HANDBOOK FOR MASTERS STUDENTS IN FORENSIC SCIENCE

John Jay College of Criminal Justice

The City University of New York (CUNY)

524 W. 59th Street

New York NY 10019

2014

The information contained in this handbook is current as of August 2014 and is supplementary to the information and regulations contained in the *CUNY Bulletin*, *Student Handbook* and *Bylaws and Governance of John Jay College of Criminal Justice-CUNY*.





Disclaimer: This handbook is provided to the incoming graduate student attending the John Jay College of Criminal Justice-CUNY Master of Science Program in Forensic Science. While every effort is taken to keep all information current, the student is responsible for verifying all information and referring to the College for any changes to procedure that have not made it into this Handbook. This Handbook is provided by the Graduate Program Director and is intended to supplement, not replace, official College documents such as the Graduate School Bulletin. In the event that the student finds content of this Handbook to be incorrect, outdated, ambiguous or otherwise contradictory to College policies, the student is to rely on the Graduate School Bulletin and any official College documentation. Students are encouraged to bring any errors, omissions or changes to the Program Director so that the Handbook may be updated accordingly.

Edited by Mechthild Prinz & Christina Cangelosi, August 2014.

Governing Structure for the Master of Science Program in Forensic Science and Administration of the Graduate Program

The Dean of Graduate Studies is the Principal Administrative officer of the Graduate Program and also chairs the Committee on Graduate Studies.

The Committee consists of the Dean of Graduate Studies (Chairperson), the Dean of Students, the Vice President of Enrollment Management, the Chief Librarian, the Graduate Program Directors, the BA/MA Director and two graduate students. The Committee is responsible for establishing general policy for the Graduate Program, which is subject to review by the College Council. The Committee has primary responsibility of admissions, curriculum, degree requirements, course and standing matters, periodic evaluation of the Graduate Program and other areas of immediate and long-term importance to the quality and growth of the Graduate Program in Forensic Science. Responsibilities of the Committee also include advising on all matters pertaining to graduate student honors, prizes, scholarships and awards. The Program Directors are also the academic and professional advisors on course requirements, scholarship issues, thesis related issues, the selection of thesis advisors, opportunities for advanced graduate work, and career opportunities and requirements.

Handbook for Masters Students in Forensic Science

Table of Contents

Section Title	Page Number
Disclaimer	2
Governing Structure	3
Introduction	6
General Requirements for Admission	7-8
Admission Status	8
Permit Students	8
Registration Information	9-10
General Procedures	9
Late Registration	9
Resignation and Change of Program	9-10
Transfer of Credit	10
Independent Study	10
General Degree Requirements	10-12
Dismissal and Probation	10-11
Academic Integrity	11
Retention Standards	11
Time Limit	11
Readmission	11
Maintenance of Matriculation	11
Graduation	11
Commencement	12
Course Load and Grading for the Master of	12
Science Program	
Credit Load	12
Grades	12-14
Change of Final Grade	14
Class Attendance	14
Program Specific Requirements for the	15
Degree of Master of Science in Forensic	
Science	
Degree Requirements	15
Advisement of Students	15
Master Thesis	15
Other Information	16
On Campus Employment	16
Student Travel	16
Student Complaints	16
Program of Study	17-18
Course Sequence	19
Course Descriptions	20-26

Student Support	27
Academic Counseling	27
Personal Counseling	27
Career Advisement	27
Housing	27
Financial Aid	27
Appendices:	
Appendix 1: Course Checklist	29
Appendix 2: Master Thesis Guide	30-40

Introduction

The degree of Master of Science (M.S.) is an advanced degree awarded to an individual who has successfully completed a specific program of study. The Forensic Science Master's program at John Jay College of Criminal Justice-City University of New York (CUNY) includes the completion of a series of specific, rigorous graduate-level courses followed by completion of a research-based thesis on a topic relevant to the field of forensic science.

Forensic science is generally described as the application of the natural sciences to matters of the law. Forensic science is unique in that it encompasses many different areas of study and contains several sub-specialties, all of which interact with law enforcement and the legal system. The scientific method is a theoretical and analytical approach routinely used in scientific discourse, including forensic science. In the mid-20th century, Hans Gross coined the term "Criminalistics," which has become generally accepted in the forensic profession as including the scientific study and research of physical evidence in both public and private "crime laboratories." The American Academy of Forensic Sciences (AAFS) has ten separate sections of which Criminalistics is the largest, accounting for approximately 40% of the Academy's membership.

