Course Description Form

1. Course Name:
Digital Signal Processing
2. Course Code:
CSCN2104
3. Semester / Year:
First Semester 2024-2025
4. Description Preparation Date:
10/2/2024
5. Available Attendance Forms:
In classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
30 H/2 Units
7. Course administrator's name (mention all, if more than one name)
Name: Saeed Ridha Saeed Email: saeed.r.saeed@uotechnology.edu.iq

8. Course Objectives	
Course Objectives	Introducing the student, including the digital signal and how things develop in the signal, and the techniques used in comprehensive and understanding the issues related to distinguishing the patterns described.

9. Teaching and Learning Strategies	
Strategy	Methodological books, resources (internet and library), lectures reinforced with illustrative examples. Theoretical lectures, equipment to present practical ideas to students (data show).

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical	1,3,5,6,7	Introduction to DSP	Lectures + Video	Attendance + answer discussion questions

2	2 Theoretical	1,3,5,6,7	Sampling Theorem	Lectures + Video	Attendance + answer discussion questions
3	2 Theoretical	1,3,5,6,7	Discrete Time Signal	Lectures + Video	Attendance + answer discussion questions
4	2 Theoretical	1,3,5,6,7	Discrete Time System	Lectures + Video	Attendance + answer discussion questions
5	2 Theoretical	1,3,5,6,7	Classification of Discrete Time System	Lectures + Video	Attendance + answer discussion questions
6	2 Theoretical	1,3,5,6,7	Analysis of Discrete Time linear Time invariant systems	Lectures + Video	Attendance + answer discussion questions
7	2 Theoretical	1,3,5,6,7	Type of Convolution	Lectures + Video	Attendance + answer discussion questions
8	2 Theoretical	1,3,5,6,7	Properties of Convolution	Lectures + Video	Attendance + answer discussion questions
9	2 Theoretical	1,3,5,6,7	Deconvolution	Lectures + Video	Attendance + answer discussion questions
10	2 Theoretical	1,3,5,6,7	Linear Constant Coefficient Difference Equation (FIR & IIR)	Lectures + Video	Attendance + answer discussion questions
11	2 Theoretical	1,3,5,6,7	Correlation of DT System	Lectures + Video	Attendance + answer discussion questions
12	2 Theoretical	1,3,5,6,7	Fourier Analysis DFT	Lectures + Video	Attendance + answer discussion questions
13	2 Theoretical	1,3,5,6,7	Fast Fourier Transforms	Lectures + Video	Attendance + answer discussion questions
14	2 Theoretical	1,3,5,6,7	Wavelet Transform_ Haar Wavelet	Lectures + Video	Attendance + answer discussion questions

15	2 Theoretical	1,3,5,6,7	Inverse Wavelet	Lectures + Video	Attendance + answer discussion questions

11. Course Evaluation

Attendance - oral exams and tests - mid-course exam - end-of-course exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not required
Main references (sources)	S. Palani - Principles of Digital Sign Processing-Springer (2022)
Recommended books and references (scientific journals, reports...)	Thomas Holton - Digital Signal Processing Principles and Applications-Cambridge University Press(20
Electronic References, Websites	