



جامعة اليرموك
Yarmouk University
كلية تكنولوجيا المعلومات وعلوم الحاسوب
Information Technology and Computer
Sciences



Document Code	Study Plan	Document Approval Date
AP02-PR04		

Department: Information Technology	Program: Cybersecurity	Official Stamp
The study plan was approved by the decision of the Deans' Council no. on		

Overview
<p>The Bachelor's Program in Cyber Security was established in the academic year 2019/2020 in line with the university's plans to keep abreast of the latest developments and developments in various sciences. The cyber security program has been localized in the Information Technology Department of the College of Information Technology and Computer Science. The cyber security program is considered one of the new and pioneering academic programs in the field of information technology at the local, Arab and international levels.</p> <p>The field of cyber security is one of the vital areas in information technology and is considered one of the basic building blocks in the telecommunications and information technology sector due to the increasing spread of the Internet and its various applications, telecommunications and cloud computing, which in turn led to the emergence of many electronic security threats. Information systems, which include information systems, networks and data, have been classified as one of the main pillars in developed countries that must be protected and preserved. Many developed countries consider cyber security as one of the main pillars of national security.</p> <p>The cyber security program provides students with the necessary knowledge to protect information systems, data and information networks and to fortify them against intrusion attempts and various electronic attacks. This specialization provides an integrated mix between information systems and their security, as the aspect related to information systems is concerned with everything related to the design, construction and programming of information systems and communication networks , as for the aspect related to information security, it focuses on the risks that threaten or attack information and networks by providing the necessary tools and means to protect the information and specifying the standards and measures taken to prevent the information from reaching the hands of unauthorized persons to ensure the authenticity and validity of this information. Accordingly, the graduate of cyber security will be able to work (locally, regionally and globally) in all private and governmental sectors that require information security in their work.</p>

Vision and Mission	
Vision	Deliver leading and entrepreneur educational program in Cybersecurity on the local, regional, and global level.
Mission	Providing students with the necessary skills, knowledge, and competences to solve complex problems in different areas of cybersecurity by using distinguished teaching and learning process.



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Program Objective	
1	Prepare qualified and capable graduates to work in the field of cybersecurity that meets job market needs.
2	Develop technical professionals to manage and maintain the security of information systems and computer networks in the industry.
3	Encourage creativity and provide solutions to practical problems that benefit the national economy to make a positive impact on society.

Program Learning Outcomes PLOs	
PLO1	Analyze a complex computing problem and to apply principles of computing and cybersecurity to identify secure solutions with less vulnerable to security attacks.
PLO2	Design, implement, and evaluate a computing-based solution to meet a given set of computing and security requirements in the context of cybersecurity.
PLO3	Communicate effectively in various professional contexts.
PLO4	Recognize professional responsibilities and make informed judgments in computing practice and using of data and information systems based on legal and ethical principles.
PLO5	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
PLO6	Apply and identify security principles and practices to maintain operations in the presence of risks and threats.
PLO7	Explaining the concepts and theories of information security and their applications, as well as classification of information security protocols, analysis and implementation of secure communication networks.



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Credit hours to obtain a degree in Information Technology and Computer Sciences in a specialization of Cybersecurity			
	Credit Hours		
	Compulsory	Elective	Total
University Requirements	15	12	27
Faculty Requirements	22	0	22
Department Requirements	70	15	85
Total	107	27	134

First: University Compulsory Courses (15) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
HUM	117	Pioneering and Creativity	1	0	1	
HUM	118	Leadership and Society	1	0	1	
HUM	119	Life Skills	1	0	1	
HUM	120	Communication Skills (English Language)	3	0	3	
HUM	121	Communication Skills (Arabic Language)	3	0	3	
PS	102	National Education	3	0	3	
MILT	100A	Military Science	3	0	3	
EL	099	English Language Skills-Remedial	Remedial	0	0	-
AL	099	Arabic Language - Remedial	Remedial	0	0	-
COMP	099	Computer skills - remedial	Remedial	0	0	



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Second: University Elective Courses (12) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
HUM	101	Basic of Mass Communication	3	0	3	
HUM	102	Citizenship and Allegiance	3	0	3	
HUM	103	Islamic: Intellect & Civilization	3	0	3	
HUM	104	Arts and Behaviours	3	0	3	
HUM	105	Jordan Contribution to Human Civilization	3	0	3	
HUM	106	Introduction to Human Cultural Studies	3	0	3	
HUM	107	Human Rights	3	0	3	
HUM	108	Thinking Skills	3	0	3	
HUM	109	Islamic Systems	3	0	3	
HUM	110	The Culture of Tourism and Hospitality	3	0	3	
HUM	111	History of Jerusalem	3	0	3	
HUM	112	Geography of Jordan	3	0	3	
HUM	113	Islamic Educational Thinking	3	0	3	
HUM	114	Good Governance and Integrity	3	0	3	
HUM	115	Legal Education	3	0	3	
HUM	116	Ancient	3	0	3	