The Master of Science in Forensic Science (MS-FOS) degree program at John Jay College of Criminal Justice-CUNY was established in 1968 and has been developed and maintained by highly respected and internationally recognized faculty. This faculty encompasses a wide range of expertise in both general physical and biological sciences and specific forensic disciplines. The Masters program is an eclectic program designed to provide graduate level education to individuals wishing to become scientists, administrators, laboratory directors, educators and professionals in a number of forensic science sub-specialties. The program draws from several areas of the hard sciences, including biology and molecular biology, organic, physical and analytical chemistry, physics and analytical methods such as microscopy and instrumental analysis. In addition, the program addresses current issues and trends in forensic science and includes courses on law and legal issues, ethics and statistics. Furthermore, the program focuses on forensic science and research, providing both classroom and laboratory experience. It involves the mastery of techniques routinely employed in both the laboratory and the court. The curriculum is designed to meet the urgent national need for personnel adequately trained to conduct casework analysis in crime laboratories as well as personnel that oversee and supervise the crime laboratories.

The Master of Science program is based upon approximately 40-45 credits of courses and the writing of a research-based thesis. The program offers three specializations: Criminalistics, Forensic Toxicology, and Molecular Biology. All students are required to take a series of required courses followed by a selection of courses specifically geared towards the student's selected specialization. The required core classes are designed to cover fundamental concepts relevant to general forensic science. Students in the Criminalistics specialization take a series of

advanced criminalistics courses that cover the fundamental principles and concepts in the analysis and evaluation of trace evidence and physiological fluids. The students in the Forensic Toxicology specialization take a series of courses concerned with the biochemical activities of drugs and poisons and the use of chemical techniques to isolate and identify these types of materials. Finally, students in the Molecular Biology specialization take courses based upon genetics and forensic applications of molecular biology, with a focus on the isolation, analysis and typing of DNA. A variety of electives are offered in order to provide a well-rounded course of study that introduces the student to the identification and analysis of different types of evidence, analytical techniques in a forensic laboratory, and additional forensic sub-disciplines (such as crime scene investigation, forensic anthropology and firearms analysis). The thesis requirement involves the student working under the tutelage of a faculty member to conduct research in a forensic field. The research culminates in the writing of and approval of a thesis. The student is guided through the research process with the assistance of required courses and academic advisement. The goals of preparing and writing a thesis is for the student to both present and publish their research in a forensic science forum, which will ultimately benefit the student's professional development and help to establish them in the field of forensic science.

Admission Procedure

General Requirements for Admission

The following is a list of requirements for admission into the Master of Science in Forensic Science (MS-FOS) program at John Jay College of Criminal Justice-CUNY:

- 1. A baccalaureate degree or equivalent from an accredited institution
- 2. A minimum undergraduate grade point average (GPA) of 3.0 or equivalent overall and specifically in natural science and math courses.
- 3. The successful completion of the following undergraduate STEM coursework: two semesters (one year) of general biology, general chemistry, organic chemistry, calculus-based physics and calculus and one semester of biochemistry, physical chemistry and statistics. In some instances, applicants may be required to provide information about undergraduate courses (such as a syllabus or course outline) in order to establish that the content is equivalent to a prerequisite. Students who are deficient in no more than three courses may qualify for conditional acceptance.
- 4. The taking of the Graduate Record Examination (GRE) aptitude test, administered by Educational Testing Services (ETS), is required of all applicants. For information and scheduling with regard to the examination, applicants are referred to the official website of the ETS, www.ets.org/gre/ or the ETS general inquiry phone numbers, 1-609-771-7670 or 1-866-473-4373. A minimum score of 1000 (scale prior to 2011) or 297 (revised scale 2011) is required.

5. Applicants who have not studied in English-speaking countries are required to take the Test Of English as a Foreign Language (TOEFL), administered by Educational Testing Services (ETS). For information and scheduling with regard to the examination, applicants are referred to the official website of the ETS, www.ets.org/toefl/ or the ETS general inquiry phone numbers, 1-609-771-7100 or 1-877-863-3546.

Admission Status

There are two categories of graduate students- matriculated (or fully matriculated) and matriculated with conditions (or, conditional matriculation). An applicant may be admitted to the graduate program under one of these two categories:

- 1. Fully matriculated students are those that have fulfilled all general and specific requirements for admission into the graduate program.
- 2. Conditionally matriculated students are those that have deficiencies in their undergraduate coursework, but who otherwise are qualified for admission into the graduate program. Such deficiencies must be removed upon completion of no more than fifteen (15) credits in the graduate program. In addition, the student must maintain a 3.0 (B) average in their coursework to become full matriculated and considered to be a degree student.

Permit Students

All City University of New York permit students must apply via the ePermit system at www.jjay.cuny.edu. John Jay College graduate students wishing to enroll in courses at other colleges of The City University of New York may do so with the permission of the appropriate graduate program director or the Dean of Graduate Studies and the appropriate authority at the other institution. These courses, upon satisfactory completion, will be credited toward the degree. Grades received for graduate courses at other colleges are computed in the student's grade point average.

