

# Computer Science - Cybersecurity Path

1. **University Requirements:** These requirements are (16) credit hours as shown in Table (3).

Table (3): Compulsory university requirements.

Subject Code	Subject Name	of Hours .No			Prerequisite
		Th.	Pr.	Credit	
UR00101	Arabic Language Skills	3		3	
UR00111	English Language Skills (1)	3		3	
UR00112	English Language Skills (2)	3		3	UR00111
UR00121	Culture & Civilization	3		3	
UR00122	History of Palestine	3		3	
UR00141	Leadership & Communication Skills	1		1	

2. **College Requirements:** These requirements are (22) credit hours as shown in Table (4).

Table (4): Compulsory college requirements.

Subject Code	Subject Name	of Hours .No			Prerequisite
		Th.	Pr.	Credit	
ETBS101	Calculus(1)	3		3	
ETBS102	Calculus(2)	3		3	ETBS101
ETBS111	General Physics(1)	3		3	
ETBS112	General Physics(2)	3		3	ETBS111
ETBS113	Physics Lab.	1	2	1	
ETCS210	Linear Algebra	3		3	Calculus 2
ETCS101	Computer programming 1	3		3	
ETCS102	Computer programming 2	3		3	ETCS101

**3. Specialization Requirements:** These requirements are (88) credit hours distributed as follows:

**(a). Compulsory Specialization Requirements:** These requirements are (76) credit hours, as shown in Table (5).

Table (5): Compulsory specialization requirements.

Subject Code	Subject Name	of Hours .No			Prerequisite
		Th.	Pr.	Credit	
ETCS201	Discrete Mathematics	3		3	Calculus 2
ETCS212	Statistics & Probability	3		3	Calculus 2
ETCS222	Numerical analysis	3		3	Linear Algebra
ETCS223	Graph Theory	3		3	Discrete Mathematics
ETCS201	Logic Circuits	3		3	Discrete Mathematics
ETCS226	Web Development	3		3	Computer Programming 2
ETCS227	Data Structures	3		3	Computer Programming 2
ETCS229	Database systems	3		3	Objected Oriented Programming
ETCS301	Design and analysis of Algorithms	3		3	Data Structures
ETCS302	Objected Oriented Programming	3		3	Data Structures
ETCS303	Software Engineering	3		3	Objected Oriented Programming



ETCS313	Operating Systems	3	3	Logic Curcuits
ETCS314	Computer Networks	3	3	Logic Circuits
ETCS312	Artificial Intelligence	3	3	Statistics & Probability
ETCS323	Introduction to Data Science	3	3	Statistics & Probability
ETCS325	Mobile Applications	3	3	Data Structures
ETCS327	Foundations of Cybersecurity	3	3	Computer Networks
ETCS333	Web Security	3	3	Web Development and Foundations of Cybersecurity
ETCS401	Introduction to Machine Learning	3	3	Artificial Intelligence
ETCS411	Machine Learning for Cybersecurity	3	3	Introduction to Machine Learning
ETCS402	Cryptography and Computer Security	3	3	Foundations of Cybersecurity
ETCS412	Cloud Computing and Security	3	3	Cryptography and Computer Security

ETCS423	Ethical Hacking and Penetration Testing	3		3	Foundations of Cybersecurity
ETCS434	Blockchain Technology and Security	3		3	Ethical Hacking and Penetration Testing
ETCS433	Field Training			0	Pass (100) Cr. Hrs.
ETCS501	Graduation Project(1)	1		1	Hrs. .Pass (100) Cr
ETCS502	Graduation Project(2)	1		3	Graduation Project(1)

**(b). Elective Specialization Requirements:** This requirement is (12) credit hours, as shown in Table (6).

Table (6): Elective specialization requirements.

