

1. Course Name:					
Data security I					
2. Course Code:					
CSL4138					
3. Semester / Year:					
First Semester / fourth					
4. Description Preparation Date:					
17-11-2025					
5. Available Attendance Forms:					
Weekly (Theory: 2 hours, Practically: 2 hours)					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Theory: 30 Hours Practically: 30 hours Total: 60 hours Total Units: 6					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Abdul Monem Salih Rahma Email: monem.rahma@muc.edu.iq					
8. Course Objectives					
Course Objectives	Data security focuses on protecting data from unauthorized access, maintaining its integrity and availability, and preventing it from leaving the organization. This extends to many aspects of a user's day-to-day routine and at Forcepoint this largely covers activities in the cloud, web, email, network and endpoint.				
9. Teaching and Learning Strategies					
Strategy	1. The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.				
2. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	Th.:2 Pr.: 2	1,2,5,6,7	Security, Confidentiality, Threats to confidentiality, Integrity, Availability,	Presentation and writing board	Formative/Summative assessment

			Authentication, Nonrepudiation Security Attack, Basic Terminology, Basic Cryptographic Algorithms		
2	Th.:2 Pr.: 2	1,2,5,6,7	Cryptographic Random Number Generators, Strength of Cryptographic Algorithms	Lect. & Lab	Quiz
3	Th.:2 Pr.: 2	1,2,5,6,7	Cryptanalysis and Attacks on Cryptosystems	Presentation and writing board.	Homework
4	Th.:2 Pr.: 2	1,2,5,6,7	Information hiding (steganography and water marking)	Lect. & Lab	Exam
5	Th.:2 Pr.: 2	1,2,5,6,7	Mathematical Background, Prime Numbers , Greatest Common Divisor(GCD), (LCM)Least Common Multiple, Modular, Euler Function,	Presentation and writing board..	Quiz
6	Th.:2 Pr.: 2	1,2,5,6,7	Inverse Algorithm (inv), Fast Exponential.	Lect. & Lab.	Homework
7	Th.:2 Pr.: 2		Classical Encryption, Transposition Ciphers, Keyless Transposition Ciphers, Keyed Transposition Ciphers, Combining Two Approaches, Double Transposition Ciphers	Presentation and writing board..	Exam
8	Th.:2H Pr.: 3H	1,2,5,6,7	and Caesar Cipher, Multiplicative Ciphers , Affine Ciphers ,polybious cipher	Lect. & Lab.	Quiz
9	Th.:2H Pr.: 3H	1,2,5,6,7	Polyalphabetic Ciphers, Autokey Cipher, Vigenere Cipher, Beaufort Cipher , Running Key Cipher	Presentation and writing board..	Homework
10	Th.:2H Pr.: 3H	1,2,5,6,7	Polygraphic Ciphers, Playfair Cipher, Hill Cipher,	Lect. & Lab.	Exam assessment
11	Th.:2H Pr.: 3H	1,2,5,6,7	Other Ciphers Codes, AscciBea Cipher, Book Cipher	Lect. & Lab.	Quiz

12	Th.:2H Pr.: 3H	1,2,5,6,7	Monoalphabetic Ciphers, Additive Cipher , Shift Cipher	Lect. & Lab.	Homework

3. Course Evaluation

The grade distribution is as follows:

Assessment: Formative 40 marks, Monthly exam 10 marks

Final exam: Theory 40 marks, Practical 10 marks

4. Learning and Teaching Resources

Required textbooks (curricular books any)	1- William Stallings, Cryptography and Network Security, (Principles Practice), 2003 2- William Stallings, Cryptography and Network Security, (Principles and Practice), 2011
Main references (sources)	Managing Cisco Network Security: Building Rock-Solid Networks,2000
Recommended books and references (scientific journals, reports...)	Managing Cisco Network Security: Building Rock-Solid Networks,2000 1- William Stallings, Cryptography and Network Security, (Principles and Practice), 2003 2- William Stallings, Cryptography and Network Security, (Principles and Practice), 2011
Electronic References, Websites	GitHub, Inc. is a platform and cloud-based service for software development and version control using Git, allowing developers to store and manage their code.