Students from other CUNY colleges wishing to enroll in graduate courses at John Jay may do so on recommendation of their college and with the approval of the Dean of Graduate Studies. At the time of registration, they must file a statement from the registrar of their college certifying to their matriculation in the graduate program and giving them permission to pursue specific graduate courses at John Jay.

Registration Information

General Procedures

Students register for classes using the College's online registration tool, CUNYfirst (http://doitapps.jjay.cuny.edu/cunyfirst/). Prospective and new students are referred to the John Jay College Student Info center (http://jstop.jjay.cuny.edu/onestop.php) for information on registration, fees, financial aid and access to CUNYfirst. New graduate students will receive an invitation to an academic advisement session prior to registration and a new student orientation immediately preceding the semester in which they plan to begin their studies. The date time and location of the orientation can also be found on the John jay website under Student Affairs \rightarrow Resources for Success \rightarrow Orientation. The student is responsible for any fees pertaining to College tuition and enrollment in addition to any fees incurred for late registration. It is the student's responsibility to contact the Colleges Offices of the Registrar, Bursar and Financial Aid as needed.

Late Registration

Students who register for courses during late registration are responsible for all work assigned from the beginning of the term; they are also subject to the instructor's attendance policy, beginning with the first class meeting of the semester. Syllabi may be reviewed in the Office of Graduate Studies, enabling late registrants to purchase texts and complete first and second week assignments.

Resignation and Change of Program

A student who is unable to meet attendance requirements may, by written application, request permission to resign from a course. The course withdrawal online application is on the Jay Stop website http://jstop.jjay.cuny.edu. Please see the academic calendar for last day to submit withdrawal request. The form is accessible daily from 6:00 AM to 8:00 PM.

Before the first day of the semester and during the Program Adjustment Period (the first three weeks of the semester), all resignations will be processed in accordance with the College's change of program procedures under which courses may be dropped and added. Refunds will be made according to the refund schedule listed in the section of this bulletin, Tuition and Fees.

Beginning with the fourth week and continuing through the tenth week of the semester, students may resign without academic penalty by filing an Application for Resignation, signed by the instructor or the Dean of Graduate Studies. The final date of this period is published in the Academic Calendar each semester.

Requests to resign after the tenth week must be filed at Jay Express Services Center and must include the signature of the instructor as well as medical, occupational, psychological, or other appropriate documentation. Such resignations must be approved by the Vice President for

Enrollment Management. If approval is denied and the student does not complete the course in question, he or she receives a grade of WU, which is the equivalent of an F.

In rare circumstances, students can apply for a retroactive resignation from courses taken in the previous semester. However, such resignation must be for all courses taken in that semester and must be based on special hardships, substantiated by appropriate documentation. Under no circumstances will a retroactive resignation from an entire semester be allowed more than once in a student's graduate course of study. Applications for retroactive resignation may be obtained at the Jay Stop website: http://jstop.jjay.cuny.edu. All resignations are subject to final authorization by the Registrar.

Transfer of Credit

Matriculated students may apply for up to 12 transfer credits for prior graduate work at accredited colleges, provided the courses were completed with a grade of B or higher within an appropriate time proceeding the time of application. Courses taken more than seven years preceding the time of graduate application for admission will be accepted only in exceptional circumstances.

Credits must be approved by the program director of the respective degree program. Students must list the courses taken at the other institution(s) and must also submit the course description from the college catalog. Forms are available on the Jay Stop website.

A request for transfer of credit should be filed during the first semester a student attends the graduate program. The program director must submit the completed form to the Office of the Registrar.

Independent Study

Students are limited to one independent study course in the graduate program. To register for an independent study course, a student must have completed twelve or more graduate credits with a minimum grade point index of a 3.30. Students must also complete the Independent Study Course Request Form, which is available on the Jay Stop website http://jstop.jjay.cuny.edu.

Requirements for the Master of Science Program

General Degree Requirements

Dismissal and Probation. Graduate students must maintain a 3.0 average. All student transcripts are reviewed after the end of each semester. A student whose grade point average falls below 3.0 is subject to probation or dismissal. Those placed on probation should discuss their standing with their program director or the Dean of Graduate Studies.

Academic Integrity. Academic dishonesty is prohibited in the City University of New York and is punishable by penalties including failing grades, suspension and expulsion. Students should consult the Graduate Bulletin for the complete text of John Jay College's Policy on Academic Integrity.

Retention Standards. If, after completing twelve credits including any prerequisites, conditionally matriculated students that achieve an overall average of B or better and have met all other admissions requirements will become fully matriculated and be considered degree candidates.

Time Limit. All Master's degree requirements in a specific program must be completed within eight years of the date of entrance into the program. A student may refrain from matriculating for no more than four semesters within this eight-year period. Any exceptions to this rule must be based on very compelling extenuating circumstances and must be approved by the Dean of Graduate Studies or the Vice President for Enrollment Management.

