

Computer Science - Cybersecurity Concentration 2021 Study Plan

| 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 | | 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 |
| | CMPS 381 | Applied Cryptography | 3 | | CMPS 405 | Operating Systems | 4 |
| | GENG 300 | Numerical Methods | 3 | | CMPS 485 | Network Security | 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 |
| | CMPS 481 | Enterprise Cybersecurity | 3 | | CMPS 48X | Cybersecurity Concentration Elective | 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 Cybersecurity Concentration Requirements.**
- 5 credit hours in Major Supporting Requirements

Cybersecurity Concentration Requirements (12 CH)

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.

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