

ST. JOSEPH'S UNIVERSITY

Master of Science in Cyber Security
Program Handbook

Master of Science in Cyber Security Handbook

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Program Description

The Master of Science (MS) in Cyber Security is a Graduate Degree program that started in Brooklyn in 2016 and Long Island in 2017. The program was originally titled MS in Forensic Computing (MSFC) and the name was changed in 2020. This is an interdisciplinary degree integrating curriculum from three core areas: Criminal Justice, Computer Science and Accounting. The MS in Cyber Security focuses on providing an advanced degree that combines a background in network security, cyber security, forensic accounting and the criminal justice process. The degree is intended for practitioners in Information Technology, Criminal Justice, and Accounting and for students that want to embark on a career in these fields or for persons that want to consider a career change. These three components represent the evolving and melding of skill sets in crime, investigation, information technology and accounting.

About the 5-year Program option

The MS in Cyber Security offers a fast five-year track enabling students to complete both their undergraduate and graduate studies in five years. The Dual Degree Program, the BS/MS in Criminal Justice and Cyber Security was approved in 2019 to address the rise in information security employment growth, a melding of skill sets involving computer science and criminal justice needed for entry level and management positions in cyber security and to better prepare students at the undergraduate level for the skills needed at the graduate level. Both programs can be completed within 5 years, including all prerequisites.

Mission of the MS in Cyber Security Program

The mission of St. Joseph's University MS in Cyber Security program is to provide a strong academic and value-oriented education at the graduate level for career preparation and enhancement in the cyber security field. The MS in Cyber Security program directly aligns with the institution's mission and operational plan and is designed to offer students and professionals an opportunity to gain expertise in the emerging field of cyber security.

Academic Standing

St. Joseph's University accepts for matriculation only those students whom the University believes capable of completing the requirements for the degree. Students are expected to maintain a **3.0 cumulative grade point average** in the MS in Cyber Security Program. The academic records of students who do not meet these requirements will be reviewed by the Academic Development Committee, which will then make recommendations to help the students improve their academic record. Students who continue to achieve below the required index of 3.0 may be dismissed. These students may present to the Executive Dean in writing, any relevant circumstances.

Students who have an average less than B (83.0) in any course at the midpoint of the semester will receive a letter from the Director. This letter/memo is a reminder that a 3.0 cumulative GPA is necessary to remain in good standing and to graduate.

At the end of each semester, the Registrar reviews the record of every student and refers to the Committee on Academic Development those who have failed to maintain an index of 3.0. The Program Directors for both the Brooklyn and Long Island campus, endeavor to determine the causes of the academic difficulty. The Directors may require adjustments in the program for the next registered and subsequent semesters. Additional stipulations, as determined by the Committee, may also apply.

Repeated Courses

A student who receives an unsatisfactory grade in a course of **below a C** will be required to repeat the course. A course **may only be repeated once** at the Director's discretion. In addition, the Graduate Committee on Academic Development may mandate that one or more courses be repeated if a cumulative grade point average of 3.0 is not achieved. In such cases, the Director may permit or direct the student to repeat a course(s) in order to demonstrate mastery of the subject. Both the original grade and the repeated grade will appear on the transcript. Credit will be given only once for the course, and only the most recent grade will be calculated in the index. The student is liable for the tuition and fees incurred for repeated courses. When repeating a course, students who do not achieve a grade of C or above will be dismissed from the program.

Academic Advisement

An integral part of providing a quality educational experience to adults is an academic advisement system that can be responsive to their individual needs. Toward that end the Directors recommend that all students discuss their academic programs with the Program Directors from their respective campuses.

Academic Policies

Plagiarism and Other Forms of Academic Dishonesty

ACADEMIC INTEGRITY: In common with all institutions engaged in the search for knowledge, St. Joseph's University is committed to high standards of academic honesty. Moreover, as a University whose motto is *Esse non-videri*: "To be and not to seem," St. Joseph's has a long-standing tradition of considering integrity as a primary value. The University expects students to observe academic integrity in all aspects of their academic life, including the conduct of their examinations, assignments, and research. All members of the University community share the responsibility for creating a climate of academic integrity, based on fairness to others and respect for oneself. Violations of academic integrity are treated very seriously. Plagiarism (the act of copying, stealing or representing the ideas or words of another as one's own without giving credit to the source), cheating on examinations, and all other forms of academic dishonesty are forbidden.

