

Cyber Security

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The Master of Science in Cyber Security degree is a 30 credit hour program designed for working professional and full-time and part-time students who wish to increase their knowledge and skills related to the field of cyber security and information assurance. The degree will provide students with the knowledge and practice to understand cyber security threats and vulnerabilities, and to be able to help defend computer systems against cyber-attacks. A capstone experience is included for students to work in teams to build and launch a cyber security start-up company.

Program Availability

The program is offered in the evening on a trimester schedule and designed for both full-time and part-time study at the main campus in Jersey City. Courses are offered in the classroom, online, and hybrid.

Degree Requirements

The degree requires 30 semester hour credits. A capstone course must be taken in the final trimester of coursework. The capstone course provides students with the opportunity to carry out in depth research on a specified topic in cyber security. The student's project, which is to work in teams to build and launch a cyber security start-up company, reflects the integration and application of the cyber security knowledge gained over the course of the program.

Graduate Internship Requirement

Participation in a graduate internship focused on Cyber Security, lasting at least one trimester, is mandatory for all students, except for those meeting one of the following criteria: possessing over 2 years of professional experience in IT or Cybersecurity, being employed full-time in IT or Cybersecurity throughout the program duration, or engaged in a discipline-related exchange program. Please consult your program advisor regarding the possibility of obtaining a waiver. International students are required to commence their graduate internship after completing the third trimester of classes. Some opportunities exist within the University's Cyber Security Laboratories for roles such as Research Assistant, Group Leader, or Analyst. Additionally, in-house experiential internships are available, providing hands-on exposure to industrial-grade software or systems.

Advisement

The Cybersecurity program assigns a full-time faculty as the academic advisor from the Department of Computer & Information Sciences to every candidate.

Time Limitation

Students are expected to enroll continuously until their programs are completed. Students are required to maintain satisfactory academic progress by maintaining the required grade point average (3.0) and accumulating sufficient credits within the stipulated time frame of five years. By federal regulation, international students must enroll as full-time students, taking a minimum of two courses per trimester.

Curriculum - Master of Science in Cyber Security (30 Credit Requirement)

Required Courses (21 Credits)

21

CY-510	Cyber Security Planning & Risk Analysis
CY-520	Cyber Security Ethical & Legal Concerns
CY-530	Cryptography
CY-595 or CY-598	Non Credit Research Intern Grad Level Exp Learning Intern without CPT
CY-620	Malware Analysis and Defense
CY-622	Advanced Offensive Cyber Security
CY-640	Cybercrime and Digital Forensics
CY-650	Cyber Security Capstone *

Choice Elective Course (9 Credits Required)

CY-501	Cyber Assurance and Security
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CY-540	International Communication & Networking
CY-550	Mobile Computing and Wireless
CY-610	Ethical Hacking and Penetration Testing
CY-630	Disaster Recovery
CY-635	Advanced Research in Cyber Security
Other Electives May be Added to the Program	
*Capstone must be taken in the second to last trimester.	
Total Credits	
30	