Course Description Form

1. Course Name:
Multimedia security 1
2. Course Code:
CSMM4115
3. Semester / Year:
First Semester 2024-2025
4. Description Preparation Date:
16/9/2024
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 and Data security. • Understanding digital watermarking, data encryption, multimedia authentication, digital rights management. • Understand the security 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 of multimedia and Data security	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
2	2 theoretical 2 laboratories	1,4,5,6,7	MthematicalBackground, How Compute the Grea common deviser (GCD), compute the Inv, Explain	lectures + Video lectures +	Attendance + answer discussion

			the methods to find Euler notation.	Application in the laboratory	questions
3	2 theoretical 2 laboratories	1,4,5,6,7	Types of traditional ciphers systems, Introduction of transposition cipher systems	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
4	2 theoretical 2 laboratories	1,4,5,6,7	Types of substitution cipher systems types, Mono alphabetic substitution cipher systems	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
5	2 theoretical 2 laboratories	1,4,5,6,7	Homophonic substitution cipher systems	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
6	2 theoretical 2 laboratories	1,4,5,6,7	polyaphabetic substitution cipher systems(Vigener cipher)	lectures + Video	Attendance + answer

				lectures + Application in the laboratory	discussion questions
7	2 theoretical 2 laboratories	1,4,5,6,7	polygram substitution cipher systems(playfair cipher, hill)	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
8	2 theoretical 2 laboratories	1,4,5,6,7	DES algorithm	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
9	2 theoretical 2 laboratories	1,4,5,6,7	Introduction of Stream ciphers, One time Pad system (vernam system)	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
10	2 theoretical 2 laboratories	1,4,5,6,7	The requirements of stream cipher, The Basic Five Randomness tests,	lectures +	Attendance

			Poker test , run test, auto correlation test.	Video lectures + Application in the laboratory	+ answer discussion questions
11	2 theoretical 2 laboratories	1,4,5,6,7	Introduction to public key systems (secrecy and authenticity)	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
12	2 theoretical 2 laboratories	1,4,5,6,7	RSA algorithm (encryption and decryption processes)	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
13	2 theoretical 2 laboratories	1,4,5,6,7	Public-key digital signature algorithms (RSA)	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions

14	2 theoretical 2 laboratories	1,4,5,6,7	Introduction to Information Hiding	lectures + Video lectures + Application in the laboratory	Attendance + answer discussion questions
15	2 theoretical 2 laborato	1,4,5,6,7	First 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	