Learning	2
5.	Natural Language Processing	2
6.	Computer Vision	2
7.	Ethics in AI	2
8.	AI in Industry	2
9.	AI tools and Practices	2
10.	Future of AI	2
Total		22

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz	4	10
2.	Midterm exam	6	20
3.	Assignments	7	10
4.	Project	10	20
4.	Final exam	12-13	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)





E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<ul style="list-style-type: none"> • "Artificial Intelligence: A Modern Approach" by Stuart Russell and Peter Norvig • "Ethics of Artificial Intelligence" edited by Nick Bostrom and Eliezer Yudkowsky
Supportive References	<ul style="list-style-type: none"> • "Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow" by Aurelien Geron • "Artificial Intelligence Basics: A Non-Technical Introduction" by Tom Taulli • "Applied Natural Language Processing: Identification, Investigation and Resolution" by Andy Hunt
Electronic Materials	<ul style="list-style-type: none"> • CS50's Introduction to Artificial Intelligence with Python by Harvard University on edX • CS229: Machine Learning by Stanford University on YouTube
Other Learning Materials	<p>Open-Source Libraries:</p> <ul style="list-style-type: none"> • Scikit-Learn: A machine learning library for Python • TensorFlow: An open-source software library for dataflow and differentiable programming across a range of tasks • Keras: A high-level neural networks API, written in Python and capable of running on top of TensorFlow, CNTK, or Theano

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms, Labs
Technology equipment (projector, smart board, software)	Projector, AI-based software tools such as Python.
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students Peer Reviewer	Indirect/Indirect
Effectiveness of students assessment	Program Leader	Direct



Assessment Areas/Issues	Assessor	Assessment Methods
	Faculty	
Quality of learning resources	Peer Reviewer Faculty	Direct
The extent to which CLOs have been achieved	Course coordinator	Direct
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	30 MARCH 2023