Readmission. A student in good standing (i.e. with a GPA above 3.0), who has not registered for one or more (consecutive) semesters, is required to file an application for readmission at least one month before the beginning of the registration period. This application is available from the Jay Stop website http://jstop.jjay.cuny.edu. A readmission fee of \$10 will be billed along with tuition and fees upon the first fall or spring semester when the student is accepted for readmission Readmitted students may be subjected to any changes in the program requirements that are made during the student's absence. Students that left the College with a GPA below a 3.0 may apply for reinstatement, but are not assured of acceptance.

Maintenance of Matriculation. Students must register for courses or maintain matriculation status in the semester in which they file for and obtain their degree. Students not taking courses should register to maintain matriculation (MAM 791) in order to remain on the active rolls of John Jay College. Students who have not maintained active status for one semester or more must apply for readmission. In order to comply with the CUNY Board of Trustees reporting and funding requirements, all maintenance of matriculation fees must be received by the end of the second week of classes.

Graduation Requirements. Candidates for graduation must have all degree requirements completed by the end of the semester in which they plan to graduate. An Incomplete grade in a course will result in removal from the list of graduates. Students will also be barred from graduation if they have outstanding Lloyd George Sealy Library or CUNY Interlibrary fines. Application for Graduate Degree must be filed online on the Jay Stop website http://jstop.jjay.cuny.edu according to the date listed in the Academic Calendar. Please check the Registrar website for Graduation deadlines.

Commencement. Participation in the annual spring commencement ceremony is accorded to students who have been awarded the master's degree the previous August or February and

students who are certified by the Registrar's Office to complete their degree requirements by the end of that spring semester. Students planning to complete their degree requirements at the end of the summer session may participate in the annual commencement ceremony provided they have submitted an application for graduation by the deadline date, have two courses or less left to complete their degree (certified by the Registrar's Office) and are currently registered for those courses in the summer session.

Course Load and Grading for the Master of Science Program

Credit Load. Full-time graduate students normally register for 12 credits per semester; part-time students normally take 6 credits per semester. Students employed full-time are advised to limit themselves to no more than 6 credits per semester. Students matriculated-with-conditions are expected to take 6 credits per semester. In exceptional circumstances, students may exceed or fall short of these limits with the permission of a graduate program director or the Dean of Graduate Studies.

No student may register for more than 60 graduate credits during their graduate course of study at John Jay without the approval of the Dean of Graduate Studies and the Vice President for Enrollment Management, and then may only register for courses needed for graduation. In addition, no student may register for more than 15 credits in a given semester without the approval of the Dean of Graduate Studies.

Grades. The following grades are used in the Graduate Program:

Grade	Explanation	Index Value
A	Excellent	4.0
A-		3.7
B+		3.3
В	Good	3.0
В-		2.7
C+		2.3
С	Unsatisfactory	2.0
C-		1.7
F	Failure	0.0
P	Pass	-
INC	Incomplete	-

^{*}Note: No grade can be eliminated from the grade point average by retaking the course

An F grade is used for students who have been doing unsatisfactory work and who resign from a course after the tenth week of the semester. (For the exact date in any given semester, please see "Last Day to Resign without Academic Penalty" in the Academic Calendar on the John Jay website: www.jjay.cuny.edu). This grade may also be awarded for excessive absences,

or for very unsatisfactory work, or for student withdrawal without official approval. The grade of F on the graduate level cannot be eliminated by retaking the course and remains permanently a part of the student's grade point average. However, if the F grade was received for a required course, the student must retake the course.

A grade of INC is given in lieu of a grade only in exceptional circumstances for students who have been doing satisfactory work and have been unable to complete course requirements. Students who receive an Incomplete must fulfill their academic obligation within one calendar year of the end of the semester in which the grade of Incomplete is given. In extraordinary circumstances and with the approval of the Dean of Graduate Studies or the Vice President for Enrollment Management, the time limit may be extended one additional year. Incompletes unresolved in the above-mentioned time period become permanent entries in students' records as an Incomplete (no-credit) and may not be changed thereafter. A maximum of three grades of Incomplete may be converted to regular grades during the course of a student's enrollment in graduate studies at John Jay College. In rare circumstances, more than three grades of Incomplete may be converted to regular grades with the approval of the Dean of Graduate Studies or the Vice President for Enrollment Management. Incomplete grades that are not resolved within the above- mentioned time period become permanent Incompletes. Such grades will not be counted in the student grade point average. No credit is awarded for Incompletes that have not been appropriately resolved.

Grade of W (Withdrawal)

This grade indicates withdrawal with permission of the Registrar while students are doing satisfactory work. Normally this can be done only through the tenth week of the semester. This withdrawal is without academic prejudice.

Graduate students who receive loans or other forms of federal financial assistance should check with the Financial Aid Office before withdrawing from courses.

Grade of WN (Withdrawal – Did Not Attend)

This grade is calculated the same as a W grade and is assigned by the instructor when the instructor has no record of the student attending the course for the semester.

