Course Description Form

1. Course Name:
Multimedia security 2
2. Course Code:
CSMM4216
3. Semester / Year:
Second Semester 2024-2025
4. Description Preparation Date:
16/1/2025
5. Available Attendance Forms:
weekly Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60 H/3 Units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Muna Ghazi Abdulsahib Email: muna.g.abdulsahib@uotechnology.edu.iq
8. Course Objectives

Course Objectives	• Learn the basic concepts of multimedia security , Data security and information hiding • Understanding digital watermarking, Steganography,multimedia authentication, digital rights management. • Understand the Steganography algorithms.

9. Teaching and Learning Strategies

Strategy	**A- Knowledge and Understanding** A1: Enable the student to know and understand the theoretical principles of windows programming and turn them into programming functions for implementation. A2: The student describes how to build all programming interfaces in windows systems using the functions designated for that. A3: Enable the student to know and understand the practical applications of window programming. A4: To Impart the skills needed to develop windows applications, Student will learn how to design windows and various components of windows, keyboard events, graphics and text, file handling. **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 theoretical 2 laboratories	1,4,5,6,7	Introduction to Information Hiding, Principles of Steganography	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
2	2 theoretical 2 laboratories	1,4,5,6,7	Frameworks for Secret Communication	lectures + Video lectures +	Attendance + answer discussion

				Application in the laboratory	questions
3	2 theoretical 2 laboratories	1,4,5,6,7	Security of Steganography Systems	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
4	2 theoretical 2 laboratories	1,4,5,6,7	Active and Malicious Attackers	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
5	2 theoretical 2 laboratories	1,4,5,6,7	Steganography techniques	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
6	2 theoretical 2 laboratories	1,4,5,6,7	Steganalysis Introduction and Terminology	lectures + Video	Attendance + answer

				lectures + Application in the laboratory	discussion questions
7	2 theoretical 2 laboratories	1,4,5,6,7	A Chaotic Encryption Scheme	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
8	2 theoretical 2 laboratories	1,4,5,6,7	Secure Wavelet Transform	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
9	2 theoretical 2 laboratories	1,4,5,6,7	Basic Watermarking Principles and types	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
10	2 theoretical 2 laboratories	1,4,5,6,7	Watermarking applications	lectures +	Attendance

				Video lectures + Application in the laboratory	+ answer discussion questions
11	2 theoretical 2 laboratories	1,4,5,6,7	Watermarking Techniques	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
12	2 theoretical 2 laboratories	1,4,5,6,7	Multimedia Fingerprinting	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
13	2 theoretical 2 laboratories	1,4,5,6,7	Biometric Recognition	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions

14	2 theoretical 2 laboratories	1,4,5,6,7	Biometrics Techniques	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
15	2 theoretical 2 laborato		Second semester exam	lectures + Video lectures + Application in the laboratory	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)	1-Embedded Multimedia Security Systems Algorithms and Architectures, Prasant Mohapatra, Springer-Verlag London 2013. 2- Cryptography and Network Security, William Stalling , 2003 3- Information Hiding Techniques for Steganography and Digital Watermarking, Stefan Katzenbeisser & Fabien A. P. Petitcolas, , 2000.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	