Students who possess and/or use solutions manuals, instructor's guides, test banks or other supplements intended solely for the instructor's use will be found guilty of academic dishonesty. Students found guilty of such behavior are subject to appropriate disciplinary action, which may include a reduction in grade, a failure in the course, suspension, or expulsion. Instructors at St. Joseph's University routinely use plagiarism detection devices such as Turnitin and GPTZero to uncover acts of plagiarism.

See Procedure Appeal Process and Student Grievance Procedure in the Academic Policies section of the Student Handbooks, which can be accessed through the MySJNY Portal, under Student Services.

Absence from Final Examinations

Genuine emergency such as illness is the only excuse for absence from a final examination. Documentation of the emergency may be required. A student who is absent from a final examination must notify their instructor on or before the day of the exam, giving the reason for the absence. Failure to notify the instructor or failure to take the examination on the specified make-up date will result in forfeiture of the right to make up the examination. The faculty member will then assign a score of zero for the final examination and the final grade will be calculated accordingly.

Note: Application for a make-up examination is not related to a request for an entry of Incomplete

Registration Procedures

PLAN AHEAD – TUITION BALANCES MUST BE SATISFIED BEFORE REGISTERING

Bills for the current and prior semesters must be cleared by the Bursar's Office before students may attend class. Students who have a balance but attend a class without registering in advance will be removed from the class and not allowed to subsequently register for it. Students who do not receive financial clearance from the Bursar's Office will not be officially registered at the University for that semester. Students may not enroll for a successive semester until their accounts have been completely satisfied. If clearance by the Bursar's Office is received after the first meeting of on-campus or off-site courses or after the first day of online courses, students will be prohibited from registering for courses that have already met.

One or more of the following conditions will prevent you from registering online:

- Missing Application Documents

If missing application documents are received by the Office of Graduate Admissions before the end of the online registration period, your registration block will be removed. You will then be able to register online.

- Tuition Liability, Outstanding Student Fees and/or Unpaid Fines (Library, parking, etc.)

Contact the Bursar's Office to resolve financial issues. You will be able to register online, after the Bursar's Office removes your registration block.

- Missing Undergraduate Prerequisite Course(s)

Students will be permitted to register for courses that require a prerequisite after the prerequisite grade is on file. The Office of MS in Cyber Security must receive official transcripts for courses taken at institutions other than St. Joseph's University in order for registration blocks to be removed.

Students must take all outstanding prerequisites at St. Joseph's University.

- Conditional Acceptance

Students who were permitted to take graduate courses as undergraduate students must meet with the Associate Director for Academic Advisement in the last semester of their undergraduate degree program, if they wish to continue in the graduate program in the semester immediately following their graduation.

- Cumulative and Concentration GPA's below 3.0/ and or one or more grades of Incomplete or AB from a prior semester.

Before registering, you are advised to:

- Obtain your current transcript from Student Planning.
- Review your transcript against the curriculum for your degree or certificate (shown in the Graduate Catalog and in the Course Requirements by Degree memo found on the Portal).
- Review course descriptions in the Graduate Catalog to determine if courses require prerequisites. Students have primary responsibility for determining that they have met all prerequisites (undergraduate and graduate) before registering for a course. Students will be withdrawn from any course for which the prerequisite(s) has not been successfully completed.

Graduation

Students are required to submit an Application for Graduation no later than **March 15th** for Summer, **July 15th** for Fall and **October 15th** for Spring graduation. Applications can be downloaded from the MySJNY Portal of the St. Joseph's University website.

