Computer Science with Cybersecurity Concentration
2024 Study Plan

The only difference between CS Major and CS Major with Cybersecurity Concentration is the **12 CH Cybersecurity Concentration Requirements** taken instead of 12 CH CS Major Electives package.

First Year (33 credit hours)

Term	Course #	Course Title	CH	Term	Course #	Course Title	CH
Fall	CMPS 151	Programming Concepts	3	Spring	CMPS 251	Object-Oriented Programming	4
	CHEM 101	General Chemistry I	3		PHYS 191	General Physics for Engineering I	3
	CHEM 103	Experimental General Chemistry I	1		PHYS 192	Experimental General Physics for Engineering I	1
	MATH 101	Calculus I	3		MATH 231	Linear Algebra	3
	ENGL 202	English Language I Post Foundation	3		MATH 102	Calculus II	3
	HIST 121	History of Qatar	3		ENGL 203	English Language II Post Foundation	3
Total Credit Hours in Semester			**16**	**Total Credit Hours in Semester**			**17**

Second Year (31 credit hours)

Term	Course #	Course Title	CH	Term	Course #	Course Title	CH
Fall	CMPS 200	Computer Ethics	1	Spring	CMPS 323	Design and Analysis of Algorithms	3
	CMPS 205	Discrete Structures for Computing	3		CMPS 351	Fundamentals of Database Systems	4
	CMPS 303	Data Structures	4		CMPE 263	Computer Architecture and Organization I	3
	PHYS 193	General Physics for Engineering II	3		GENG 200	Probability and Statistics for Engineers	3
	PHYS 194	Experimental General Physics for Engineering II	1			Core Knowledge and Skills Package	3
	ARAB 100	Arabic Language I	3				
Total Credit Hours in Semester			**15**	**Total Credit Hours in Semester**			**16**

Third Year (33 credit hours)

Term	Course #	Course Title	CH	Term	Course #	Course Title	CH
Fall	CMPS 310	Software Engineering	4	Spring	CMPS 350	Web Development Fundamentals	3
	CMPE 355	Data Communication and Computer Networks I	4		CMPS 405	Operating Systems	4
	CMPS 380	Cybersecurity Fundamentals	3		**CMPS 485**	**Network Security**	**3**
	GENG 300	Numerical Methods	3		DAWA 111	Islamic Culture	3
		Natural Science/Mathematics package	3			Humanities /Fine Arts package	3
Total Credit Hours in Semester			**17**	**Total Credit Hours in Semester**			**16**

Fourth Year (23 credit hours)

Term	Course #	Course Title	CH	Term	Course #	Course Title	CH
Fall	CMPS 493 OR GENG 498	Senior Project I* OR Multidisciplinary Senior Design I	3	Spring	CMPS 499 OR GENG 499	Senior Project II OR Multidisciplinary Senior Design II	3
	CMPS 381	**Applied Cryptography**	**3**		**CMPS 48X**	**Cybersecurity Concentration Elective**	**3**
	CMPS 481	**Enterprise Cybersecurity**	**3**			Social/Behavioral Sciences package	3
	CMPS 307	Introduction to Project Management and Entrepreneurship	2		MAGT 101	Principles of Management	3
Total Credit Hours in Semester			**11**	**Total Credit Hours in Semester**			**12**

*CS students are required to enroll in the Senior Project (SP) during their final year of study. To be eligible for SP registration, a student must have successfully completed a minimum of 84 CH AND *CMPS 310 Software Engineering* AND either *CMPS 350 Web Development Fundamentals* OR *CMPS 405 Operating Systems.*

A minimum of 120 credit hours are required to complete the major in Computer Science with Cybersecurity Concentration, including:

- 33 credit hours in Core Curriculum requirements:
  - 15 credit hours from the Identity & Communication Package
  - 3 credit hours from the Core Knowledge and Skills Package
  - 3 credit hours from the Humanities /Fine Arts package
  - 3 credit hours from the Social/Behavioral Sciences package
  - 3 credit hours from the Natural Science/Mathematics package
  - 6 credit hours from the Supplemental College / Program core requirements package
- 21 credit hours of College Requirements.
- 49 credit hours in Major Requirements.
- **12 credit hours of Cybersecurity Concentration Requirements.**
- 5 credit hours in Major Supporting Requirements.

Cybersecurity Concentration Requirements (12 CH)

The 12 CH Cybersecurity Concentration requirements include 3 required courses:

- CMPS 381 Applied Cryptography
- CMPS 481 Enterprise Cybersecurity
- CMPS 485 Network Security

And 1 elective course from these courses:

- CMPS 482 Cyber-Physical Systems Security
- CMPS 483 Digital Forensics
- CMPS 489 Special Topics in Cybersecurity