Course Description Form

1. Course Name:
Soft Computing
2. Course Code:
CSCS4115
3. Semester / Year:
1st – 2024/2025
4. Description Preparation Date:
1/10/2023
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
2 Theoretical + 2 Lab.
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed T. Sadiq Email: ahmed.t.sadiq@uotechnology.edu.iq
8. Course Objectives

Course Objectives	1. Learn what artificial neural networks are 2. Study 5 types of artificial neural network algorithms 3. Learn about genetic algorithms 4. Study the details of the genetic algorithm

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic title	Teaching Method	Assessment Method
1	2	1,2,5	Concept of ANN	Mix	Discuss
2	2	1,2,5	ANN Properties	Mix	Discuss
3	2	1,2,5	Hopfield NN	Mix	Discuss

4	**2**	**1,2,5**	**BAM NN**	**Mix**	**Discuss**
5	**2**	**1,2,5**	**Single Layer NN**	**Mix**	**Discuss**
6	**2**	**1,2,5**	**BP – NN**	**Mix**	**Discuss**
7	**2**	**1,2,5**	**BP – NN**	**Mix**	**Discuss**
8	**2**	**1,2,5**	**Kohonen - NN**	**Mix**	**Discuss**
9	**2**	**1,2,5**	**GA Concepts**	**Mix**	**Discuss**
10	**2**	**1,2,5**	**GA Components & Parameters**	**Mix**	**Discuss**
11	**2**	**3,4,5**	**GA Examples**	**Mix**	**Discuss**
12	**2**	**3,4,5**	**Fuzzy Logic**	**Mix**	**Discuss**
13	**2**	**3,4,5**	**Fuzzy Set & Membership Fun.**	**Mix**	**Discuss**
14	**2**	**3,4,5**	**Fuzzy Inference**	**Mix**	**Discuss**
15	**2**	**1,2,3,4,5**	**Examination**	**Mix**	**Examination**

11. Course Evaluation

15 Exam.
10 Assessment
15 Lab.
60 Final Exam.

12. Learning and Teaching Resources

Required textbooks (curricu books, if any)	
Main references (sources)	Teaching lectures Book (Intelligent Systems and Machine Learning) Artificial Neural Nets book. Genetic Algorithms book Fuzzy Logic Book
Recommended books and references (scientific journals, reports…)	
Electronic References, Website	