Online Courses

THINGS TO REMEMBER WHEN REGISTERING FOR ONLINE COURSES

- Students are expected to log on the first day of class.
- Weekly participation is required.
- Only SJNY e-mail addresses can be used.
- Classes are comprised of Brooklyn and Long Island students

Grants and Awards

Students who earned their bachelor's degree from St. Joseph's University and who are admitted to a MS in Cyber Security program may be eligible for the three or six credit *MS in Cyber Security Alumni Tuition Grant*. Students eligible for a six-credit grant are entitled to a three-credit tuition grant in two semesters toward the end of the program of their last year. If students are eligible for a three-credit grant, the grant will be awarded in the last semester or toward the end of the program. Consult the Office of Admissions for applicable conditions and procedures. **Students must complete and timely file the required financial aid forms in order to be eligible for the grant.**

Conditions and Procedures

1. In order to receive the grant, students must have completed a minimum of eighteen credits with earned grades (i.e., no AB or INC grades).
2. Students must complete required financial aid forms by April 30th in order to be eligible for the grant in the following Fall/Spring semesters or by November 30th in order to be eligible for the grant in the following Spring/Fall semester.
3. The grant does not cover fees.
4. Students may not apply unused portions of the grant to subsequent semesters. In situations where students are eligible for the grant and subsequently withdraw from all their coursework in a given semester, the grant will be applied proportionately to the total liability charged for that semester. Students who withdraw from the program or who are asked to withdraw from the program for academic or other reasons are not entitled to a refund for unused portions of their grants.
5. Students will be required to adhere to the three-credits in Fall and three-credits in Spring award cycle. In a case of illness, emergency, or hardship, a student may petition the Senior Vice President of Academic Affairs in writing.
6. Undergraduate students who take one course required for one of the University's MS in Cyber Security degrees to meet their SJNY undergraduate degree requirements will have their SJNY MS in Cyber Security Alumni Tuition Grant eligibility reduced by three credits. Students who apply two graduate courses toward their undergraduate degree requirements will not be eligible for the tuition grant. This applies even in instances where a student takes the graduate course as an undergraduate but is unable to have it apply to meet graduate requirements because the grade earned is below the minimum (typically 3.0) determined as acceptable by the Director.
7. SJNY graduates who transfer in 3 credits from another graduate program will have their SJNY MS in Cyber Security Alumni Tuition Grant eligibility reduced by three credits. SJNY graduates who transfer in 6 credits from another graduate program will not be eligible for the tuition grant.

8. The University reserves the right to modify the above-stated conditions and procedures.

SJNY Alumni Graduate Academic Excellence Award

Students who earned their bachelor's degree from St. Joseph's University with a final cumulative GPA of 3.400 or higher, and who are admitted to a MS in Cyber Security degree program, are eligible for the one-credit SJNY Alumni Graduate Academic Excellence Award.

Conditions and Procedures

1. The award is based solely upon the final cumulative grade point average earned while an undergraduate student at St. Joseph's University.
2. SJNY alumni pursuing a MS in Cyber Security Advanced Certificate are not eligible for the award.
3. Recipients of the SJNY New York City Uniformed Personnel Tuition Grant are not eligible for the award.
4. Eligible students are entitled to a one-credit tuition grant in the first fall or spring semester that they matriculate as a MS in Cyber Security degree student. Students beginning the graduate program in the summer will be eligible for the award in the following fall semester.
5. Students will be required to adhere to the first fall or first spring semester award cycle. In a case of illness, emergency, or hardship, a student may petition the Senior Vice President of Academic Affairs in writing.
6. Students must complete required financial aid forms for the first semester they signed copies of federal/state tax returns to the Financial Aid Office in order to verify their income. Eligible students must complete the financial aid procedures within three weeks of the start date of their first fall or spring semester in order to receive the tuition credit.
7. The Director or a designated representative of the Office of Enrollment Management will mail eligible students a letter of acceptance to be signed and returned within two weeks of the date on the letter of agreement.
8. The award does not cover fees.
9. Students may not apply any unused portion of the award to subsequent semesters. In situations where students are eligible for the award and subsequently withdraw from all their coursework in a given semester, the award will be applied proportionately to the total liability charged for that semester. Students who withdraw from the program or

who are asked to withdraw from the program for academic or other reasons are not entitled to a refund for the unused portion of their award.