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Document Code	Course No.	Course Name	Theoretical	Practical	Total	Pre-requisite
		Writings of Jordan				
HUM	122	Economy and Society	3	0	3	
HUM	123	Performing Arts	3	0	3	
SCI	101	Environment & Public Health	3	0	3	
SCI	102	Information Technology and Society	3	0	3	
SCI	103	Physical Education for All	3	0	3	
SCI	104	Effective Communication Skills	3	0	3	
SCI	105	Renewable Energy	3	0	3	
SCI	106	Management and Society Development	3	0	3	
SCI	107	Scientific Research	3	0	3	
SCI	109	Digital Culture	3	0	3	
SCI	110	Development and Environment	3	0	3	
SCI	111	Principle of Epidemiology and Community Immunity	3	0	3	

Third: Faculty Compulsory Courses (22) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CS	111	Programming in a Selected	3	0	3	-



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Course Code	Course No.	Language	Theoretical	Practical	Total	Pre-requisite
CS	111L	Programming in a Selected Language Lab	0	3	1	CS 111
MATH	101	Calculus 1	3	0	3	-
CIS	101	Introduction to Information Systems	3	0	3	-
CIS	260	Ddatabase Systems	3	0	3	CS 210 and CIS 101
STAT	111	Introduction to Probability (1)	3	0	3	-
BIT	221	Legal Issues in Information Technology	3	0	3	CYS 230
BIT	381	Web Application Development (1)	3	0	3	CIS 260

Fourth: Department Compulsory Courses (70) Credit Hours

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
230	CYS	Cyber Security Principles	3	0	3	CS 111
232	CYS	Introduction to Cryptography	3	0	3	CYS 230 and CS 142
321	CYS	Network Operating Systems	3	0	3	CS332 and CS 130
331	CYS	Risk Assessment and Management	3	0	3	CYS 230
332	CYS	Security of Software Systems	3	0	3	CYS 321 and CS 210
333	CYS	Ethical Hacking	3	0	3	BIT 381 and CYS 321
333L	CYS	Ethical Hacking	0	6	2	CYS 333



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		Laboratory				
334	CYS	Network Security	3	0	3	CS 332 and CYS 332
370	CYS	Network Programming and Monitoring	3	0	3	CS332L
437	CYS	Data Privacy and Confidentiality	3	0	3	CIS 260 and CYS 230
440	CYS	Information Security Protocols	3	0	3	CYS334
461	CYS	Digital Forensics	3	0	3	CYS334
499	CYS	Graduation Project	3	0	3	Successfully completed 98 hours
142	CS	Discrete Structures	3	0	3	MATH 101
210	CS	Object Oriented Programming	3	0	3	CS 111
250	CS	Data Structures	3	0	3	CS 210
260L	CIS	Database Lab	0	3	1	CIS 260
310	CS	Advanced Programming	3	0	3	CS 210
332	CS	Data Communication and Networks	3	0	3	CYS 230
332L	CS	Data Communication and Networks Lab	0	3	1	CS332
351	CS	Analysis and Design of Algorithms	3	0	3	CS 250 and CS 142
265	CIS	Database Management Systems	3	0	3	CIS 260



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130	CS	Fundamentals of Operating Systems	3	0	3	CS 111
322	MATH	Numerical Analysis (1) (for IT Students)	3	0	3	CS 142
481	BIT	Web Application Development (2)	3	0	3	BIT 381

Fifth: Department Elective Courses (6) Credit Hours

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
335	CYS	Security of Internet of Things	3	0	3	CYS 334
436	CYS	Distributed Computing Security	3	0	3	CYS 321
438	CYS	Cloud Computing Security	3	0	3	CYS 321
462	CYS	Defense Networking Systems	3	0	3	CYS 334
492	CYS	Special Topics in Cybersecurity	3	0	3	CYS 334
497	CYS	Training Certificate (*)	3	0	3	
498	CYS	Practical Training	3	0	3	Successful completion of 90 hours and approval



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Sixth: Department Elective Courses (6) Credit Hours – Faculty of IT

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CIS	342	Systems Analysis and Design	3	0	3	CIS 260
CIS	376	Artificial Intelligence	3	0	3	CS 351
CIS	467A	Data Mining	3	0	3	CIS 260
BIT	364	Systems and Project Management	3	0	3	CIS 260

Seventh: Department Elective Courses (3) Credit Hours – Faculty of Science

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
STAT	101	Introduction to Statistics	3	0	3	---
MATH	241	Linear Algebra	3	0	3	MATH 101