Grade of WU (Withdrew Unofficially)

The grade of WU is assigned by the instructor when a student has ceased attending class and has not submitted an Application for Resignation. The grade is computed as a failure (0.0) in the grade point average (GPA), which may result in the adjustment of financial aid funds. Students who want to withdraw from a class are therefore advised to submit an official Application for Resignation online via Jay Stop (http://jstop.jjay.cuny.edu) prior to the end of the tenth week of classes.

Change of Final Grade. Application for a change of grade assigned by a member of the Faculty may be made at any time within one year from the end of the semester in which the course was taken. This request may be made by either the student or the instructor. The procedures outlined below apply to the change of grades of A, A–, B+, B, B–, C+, C, C– and F.

- 1. **Application for a Change of Final Grade.** To appeal a final grade, a student should first meet with the faculty member to discuss the final grade. If the instructor agrees that the grade should be changed, the instructor can make the change on the appropriate forms provided by the Registrar's Office. These forms must then be countersigned by the Dean of Graduate Studies and returned to the Registrar's Office for entry on the student's record.
- 2. Appeal for a Change of Final Grade. If, after consultations with the faculty member, the final grade is reaffirmed, a student who questions the grade should consult his or her program director. If this does not resolve matters, students have a right to appeal to the Dean of Graduate Studies, who will appoint a three-member subcommittee of the Committee on Graduate Studies to hear the appeal. The appeal should include a letter giving specific reasons for the request for change of grade, the course syllabus, all graded course materials and any supporting documentation, such as the midterm and research papers. It is the responsibility of the student to provide sufficient copies of the appeal, as requested, 14 days prior to the scheduled hearing date. The appeal application will be considered only if all documents required for a grade appeal are submitted with the appeal application. Incomplete applications will not be considered by the Grade Appeal Committee. Appeals submitted by the student more than one year after the final grade is submitted to the Registrar's Office will not be considered by the Grade Appeal Committee. The faculty member will be notified of the appeal and will be requested to respond in writing to the Committee on Graduate Studies. The student and faculty member have the right to make a brief presentation before the subcommittee. The decision of the subcommittee is final and will be communicated in writing by the Dean of Graduate Studies to the student, the faculty member, the Vice President for Enrollment Management and the subcommittee.

Class Attendance. Class attendance and participation are factors in assessing student performance. Faculty will advise students of at the beginning of the semester of the requirements for attendance.

Program Specific Requirements for the Degree of Master of Science in Forensic Science

Degree Requirements

Program requirements consist of 41-43 credit hours. Core courses provide the student with the knowledge and skills required of crime laboratory analysts; elective courses, coupled with research experience, provide training in more specialized areas such as microspectrophotometry, forensic anthropology, and firearm examination. All students are required to write a thesis. There are no alternatives.

Advisement of Students

Upon acceptance into the program, the student will be assigned a faculty member who will help guide the student in their course of study. The MS-FOS advisor team (Professors Cheng, Prinz and Rourke) will work with the students on the optimal course sequence based on student's schedule (full time versus part time) and any missing pre-required undergraduate coursework, and the desired specialization. At a minimum, the student must meet with his or her academic advisor towards the end of each semester to get course specific permission in CUNYfirst to register for the coming semester.

It is the responsibility of the student to meet with their advisor to have the course Course Checklist Form (Appendix 1) filled out and the appropriate CUNYfirst course registration service indicator set to release. The advisor will file the course checklist with the Program Director each semester.

Master Thesis

In order to not delay graduation, a student should start inquiring about MS-FOS faculty research and searching for a thesis advisor during the first year of study. The thesis advisor will guide the student through their research project, serve as the thesis committee chair person and keep the Program Director informed about the student's progress.

Students must successfully complete the Thesis Prospectus series (FOS795-797) in order to be allowed to submit the thesis. This series of classes will introduce students to research related topics and available resources.

In accordance to John Jay College Graduate Studies guidelines, all students must complete the thesis within one year of completion of all other program degree requirements. Only in exceptional circumstances may the student request an extension by written petition to the faculty advisor, program director and dean. If the request is approved, the student will be granted a limited time period to complete the thesis

Check Appendix 2, the Master Thesis Guide for detailed information on the thesis process.

Other MS-FOS Information

On Campus Employment

In addition to other John Jay College employment opportunities, the Sciences Department may be looking for qualified undergraduate course technicians or instructors for fall, spring, and summer semesters. Please contact the Program Director to obtain more specific information.

Student Travel

There is no better way to learn about the field of Forensic Science and build a network of colleagues or potential employers than attending a scientific meeting. Graduate students with at least a 3.0 GPA who have completed at least 12 credits are eligible to apply for John Jay College Student travel funds. These funds (up to \$1,500) are preferably awarded to students presenting at a meeting, but in the past have also been given for regular conference attendance. Information can be found under: http://www.jjay.cuny.edu/7092.php.

