Faculty: Information Technology	
Department: Cybersecurity	**Program: Bachelor**
Academic Year: 2023/2024	**Semester: 2nd**

Course Plan

First: Course Information

Course No.: 1506140	*Course Title: CyberSecurity Fundamentals*	*Credit Hours: 3*	*Theoretical: 3*	*Practical: 0*
Prerequisite No. and Title: -	*Section No.: 3*	*Lecture Time: 11-12:30 (Mon, Wed)*		
Level in JNQF	*6*			
Type Of Course:	□ *Obligatory University Requirement* □*Obligatory Faculty Requirement* ■*Obligatory Specialization Requirement* □ *Ancillary course*	□ *Elective University Requirement* □ *Elective Faculty Requirement* □*Elective Specialization Requirement*		
Type of Learning:	■ *Face-to-Face Learning* □ *Blended Learning (2 Face-to-Face + 1 Asynchronous)* □ *Online Learning (2 Synchronous+ 1 Asynchronous)*			

Second: Instructor's Information

Course Coordinator		
Name: Dr. Suha Afaneh		*Academic Rank: Assistant Professor*
Office Number: 230 B	*Extension Number: 6306*	*Email: s.afaneh@zu.edu.jo*
Course Instructor		
Name: Dr. Suha Afaneh		*Academic Rank: Assistant Professor*
Office Number: 230 B	*Extension Number: 6306*	*Email: s.afaneh@zu.edu.jo*

Office Hours:	*Sunday*	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
	12:00-1:00	*12:30-1:30*	*12:00-1:00*	*12:30-1:30*	*12:00-1:00*

Third: Course Description

Students will gain the basic knowledge to CyberSecurity, and the relationship of CyberSecurity to countries, companies, society and people. Students will learn about CyberSecurity techniques, processes, and procedures in which they learn how to analyze the threats, vulnerabilities, and risks present in these environments, and develop appropriate strategies to mitigate potential CyberSecurity problems.

Fourth: Course Objectives

1. Introducing the student to the fundamental concepts of CyberSecurity.
2. Demonstrating the concepts of Confidentiality, Integrity, and Availability (CIA)
3. Explaining the Security Controls in several levels.
4. Comparing threat actors, threat vectors, Malware types and social engineering.
5. Showing types of Cryptography and their effect on security.
6. Introducing digital Forensics.

Fifth: Learning Outcomes

Level descriptor according to (JNQF)	*CILOs Code*	*CILOs* If any CLO will not be assessed in the course, mark NA.	*Associated PILOs Code* *Choose one PILO for each CILO**	*Assessment method* *Choose at least two methods*
Knowledge	**K1**	Define the essential facts, concepts, principles, and theories of CyberSecurity.	**PK1**	• Mid-term Exam • Final Exam
	K2	Explain the basic uses of CyberSecurity	**PK1**	• Quizzes • Mid-term Exam • Final Exam
	K3	Explain the recent trends in CyberSecurity.	**PK2**	• Mid-term Exam • Final Exam
	K4	Demonstrate the concepts of Confidentiality, Integrity, and Availability (CIA)	**PK3**	• Quizzes • Mid-term Exam • Final Exam
Skills	**S1**	Compare risks, vulnerabilities, and threats.	**PS1**	• Mid-term Exam • Final Exam
Competencies	**C1**	Develop effective communication skills needed for group collaboration.	**PC1**	• Participation

*CILOs: Course Intended Learning Outcomes; PILOs: Program Intended Learning Outcomes; For each CILO, the PILO could be the same or different.

Sixth: Learning Resources

Main Reference:	***CyberSecurity Fundamentals: A Real-world Perspective.***		
Author: Kutub Thakur, Al-Sakib Khan Pathan	***Issue No.: 1sted.***	***Print:***	***Publication Year: 2020***
Additional Sources and Websites:	• ***CompTIA Security+ Study Guide: Exam SY0-601, 8th Edition, John Willey& Sons, 2021, ISBN: 978-1-119-73625-7*** • ***Cisco course: CyberOps associate*** • ***Cisco course: Introduction to CyberSecurity*** • ***National CyberSecurity Strategy 2018-2023***		
Teaching Type:	■ ***Classroom*** □ ***Laboratory*** □ ***Workshop*** ■ ***MS Teams*** ■ ***Moodle***		

Seventh: Course Structure

Lecture Date	Course Intended Teaching Outcomes (CILOs)	Topics	Teaching Procedures*	Teaching Methods**	References***
W1	K1	-Introduction: - CyberSecurity definition - Cybersecurity Objectives	Face-to-Face	Lecturing , quizzes and assignments	Chapter2, Security+ Chapter1
W2	K1,K4	- CIA - Security Controls	Face-to-Face	Lecturing , quizzes and assignments	Chapter2, Security+ Chapter1
W3	K1, K2, K3	- Identity and Access Management	Face-to-Face	Lecturing , quizzes and assignments	Chapter7, Security+ Chapter8
W4	K1, K2, K3	- Threat Actors.	Face-to-Face	Lecturing , quizzes and assignments	Chapter 3, Security+ Chapter2
W5	K1, K2, K3	- Malware Types	Face-to-Face	Lecturing , quizzes and assignments	Chapter 5, Security+ Chapter 3
W6	K1, K2, K3	- Common Attacks	Face-to-Face	Lecturing , quizzes and assignments	Chapter 5, Security+ Chapter 3
W7	K1, K2, C1	- Blocking Malware and Other Attacks	Face-to-Face	Lecturing , quizzes and assignments	Chapter 5, Security+ Chapter 3
W8	K1, K2, S1	-Risk Management	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter16
W9	K1, K2, S1	-Risk Management	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter16
Midterm Exam					
W10	K1, K2	-Physical Security Controls	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter 9
W11	K2, K3	-Redundancy and Fault Tolerance	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter 9
W12	K2, K3	-Protecting Data with Backups	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter 9
W13	K2, K3	-Cryptography Concepts	Face-to-Face	Lecturing , quizzes and assignments	Chapter7, Security+ Chapter8
W14	K2, K3, K4	-Hashing	Face-to-Face	Lecturing , quizzes and assignments	Chapter7, Security+ Chapter8
W15	K2, K3, K4	-Symmetric Encryption -Asymmetric Encryption	Face-to-Face	Lecturing , quizzes and assignments	Chapter9+10, Security+ Chapter7
W16	K3, C1	-Digital forensics	Face-to-Face	Lecturing , quizzes and assignments	Security+ Chapter 15
Final Exam					

*Teaching procedures: (Face-to-Face, synchronous, asynchronous). ** Teaching methods: (Lecture, video….).

*** Reference: (Pages of the book, recorded lecture, video….)

Eighth: Assessment Methods

Methods	Online Learning	Blended Learning	Face-To-Face Learning	Specific Course Output to be assessed **If any CILO will not be assessed in the course, mark NA.					
				K1	K2	K3	K4	S1	C1
First Exam									
Second Exam									
Mid-term Exam			35	✓	✓	✓	✓	✓	
Participation			5						✓
Asynchronous Activities									
Quizzes			10		✓		✓		
Assignments									
Group presentation									
Final Exam			50	✓	✓	✓	✓	✓	
Total out of 100			100						

Ninth: Course Policies

- All course policies are applied to all teaching patterns (online, blended, and face-to-face Learning) as follows:
  a. Punctuality.
  b. Participation and interaction.
  c. Attendance and exams.
- Academic integrity: (cheating and plagiarism are prohibited).

Approval	Name	Date	Signature
Head of Department			
Faculty Dean			