Course Description Form

1. Course Name:	
Multimedia Data Compression	
2. Course Code:	
CSMM4221	
3. Semester / Year:	
2nd Semester 2024-2025	
4. Description Preparation Date:	
1/2/2025	
5. Available Attendance Forms:	
weekly Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total):	
30 Hours theoretical and 30 Hours practical/ 3 units	
7. Course administrator's name:	
Name: Zainab Ali Yakoob	
Email: Zainab.a.yakoob@uotechnology.edu.iq	
8. Course Objectives	

Course Objectives	1- learning the advance topics of image compression. 2- learning the advance topics of video compression. 3- learning the advance topics of audio compression.

9. Teaching and Learning Strategies

Strategy	**A- Knowledge and Understanding** A1: Enable the student to know and understand the theoretical advance principles multimedia data compression. A2: The student describes how to build all multimedia data compression methods used today. A3: Enable the student to know and understand the practical applications for multimedia data compression. A4: To Impart the skills needed to develop compression applications, student will learn how to analyze and build compression methods. **B- Subject-specific skills** B1: Logical thinking B2: Giving the students tasks to design different models by using advanced programming languages to motivate the students to acquire skills. **C- Thinking Skills** C1: Ability to work in teams C2: Ability to solve problems and think collectively **D- General and Transferable Skills (other skills relevant to employability and personal development)** D1: Using theoretical and practical tools in the design and implementation of interfaces to create interaction between the user and the computer. D2: Using modern tools of communication to interact with the work team to solve a specific problem D3: The ability to manage time while working as a team.

10.	Course Structure				
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2 Theory 2 Lab	1,2,5,6,7	Image Compression JPEG Compression	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
2	2 Theory 2 Lab	1,2,5,6,7	The Discrete Cosine Transform Quantization.	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
3	2 Theory 2 Lab	1,2,5,6,7	Coding Progressive Image Compression	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
4	2 Theory 2 Lab	1,2,5,6,7	Video Compression Digital Video	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
5	2 Theory 2 Lab	1,2,5,6,7	Differencing Block difference	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
6	2 Theory 2 Lab	1,2,5,6,7	Motion Compensation	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
7	2 Theory 2 Lab	1,2,5,6,7	MPEG Compression	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
8	2 Theory 2 Lab	1,2,5,6,7	MPEG-1 Main Component	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
9	2 Theory 2 Lab	1,2,5,6,7	MPEG-4 H.261	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
10	2 Theory 2 Lab	1,2,5,6,7	Audio Compression Digital Audio	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
11	2 Theory 2 Lab	test	Oral Exam, Quiz	test	Answering correctly
12	2 Theory 2 Lab	1,2,5,6,7	Conventional Audio	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
13	2 Theory 2 Lab	1,2,5,6,7	Compression Methods Lossy So Compression	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
14	2 Theory 2 Lab	1,2,5,6,7	μ-Law and A-Law Companding	Regular lecture, Lab. task	Attendance, Discussion, Lab evaluation
15	2 Theory 2 Lab	test	mid Exam Practical Exam	Test	Answering correctly

11. Course Evaluation

60	final exam
5	attendance
5	quizzes
5	lab evaluation
10	lab exam
15	theoretical exam
Total = 100	

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Personal Lectures
Recommended books and references (scientific journals, reports..)	-Data Compression the Complete Reference, Davide Salamon, fourth edition, Springer. -Handbook of Data Compression Fifth Editio Springer-Verlag London Limited 2010.
Electronic References, Websites	