Student Complaints

The CUNY bylaws stress the importance of encouraging critical thinking and giving freedom from discrimination. Students have a right to complain. Please refer to current John Jay College Graduate Bulletin for "Policies, Rules and Regulations" section for college guidelines on the institutional complaint process and how student complaints will be addressed. In addition, the Program Director of the MSFOS Program is always available to handle complaints, maintains an internal record of student complaints, and will make sure all complaints and their resolutions will be documented.

MS FOS Program of Study

Forensic Science Graduate Course List

Program requirements consist of 41-43 credit hours. [Prerequisites are in brackets]

Required Courses:

FOS Course No.	Title of Course	Total Credits
706	Physical and Biological Evidence	3
795, 796, 797	Thesis Prospectus	3 (1 credit each)
707	Principles of Forensic Toxicology	3
710	Advanced Criminalistics I [Prereqs: 706,722]	5
721	Instrumental Analysis I	5
722	Instrumental Analysis II [Prereqs: 721]	5
730	Molecular Biology for Forensic Scientists*	3

^{*}This course is not required for students in the Molecular Biology specialization

Specializations and their required courses (each student is required to select one of the following specializations):

Criminalistics

FOS Course No.	Title of Course	Total Credits
711	Advanced Criminalistics II [Prereqs: 710]	5
717	Organic Compound Structure Determination	3
	(Identification of Organic Molecules)	

Molecular Biology

FOS Course No.	Title of Course	Total Credits
704	Advanced Genetics	3
732	Advanced Molecular Biology I [Prereqs: 704]	5
733	Advanced Molecular Biology II [Prereqs: 732]	5

Forensic Toxicology

FOS Course No.	Title of Course	Total Credits
725	Forensic Toxicology I [Prereqs: 707]	5
726	Forensic Toxicology II [Prereqs: 707,725]	5

Elective Courses:

FOS Course No.	Title of Course	Total Credits
705	Statistics for Forensic Scientists	3
760	Evidence, Experts and Ethics	3
761	Forensic Anthropology: Osteological & Genetic	3
735	Advanced Topics in Physical Science [710.711,721,722]	3
736	Forensic Examination of Firearms and Toolmarks [706]	3

Course Sequence for Students. Please note, that most of the graduate classes are offered either only in the Fall or only in the Spring and for some of them enrollment is conditional on having passed another graduate course (see pre-requisites in brackets above). See below for the course sequence that should be followed in order to complete the degree in four semesters. While there is some flexibility regarding the lecture classes and electives may be taken earlier than indicated, the lecture/laboratory course sequence is critical.

Advance planning for the thesis project is also important for achieving this two-year timeline. Students can apply for graduation and participate in the annual Spring commencement ceremony, if they are finishing their coursework that semester and will be able to submit their thesis prior to the summer semester deadline.

Part-time students and students with missing undergraduate coursework having been conditionally admitted to the program will need to plan for at least one additional semester.

All students should make sure to meet with one of the members of the MS-FOS advisement team (Professors Cheng, Prinz and Rourke).

YEAR 1

Fall Semester
All: FOS706
All: FOS707
All: FOS721*
All: FOS795

12 credits

Spring Semester

All: FOS722* All: FOS796

Spec Crim: FOS730 Spec MoBio: FOS704 Spec Tox: FOS725*

9-11 credits

Summer

Thesis

YEAR 2

Fall Semester All: FOS710*

All: FOS797

Spec Crim: Elective 1 Spec MoBio: FOS732* Spec Tox: FOS726*

9-11 credits

Spring Semester

All: Elective 2

Spec Crim: FOS711* and FOS717

Spec MoBio: FOS733* Spec Tox: FOS730

MoBio and Tox: Elective 1

9-11 credits

Summer

Thesis

^{*} Indicates a lecture/laboratory course

Course Descriptions

FOS 704 Advanced Genetics

This course provides an in-depth treatment of selected topics in the field of modern genetics. Topics are drawn from classical, molecular, and population genetics and include the nature of genetic variation and mutations, genetic disorders, recombination and repair mechanisms. Ethical issues and the relevance of genetics to clinical medicine (recombinant DNA therapy, cloning) and forensic science (polymorphisms, population genetics) will be explored. Quantitative analysis and problem-solving skills are emphasized.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 705 Mathematical Statistics for Forensic Scientists

This course is a calculus-based course intended to provide a solid understanding of probability and mainstream statistical techniques for research and professional applications in the field.

Prerequisite or Co-requisite: One year of undergraduate calculus.

