COURSE DESCRIPTION FORM

INSTITUTION _____FAST-NUCES_____

BS Computer Science

PROGRAM (S) TO BE EVALUATED

A. Course Description

(Fill out the following table for each course in your computer science curriculum. A filled out form should not be more than 2-3 pages.)

Course Code	AI 2002
Course Title	Artificial Intelligence
Credit Hours	3+1
Prerequisites by Course(s) and Topics	OOP
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	**Midterm Examination (2) 30 %** **Assignment (3) & Quizzes (3) 20% (10% each)** **Term Project 10%** **Final Exam 40%**
Course Coordinator	Dr. Kashif
URL (if any)	

Current Catalog Description	This is a under-graduate level course introducing the vast field of Artificial Intelligence. The course introduces Search, Game Playing, Logic, Inference and Machine Learning. The course has special focus on Machine Learning, as it is widely used in today's AI system. The topics of ML are taught in the first part of the course, so the students can create a ML project in the lab part of the course.	
Textbook (or **Laboratory Manual** for Laboratory Courses)	Artificial Intelligence: Modern Approach, (3rd & 4th ed.), Stuart Russel and Peter Norvig. http://aima.cs.berkeley.edu/	
Reference Material		
Course Goals		
Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)	**Week 1**	**Introduction** Background & History, Agents, Environment, Search Space
	Week 2	**Uninformed Search** DFS, BFS, IDS
	Week 3	DLS, Bidirectional, UCS
	Week 4	**Informed Search** Best first,
	Week 5	A*
	Week 6	**Local Search** Hill Climbing, Genetic Algorithms
	Week 7	Genetic Algorithms
	Week 8	**Adversarial Search** Min Max, Alpha-beta
	Week 9	**Supervised Machine Learning** Linear Regression
	Week 10	Multiple Regression
	Week 11	Neural Networks, MLP
	Week 12	Back propagation
	Week 13	**Clustering** K means, K Medoid,
	Week 14	Nearest Neighbours, Agglomerative
	Week 15	**Expert Systems**

	Week 16		**Project Evaluation**	
Laboratory Projects/Experiments Done in the Course	A Project was assigned to student. It was a group activity. .Labs are arranged for 1 additional credit hour			
Programming Assignments Done in the Course	3			
Class Time Spent on (in credit hours)	**Theory**	**Problem Analysis**	**Solution Design**	**Social and Ethical Issues**
	20	12	12	1
Oral and Written Communications	Project viva of each student typically 5 minute's duration.			

Instructor Name Muhammad Saif ul islam

Instructor Signature _____

Date ____22-May-2023_____