The University reserves the right to modify the above-stated conditions and procedures.

NYC Uniformed Personnel Tuition Grant

The NYC Uniformed Personnel Tuition Grant will be available to all *active* uniformed and civilian members of the New York City Police Department, the Fire Department of the City of New York, New York City Department of Correction and New York City Court Officers.

The members of the above services will be eligible for a grant equal to one-third of the prevailing St. Joseph's University tuition for any of the graduate or undergraduate degree programs offered at St. Joseph's University.

The graduate tuition discount program is available for each semester, session, and intersession to anyone who has completed an application for the graduate program and has not been denied, even if that individual's status is conditional, provisional, or "no decision." ("No decision" students will not, however, be eligible for financial aid, including loans, since these students will not be matriculated.)

The grant will become activated for each eligible student once the proper ID has been verified, the Letter of Acceptance for Graduate Studies has been signed, and the Financial Aid process has been completed.

At the start of the next regular session or semester, a student who retires from the uniformed services while still attending the graduate program will be charged the regular tuition once the individual makes retirement known or the University ascertains this.

Students who have not been in attendance at St. Joseph's University for at least two consecutive semesters will be considered withdrawn. If they wish to return, they will be required to be readmitted and will be subject to the percentage of the tuition grant determined by the University at the time of readmission.

Students who graduated from St. Joseph's University with a bachelor's degree and are continuing with the graduate program will qualify for the additional 6 credits after completing 18 credits if they have not used these credits as part of their undergraduate requirements. Such students will, however, not qualify for the additional one credit SJNY Alumni Graduate Academic Excellence Award.

Fees, including continuing education workshops, are excluded from the grant.

Course Descriptions

CYB/CRJ 500 Ethics and the Criminal Justice System

This course will discuss the issues related to ethics, the law, morality and decision making by criminal justice professionals. The course will focus on the legal authority, responsibility, accountability and unique discretionary powers of criminal justice professionals and how these powers can impact individuals accused of crimes and the criminal justice system as an institution.

CYB/CRJ 501 Criminal Procedure and Legal Rights

This course is an examination of significant Supreme Court decisions that impact and determine the parameters of acceptable police conduct and individual rights in their interaction with the police during the investigative process and the criminal courts. The conceptual framework of the course will be based on the balance of individual rights versus public safety and how that balance is continually evolving in society and how the law responds to this evolution.

CYB/CRJ 503 Cyber Crime

This course will discuss the evolution of cybercrime and crimes of information and how crime using information technology has become prevalent in the US and throughout the world. The course will discuss the types of cybercrimes and contemporary theories of cyber criminality and how cyber criminality compares to traditional theories of crime. Additionally, the course will examine how the criminal justice system has responded to changing crime contexts and specifically the migration of crime to cyber space.

CYB 505 Professional Capstone

The CYB 505 Cybersecurity Professional Capstone course serves as a culminating experience for students in the MS in Cyber Security program. In this course students apply the knowledge and skills attained in the program to a significant research project that addresses a real-world issue in the field of cybersecurity. Students will develop a thesis that reflects their understanding of advanced concepts in cybersecurity, while also analyzing data and synthesizing findings to contribute insights to the field.

CYB 506 Internship

The objective of this course is to have the student engage in practical working and professional environments in Information Security. The Student will be placed in the organizations

Information Technology security department in the public, private and not-for-profit sectors. Students will interact with IT Security professionals in these organizations and will make daily and weekly log entries and be required to submit a term paper outlining the Internship experience.

CYB/COM 520 Mobile Applications, Services and Security

This course gives students the skills necessary to implement secure mobile device services and applications. Students will gain a strong technical background in the security features and limitations of modern mobile operating systems including, but not limited to, Android and iOS. Students will learn about the architectural strengths and weaknesses of each platform, examine the threats and vulnerabilities affecting mobile devices and identify countermeasures and risk mitigation tactics to protect against security threats.