FOS 706 Physical and Biological Evidence

This course provides an introduction to the problems encountered and the techniques used in the scientific examination of physical and biological evidence. Topics include crime scene procedures, physical evidence documentation, application of the scientific method in crime scene investigation, scientific and legal integrity of physical evidence, ethical issues, professional standards, expert testimony and the theoretical bases of methods of comparison and their influence on the interpretation of scientific data. Emphasis is placed on practical problem solving in forensic science. Students should register for this course during their first year of study.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 707 Principles of Forensic Toxicology

This course serves as an introduction to the basic principles of forensic toxicology. This course emphasizes the common drugs/poisons that are encountered by a practicing forensic toxicologist and the approach to determining their medico-legal role in establishing the cause of death and disease. Topics include the pharmacology and pharmacokinetics of drugs, impairment versus intoxication, and the interpretation of drug effect in the criminal court setting. The science of ethanol and drugs of abuse, along with other important agents (sports doping drugs, therapeutic drugs, CO etc.), will be discussed as they relate to toxicology. An introduction to the basic applied methods of forensic toxicology is also presented including biological samples, analytical

schemes, and some of the special problems commonly encountered in forensic toxicology. Lectures, directed readings, and participatory discussions will introduce the science of forensic toxicology.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 710 Advanced Criminalistics I

Fundamental principles used in the analysis and evaluation of physical evidence using micro techniques are stressed in the course. The course emphasizes microscopy and microchemistry of trace evidence such as controlled substances, glass, and fibers. Documentation and photography skills are developed. Students will begin to develop their ability to critically assess forensic situations. Case studies are also used in lectures to integrate theoretical concepts with practical applications.

Prerequisite(s): FOS 706 - Physical and Biological Evidence and FOS 722 - Advanced Instrumental Analysis II.

FOS 711 Advanced Criminalistics II

This course teaches concepts and techniques employed in the analysis of physiological fluids using non-instrumental methods. Micro techniques and microscopy are employed for soil analysis, wood identification, and hair examination. Additional documentation and photography skills are developed. Case studies are used in lectures to integrate theoretical concepts with practical applications. The lab course culminates with the analysis and interpretation of trace evidence from a case simulation.

Prerequisite(s): FOS 710 - Advanced Criminalistics I.

FOS 717 Organic Compound Structure Determination

This is an advanced course in the use of modern instrumentation, both spectroscopic and chromatographic techniques, for the solution of chemical problems. This course discusses relationships between functionality and the observed spectroscopic properties of organic molecules. These relationships are then rationalized and used to logically deduce structures of unknown compounds. Chromatographic techniques and principles will be emphasized. Subsequently, five different spectroscopic methods, Nuclear Magnetic Resonance, Mass Spectrometry, Infrared, Ultraviolet Spectroscopy, and Chiro-optical Spectroscopy will be applied in the structural assignment of unknown compounds. The principles behind these methods will be discussed. There will be considerable emphasis on problem solving to determine molecular structure utilizing all available spectroscopic data. Some lecture classes will be practical demonstration of the concepts presented.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 721 Advanced Instrumental Analysis I

The purpose of this course is to introduce the student to the use of chemical instrumentation and spectrophotometric techniques for the analyses of physical evidence materials of forensic import. The course includes lectures and problem sessions and has as a critical portion, hands-on laboratory sessions. The successful student will understand the fundamental use and operation of certain types of chemical instrumentation and their application to forensic analytical problems. He/she will also be able to choose the proper technique to successfully analyze a material, and increase his/her knowledge and understanding of the analytical approach and interpretation of quantitative data by proper calibration techniques.

The lectures include the descriptions of various instruments including their designs, the theory of operation, and the fundamental science on which they are based. Applications of these instruments to forensic samples will be discussed. The accuracy and precision of measurements as well as error analysis will be introduced. This course is concentrated on electronic and vibrational spectra, although other instrumentation topics will be covered.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 722 Advanced Instrumental Analysis II

The purpose of this course is to introduce the student to the use of instrumental chemical separation techniques for the analyses of physical evidence materials of forensic import. The course includes lectures and problem sessions and has as a critical portion of hands- on laboratory sessions. The successful student will understand the fundamental use and operation of certain types of chemical instrumentation and their application to forensic analytical problems. He/she will also be able to choose the proper technique to successfully analyze a material, and increase his/her knowledge and understanding of the analytical approach and interpretation of quantitative data.

The lectures include the descriptions of various instruments including their designs, the theory of operation, and the fundamental science on which they are based. Applications of these instruments to forensic samples will be discussed. This course is concentrated on chromatography and other separation techniques although other instrumentation topics will be covered.

Prerequisite(s): FOS 721 - Advanced Instrumental Analysis I.

