Computer Engineering 2024 Study Plan

Note that CE 2024 study plan is the same as CE 2021 study plan except some differences in the Electives and pre-requisite flowchart. For study plans before 2024 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 205	Discrete Structures for Computing	3
	GENG 107	Engineering Skills and Ethics	3		CMPS 251	Object-Oriented Programming	4
	CHEM 101	General Chemistry I	3		MATH 102	Calculus II	3
	CHEM 103	Experimental General Chemistry I	1		PHYS 191	General Physics for Engineering I	3
	MATH 101	Calculus I	3		PHYS 192	Experimental General Physics for Engineering I	1
	ENGL 202	English Language I	3		ENGL 203	English Language II	3
Total Credit Hours in Semester			**16**	**Total Credit Hours in Semester**			**17**

Second Year (33 credit hours)							
Term	**Course #**	**Course Title**	**CH**	**Term**	**Course #**	**Course Title**	**CH**
Fall	CMPE 261	Digital Logic Design	4	**Spring**	ELEC 351	Signals and Systems	3
	ELEC 201	Electric Circuits	3		ELEC 231	Fundamental of Electronics	3
	MATH 211	Calculus III	3		CMPE 263	Computer Architecture and Organization I	3
	PHYS 193	General Physics for Engineering II	3		CMPS 303	Data Structures	4
	PHYS 194	Experimental General Physics for Engineering II	1		GENG 200	Probability and Statistics for Engineers	3
	ARAB 100	Arabic Language I	3				
Total Credit Hours in Semester			**17**	**Total Credit Hours in Semester**			**16**

Third Year (32 credit hours)							
Term	**Course #**	**Course Title**	**CH**	**Term**	**Course #**	**Course Title**	**CH**
Fall	CMPE 355	Data Communication and Computer Networks I	4	**Spring**	CMPE 364	Microprocessor Based Design	4
	CMPE 363	Computer Architecture and Organization II	3		CMPE 457	Data Communication and Computer Networks II	3
	CMPE 370	Computer Engineering Practicum	1		CMPE 476	Digital Signal Processing	4
	CMPS 405	Operating Systems	4		GENG 360	Engineering Economics	3
	MATH 217	Mathematics for Engineers	3		GENG 300	Numerical Methods	3
Total Credit Hours in Semester			**15**	**Total Credit Hours in Semester**			**17**

Fourth Year (30 credit hours)							
Term	**Course #**	**Course Title**	**CH**	**Term**	**Course #**	**Course Title**	**CH**
Fall	CMPE 498 OR GENG 498	Design Project I* OR Multidisciplinary Senior Design I	3	**Spring**	CMPE 499 OR GENG 499	Design Project II OR Multidisciplinary Senior Design II	3
	CMPE 462	Computer Interfacing	3		DAWA 111	Islamic Culture	3
		Social/Behavioral Sciences package	3		HIST 121	History of Qatar!*	3
		Major Elective I	3			Major Elective III	3
		Major Elective II	3			Major Elective IV	3
Total Credit Hours in Semester			**15**	**Total Credit Hours in Semester**			**15**

*Must complete 83 CH and CMPE 370 Computer Engineering Practicum.

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

A minimum of 128 credit hours are required to complete the major in Computer Engineering, including:

- 33 credit hours in Core Curriculum requirements:
  - 15 credit hours from the Identity & Communication Package
  - 3 credit hours from the Social/Behavioural Sciences package
  - 3 credit hours from the Natural Science/Mathematics package (MATH 101 Calculus I)
  - 12 credit hours from the Supplemental College / Program core requirements package
- 24 credit hours of College Requirements.
- 59 credit hours in Major Requirements.
- 12 credit hours of Major Electives from the following list:

List of Electives (12 CH)

- CMPE 399 Practical Training
- CMPE 470 Modern Computer Organization
- CMPE 471 Selected Topics in Computer Engineering
- CMPE 474 Artificial Neural Networks
- CMPE 480 Computer Vision
- CMPE 481 Modelling and Simulation of Digital Systems
- CMPE 482 Multimedia Networks
- CMPE 483 Introduction to Robotics
- CMPE 485 Fundamentals of Digital Image Processing
- CMPE 487 Hardware Software Co-Design
- CMPE 488 Wireless Networks and Applications
- CMPS 312 Mobile Application Development
- CMPS 460 Machine Learning
- CMPS 380 Cybersecurity Fundamentals (Equivalent to CMPS 385 Computer Security)
- CMPS 381 Applied Cryptography
- CMPS 485 Network Security