CYB 550 Fraud Examination

This course will provide a master's level view of the principles to prevent and detect fraud. A complex network of social factors lies behind fraudulent behavior and criminal conduct. The course will examine the field of fraud examination — including what fraud is, and how it is committed, detected, and deterred. The goal is to enhance the student's ability to recognize, detect, and prevent financial frauds in governmental, public or private organizations.

CYB/COM 560 Network Security

This course will discuss the security issues in wired and wireless network security systems. The foundation of the security analysis will focus on the OSI security model and classic network attacks such Denial of Service and Man in the Middle Attacks. The course will also analyze other methods of attacks and controls implemented to prevent attacks such as encryption and firewalls. The course will examine methods of security such as public key encryption algorithms such as RSA and also steganography algorithms. Additionally, security standards used for email, LAN and WLAN systems will be discussed.

CYB/COM 561 Software Security

This course will discuss the foundation of the Software Developmental Life Cycle and the integration of security models in the cycle, from development to implementation and operation. Vulnerabilities and threats to software will be discussed and analyzed such as memory protection, access control, file protection, authentication and malware. The student will also test software security in a practical environment using dynamic and static code analysis.

CYB 570 Computer Forensics Investigation & Response

The objectives of this course are to understand the computer forensic cycle from acquisition, retention, maintenance, analysis and reporting. It is an integrated discipline combining the theories underlying forensic accounting, operating systems, network design, and data structures. The following topics will be discussed: electronic evidence in fraud investigation, data acquisition methodologies, analysis of digital evidence, evidence tampering rules, case management software, and writing expert reports.

CYB 575 Practical Applications of Computer Forensics

The objectives of this course are to understand the technical aspects of data acquisition, interrogation of data collection, and data analysis. The focus is on the practical application of forensic computing tools for imaging, statistical analysis, keyword search, use of electronic-discovery software, simulation of cases and understanding of the complementary roles of the forensic team: forensic accounting, e-discovery specialists, legal team, client and others

Course Plan

All courses in the program are offered only once per academic year. Students who do not register for a semester or withdraw from a class will need additional time to complete the program. The schedule of classes is listed below.

MASTERS OF SCIENCE IN CYBER SECURITY COURSE PLAN Prerequisites (CYB 302/502, COM 360) Total 33 Graduate Credits

Fall Year 1	Spring Year 1	Summer Year 1
Credits 6 <ul style="list-style-type: none"> • CYB 501 Criminal Procedures and Legal Rights (3 credits) • CYB 503 Cyber Crime (3 credits) • CYB 302/502 Computer Foundations (if needed) (NO GRADUATE CREDIT) 	Credits 6 <ul style="list-style-type: none"> • CYB 500 Ethics and Criminal Justice (3 credits) • CYB 570 Computer Forensic Investigation and Response (3 credits) • COM 360 Networking (if needed) (NO GRADUATE CREDIT) 	Credits 3-9 <ul style="list-style-type: none"> • CYB 550 Fraud Examination (3 credits) • CYB 560 Network Security (3 credits — prerequisite COM 360) • CYB 505/506 Professional Capstone or Internship (department approval) (6 credits)
Fall Year 2	Spring Year 2	
Credits 6-12 <ul style="list-style-type: none"> • CYB 520 Mobile Applications, Services and Security (3 credits) • CYB 575 Practical Applications of Computer Forensics (3 credits) • CYB 505/506 Professional Capstone or Internship (department approval) (6 credits) 	Credits 6-12 Total credits: 33 <ul style="list-style-type: none"> • CYB 561 Software Security (3 credits — prerequisite CYB 302/502 or COM 152, 210 and MAT 203) • CYB 505/506 Professional Capstone or Internship (department approval) (6 credits) 	

Note: CYB 505 or CYB 506 should only be taken once, preferably in your last semester. Students who have completed COM 152, COM 210 and MAT 203 are not required to take CYB 302/502.

Contact Information

Brooklyn Campus Directory

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Long Island Campus Directory

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