

Computer Science 2021 Study Plan

Note that CS 2021 study plan is the same as CS 2017 study plan except some differences in the Core Curriculum requirements. Details of the Core Curriculum requirements for CS 2021 study plan are available at this [link](#), for study plans before 2021 visit this [link](#).

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

^{!*} For *HIST 121 History of Qatar*, students following a study plan before 2021 can take any course from *Qatar and Gulf History sub-package*.

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		ARAB 200	Arabic Language II	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 385	Computer Security	3
	CMPE 355	Data Communication and Computer Networks I	4		CMPS 350	Web Development Fundamentals	3
		Major Elective I	3		CMPS 405	Operating Systems	4
	GENG 300	Numerical Methods	3			Major Elective II	3
		Natural Science/Mathematics package	3		DAWA 111	Islamic Culture	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 307	Introduction to Project Management and Entrepreneurship	2		MAGT 101	Principles of Management	3
		Major Elective III	3			Major Elective IV	3
		Humanities /Fine Arts package	3			Social/Behavioral Sciences package	3
Total Credit Hours in Semester			11	Total Credit Hours in Semester			12

* Must complete 75 CH and CMPS 310 Software Engineering

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

- 33 credit hours in [Core Curriculum requirements](#):
 - 18 credit hours from the Identity & Communication 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 Major Electives.
- 5 credit hours in Major Supporting Requirements

Students must complete a minimum of 12 credit hours in major elective courses:

[CMPS 312](#) Mobile Application Development

[CMPS 356](#) Web Applications Design and Development

[CMPS 360](#) Data Science Fundamentals

[CMPS 373](#) Computer Graphics

[CMPS 393](#) Modeling and Simulation

[CMPS 399](#) Practical Training

[CMPS 403](#) Artificial Intelligence

[CMPS 433](#) Multimedia Systems

[CMPS 434](#) Game Design and Development

[CMPS 445](#) Compiler Construction

[CMPS 451](#) Database Management Systems

[CMPS 453](#) Data Mining

[CMPS 460](#) Machine Learning NEW

[CMPS 465](#) Parallel Computing

[CMPS 466](#) Information Retrieval

[CMPE 480](#) Computer Vision

[CMPE 488](#) Wireless Networks and Applications

[CMPS 497](#) Special Topics in Computing