Subject Code	Subject Name	of Hours .No			Prerequisite
		Th.	Pr.	Credit	
ETCS502	Secure Software Development	3		3	Web Developments and Foundations of Cybersecurity
ETCS503	Database Security	3		3	Database And Foundations of Cybersecurity
ETCS510	Software Reverse Engineering	3		3	Cryptography and Computer Security
ETCS511	Blockchain Technology and Security	3		3	Cryptography and Computer Security
ETCS512	Special Topics	3		3	
ETCS513	Image Processing	3		3	



ETCS521	Information Systems Security Assessment	3		3	Foundations of Cybersecurity
ETCS522	Cyber Laws	3		3	Foundations of Cybersecurity
ETCS523	Network Performance Analysis	3		3	Computer Networks

**4. Free Subjects:** This requirement is (3) credit hours chosen from other colleges in the university.

### Advisory Study Plan Computer Science for Cybersecurity

First Semester				Second Semester			
Code	Subject Name	CrHr	Prerequisite	Code	Subject Name	CrHr	Prerequisite
UR00101	Arabic Language Skills	3		UR00112	English Language Skills(2)	3	UR00111
UR00111	English Language Skills(1)	3		ETBS102	Calculus(2)	3	ETBS101
ETBS101	Calculus(1)	3		UR00121	Culture & Civilization	3	
ETBS111	General Physics(1)	3		ETBS112	General Physics(2)	3	ETBS111
ETCS101	Computer Programing 1	3		ETBS113	Physics Lab.	1	ETBS111
UR00122	History of Palestine	3		ETCS102	Computer Programing 2	3	Computer Programing 1



				UR00141	Leadership & Communication Skills	1	
Total		18		Total		17	

First Semester				Second Semester			
Code	Subject Name	CrHr	Prerequisite	Code	Subject Name	CrHr	Prerequisite
ETCS201	Discrete Mathematics	3	Calculus 2	ETCS325	Mobile Applications	3	Computer Programming
ETCS227	Data Structures	3	Computer Programming 2	ETCS223	Graph Theory	3	Discrete Mathematics
ETCS212	Statistics & Probability	3	Calculus 2	ETCS302	Objected Oriented Programming	3	Data Structures
ETCS226	Web Development	3	Computer Programming 2	ETCS301	Design and analysis of Algorithms	3	Data Structures
ETCS201	Logic Circuits	3	Computer Programming 2	ETCS314	Computer Networks	3	Logic Circuits
ETCS210	Linear Algebra	3	Calculus 2	ETCS323	Introduction to Data Science	3	Statistics & Probability
Total		18		Total		18	

First Semester				Second Semester			
Code	Subject Name	CrHr	Prerequisite	Code	Subject Name	CrHr	Prerequisite
ETCS229	Database systems	3	Objected Oriented	SCS411	Machine Learning for	3	Introduction to Machine



			Programming		Cybersecurity		Learning
ETCS401	Introduction to Machine Learning	3	Artificial Intelligence	ETCS402	Cryptography and Computer Security	3	Foundations of Cybersecurity
	Artificial Intelligence	3	Statistics & Probability	ETCS423	Ethical Hacking and Penetration Testing	3	Foundations of Cybersecurity
ETCS327	Foundations of Cybersecurity	3	Computer Networks	ETCS303	Software Engineering	3	Objected Oriented Programming
ETCS313	Operating Systems	3	Logic Circuits	ETCS333	Web Security	3	Foundations of Cybersecurity And Web Dev
ETCS222	Numerical analysis	3	Linear Algebra				
Total		18		Total		15	

First Semester				Second Semester			
Code	Subject Name	CrHr	Prerequisite	Code	Subject Name	CrHr	Prerequisite
ETCS434	Blockchain Technology and Security	3	Ethical Hacking and Penetration Testing	ETCS5xx	Elective 3	3	
ETCS412	Cloud Computing and Security	3	Cryptography and Computer Security	ETCS5xx	Elective 4	3	
ETCS5xx	Elective 1	3		xxx	Free Subject	3	



ETCS5xx	Elective 2	3		ETCS502	Graduation Project(2)	3	Graduation Project(1)
ETCS433	Feild Training		Pass (100) CrHr				
ETCS501	Graduation Project(1)	1	Pass (100) CrHr				
Total		13		Total		12	

ETCS591	Graduation Project(1)	1	Pass (100) CrHr				
Total		15		Total		13	



