هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	**Fundamentals of Artificial Intelligence**
Course Code:	AI26101
Program:	Medical – Science – Engineering - computer
Department:	Computer Science
College:	**College of Computing & Information Technology**
Institution:	**University of Bisha, Bisha**
Version:	1
Last Revision Date:	2025-08-11

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A. General information about the course:

1. Course Identification

1. Credit hours: (2 Credit Hours)					
2. Course type					
A.	☒ University	☐College	☐Department	☒ Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: ()					
4. Course general Description:					
This introductory course gives bachelor's students a general understanding of artificial intelligence (AI) and its basic applications. This course introduces the core concepts, history, capabilities, and ethical considerations of Artificial Intelligence (AI). It covers core areas like machine learning, natural language processing, and computer vision, Generative AI, while also exploring the ethical and societal impacts of AI. The course highlights real-world applications, including tools like ChatGPT and image generators, and provides an understanding of how AI is transforming industries The course includes simple tasks to help students gain hands-on experience. The course is designed to be interdisciplinary, encouraging critical thinking about the role of AI in the modern world.					
5. Pre-requirements for this course (if any)**:**					
6. Co-requirements for this course (if any)**:**					
Null					
7. Course Main Objective(s):					
By the end of this course, the student will be able to: ➢ Understand the fundamental principles and concepts of artificial intelligence, including machine learning, large language models, 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. ➢ Evaluate the ethical and societal implications of artificial intelligence, such as bias, privacy, and job displacement. ➢ Apply the basics of prompt engineering and data science.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		
2	E-learning	45	100 %
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	**15**
2.	**Laboratory/Studio**	**30**
3.	**Field**	N/A
4.	**Tutorial**	N/A
5.	**Others (specify)**	N/A
Total		**60**

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	Understand the core concepts of artificial intelligence, including machine learning, Generative AI, LLMs, natural language processing, and computer vision.	K1	- Lectures - Case Study	- Quizzes - Midterm Exam - Graded Assignments - Final Exam
1.2	Explain the key applications of artificial intelligence in various fields, such as healthcare, finance, and transportation.	K1		
...				
2.0	Skills			
2.1	Use different AI tools	S1 & S2	- Lectures	- Quizzes

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.2	Apply prompt engineering effectively in Generative AI models	S1 & S2	- Lab Exercises. - Assignments	- Graded Lab Exercises - Midterm Test - Graded Assignments - Lab Test - Final Exam
2.3	Use basic computer vision systems to recognize objects in images and videos.	S3		
3.0	Values, autonomy, and responsibility			
3.1	Evaluate the ethical and societal Implications of artificial intelligence, such as bias, privacy, and job displacement.	V1	- Case Study	- Graded Assignments
3.2				

C. Course Content

No	List of Topics	Contact Hours
1.	**Introduction to AI** - Definition and types of AI. - Historical milestones in AI development. - Differences between human and artificial intelligence. - Addressing popular AI myths	**4**
2.	**Branches of AI (including Generative AI)** - Symbolic AI vs. data-driven AI. - Machine learning vs. deep learning. - Introduction to Generative AI and its real-world use cases.	**4**
3.	**Intelligent Agents** - Definition and structure of intelligent agents. - Types: reflex, goal-based, utility-based, learning agents. - Agent-environment interaction. - Rationality and performance measures	**4**
4.	**Basics of Machine Learning** - Supervised vs. unsupervised learning. - Basic steps in building a machine learning model.	**6**
5.	**Neural Networks & Deep Learning** - Basics of neural networks and structure. - Simple classification and prediction models.	**6**
6.	**Large Language Models (LLMs)& Generative AI & Prompt Engineering** - What is Generative AI and how it works. - Examples of LLMs: ChatGPT, Claude, Gemini, etc. - Introduction to prompt engineering and how to use it effectively.	**6**
7.	**Computer Vision**	**6**

	- Understanding how machines see images and video. - Applications like face recognition, object detection, and image classification.	
8.	**Introduction to Data Science** - Relationship between data science and AI. - Introduction to data exploration and visualization.	**5**
9.	**Ethics in AI** - Bias in AI systems and algorithmic fairness. - Privacy concerns and job automation. - Global efforts and regulations related to AI ethics.	**2**
10.	**Future of AI** - General vs. Narrow AI. - Future challenges: alignment, ethics, and automation.	**2**
Total		**45**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes and Assignments	4th, and 10th	**10%**
2.	Midterm Exams	8th week	**20%**
3.	Lab Exam	13th week	**10%**
4.	Lab Exercise	Weekly	**10%**
5.	Final Exam	End of the semester	**50%**
	Total		**100%**

*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	Russell & Norvig, *Artificial Intelligence: A Modern Approach*, Global Edition, 4th Edition, Pearson, 2020.
Supportive References	*Melanie Mitchell, "Artificial Intelligence: A Guide for Thinking Humans"*
Electronic Materials	http://aima.cs.berkeley.edu/index.html
Other Learning Materials	Videos (YouTube)

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom and Laboratory
Technology equipment (projector, smart board, software)	Internet, Data show, Smart Board
Other equipment (depending on the nature of the specialty)	Teachable Machine, Scratch, DALL·E, ChatGPT

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct
Effectiveness of Students assessment	Program Leaders	Direct
Quality of learning resources	Students	Direct
The extent to which CLOs have been achieved	Program Leaders	Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**DPARTMENT OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE**
REFERENCE NO.	**2/14**
DATE	**11/8/2025**