Course Description Form

Description of the location

This course description provides a concise summary of the main features of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the available learning opportunities. It must be linked to the course .description .The program

Shatt al-Arab University	1 Educational institution .
Computer Science	2 Scientific Department / Center .
Data and computer security	3 Name/Code of the . headquarters
My presence	4 forms of Available . attendance
Second semester/ 2024-2025	5 semester/year .
200	6 Number of study hours (total) .
August 13, 2026	7 Date this description was . prepared

8 Course objectives .

Studying different algorithms to protect important information is part of the .requirements of encryption

Course outcomes, teaching, learning and assessment methods .9
Learn the fundamentals of information security and the principles and foundations of
. related fields, such as cryptography and cybersecurity

A- Cognitive objectives
.Possessing the infrastructure for cryptography and information protection -1
. Learn the basics of cybersecurity -2
Building a foundation to protect networks from hacking -3
Identify the types and categories of data protection methods, including encryption -4
.and concealment

B-Skill objectives of the course
Building software data protection methods and techniques -1
Dealing with network hackers' methods -2

Teaching and learning methods

1- In-person lectures
2- Practical laboratory lectures
3- Reports
4- Seminars
5- rapid tests

Evaluation methods

Module Evaluation

evaluation The material Academic

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab .	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hours	10% (10)	7	LO # 1- 7
	Final Exam	2 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

C- Emotional and value goals -1 -2 -3 -4
Teaching and learning methods 1-
D - General and transferable skills (other skills related to employability and . (personal development Information Technology -1 Detecting network intrusions-2 Programming -3
Course structure .10

Curriculum plan

	Learning method	Unit name/topic	Required learning outcomes	watches	week
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	,Introduction classifications of cryptography methods and techniques			the first
	1- In-person lectures 2- Practical laboratory lectures	- Encryption - Transmission Methods			the second

	3- Reports 4- Seminars 5- rapid tests	and Double Columns Columns			
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Classic substitution ,methods - addition multiplication, and combination			the third
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 6- Quick tests, in-person lectures 7- Practical laboratory lectures 8- Reports 9- Seminars 5- rapid tests	Classical Substitution Methods - Vigener's Algorithm			Fourth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Classical Substitution Methods - Playfair's Algorithm			Fifth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Cryptography Mathematics			Sixth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Modern and traditional encryption			Seventh

	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Stream encryption algorithms			The eighth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Stream cipher vs. block cipher			Ninth
		Feedback shift register			tenth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Some methods of stream encryption algorithms			eleventh
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	SimplifiedRC4 algorithm			twelfth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Public key encryption andthe RSA algorithm			thirteenth
	1- In-person lectures 2- Practical laboratory lectures 3- Reports 4- Seminars 5- rapid tests	Public key algorithms and reliability			fourteenth
	1- In-person lectures 2- Practical laboratory lectures	Artificial intelligence problems and			fifteenth

	3- Reports 4- Seminars 5- rapid tests	information security applications			
	lectures + practical lectures	Preparing for end-of-course exams			sixteenth

Infrastructure .11	
nothing	Required textbooks -1
1- Applied of cryptography 2- Handbook of applied of cryptography mathematics of cryptography , cryptography and network security	Main references (sources) -2
	a) Recommended books and ,references (scientific journals (.reports , etc
	,b) References Electronic .....,websites

Curriculum development plan .12

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