FOS 725 Forensic Toxicology I

This course introduces students to methods of determining the presence or absence of drugs (and metabolites) and chemicals in human fluids and tissues and evaluating their role as a contributory factor in the cause or manner of death and disease. This course deals with the systematic approach to processing biological samples for the presence of drugs and poisons. Students are introduced to the fundamental theoretical principles applied to forensic toxicology with topics including: postmortem and ante mortem toxicology, sample preparation and extraction techniques, and methods of analytical screening and confirmation (chromatography, GCMS, LCMS, immunoassay), that are used to solve problems confronting the forensic toxicologist. Advanced topics associated with pharmacokinetics and pharmacodynamics are discussed as they relate to the interpretation of toxicological results. The general focus of the course will be to examine the scientific aspects of the detection of intoxications and the role of intoxicating agents in the commission of crimes and/or overdose and poisoning. The laboratory sessions introduce the basic analytical principles that are common in forensic toxicology. This includes the various methods of sample preparation, extraction, and drug screening, determination of blood ethanol levels and qualitative and quantitative analysis of specimens for various drugs of abuse. Common acidic, basic, and neutral drug screening methods will be applied along with the concepts of conformational analysis.

Prerequisite(s): FOS 707 - Principles of Forensic Toxicology

FOS 726 Forensic Toxicology II

This course is a continuation of the advanced study of the scientific principles associated with the medico-legal aspects of drugs and poisons. It builds upon the specific forensic material, general pharmacology, and toxicology presented in previous courses. Forensic toxicology is an evolving science dealing with the qualitative and quantitative identification of poisonous substances and the consequent application of the results to an episode of intoxication. Forensic Toxicology II is intended to formulate a basis through which the student becomes more conversant with a wide range of practical components designed to reinforce topics covered earlier and seeks to give students experience in analytical problems specific to the human biological condition. This course covers the applied aspects commonly encountered in the practice of forensic toxicology: human performance testing, workplace/occupational drug testing, sports medicine, clinical toxicology, the role of the toxicologist in the courtroom and expert testimony, QA/QC and toxicology laboratory management issues. Specific problems will be expanded to include consideration of the impact resulting from a variety of synthetic and/or natural toxins. In this framework, aspects of terrorist attacks with potential weapons of mass destruction will also be discussed. Parallel laboratory sessions dealing with the above topics will be included in order to demonstrate some of the practical aspects associated with these issues. Methods of workplace drug testing, detection of doping agents, therapeutic drug monitoring, and QA/QC topics will be addressed in the laboratory environment.

Prerequisite(s): FOS 707 - Principles of Forensic Toxicology and FOS 725 - Forensic Toxicology I.

FOS 730 Molecular Biology for Forensic Scientists

Many advances in molecular biology that impact on the medico-legal fields have taken place in recent years. Analytical procedures used to study DNA have been developed for genetic research, clinical studies, and human/non-human identification. Molecular Biology for Forensic Scientists is a survey course geared to forensic science students in the criminalistics and forensic toxicology specializations. Lecture topics include: an overview of forensic biology, statistics and population genetics including: sample collection; bioethics; DNA extraction, quantitation, and typing; databases; lab validation, including quality assurance and quality control, and emerging technologies.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 732 Advanced Molecular Biology I

Many advances in molecular biology that impact on the medico-legal fields have taken place in recent years. Analytical procedures used to study DNA have been developed for genetic research, clinical studies, and human/non-human identification. Molecular Biology for Forensic Scientists is a survey course geared to forensic science students in the criminalistics and forensic toxicology specializations. Lecture topics include: an overview of forensic biology, statistics and population genetics including: sample collection; bioethics; DNA extraction, quantitation, and typing; databases; lab validation, including quality assurance and quality control, and emerging technologies.

Prerequisite(s): FOS 704 - Advanced Genetics.

FOS 733 Advanced Molecular Biology II

This course provides an in-depth treatment of selected topics in molecular biology. Lecture topics include the structure and function of nucleic acids and proteins; DNA replication, recombination, and repair; mutagenesis; transcription and translation; regulation of gene expression; mobile genetic elements, and molecular biological techniques.

The laboratory introduces experimental methodologies: cell culture techniques, transformation, DNA and protein isolation, electrophoresis, Southern and Western blotting, DNA sequencing, and recombinant DNA techniques. QA/QC topics will be addressed in the laboratory environment.

Prerequisite(s): FOS 732 - Advanced Molecular Biology I.

FOS 735 Advanced Topics in Physical Science

This course will introduce the student to the use of advanced instrumental techniques for the analyses of physical evidence materials of forensic import. The course includes lectures and problem sessions. At the conclusion of the course the successful student will understand the use and operation of certain types of advanced chemical instrumentation and their application to certain forensic samples. The student will also be able to choose the proper techniques to successfully analyze these materials. Qualitative methods will be covered and quantitative analysis will be stressed.

Evidence types to be covered are glass, paints, fibers, metals, gunshot residues, and inorganic materials. Careful calibration, which is necessary for quality analysis will be stressed. Ethical concerns over interpretation and report generation will be covered.

Prerequisite(s): FOS 710, 711, 721 and 722

FOS 736 Forensic Examination of Firearms and Toolmarks

After a brief review of the development of firearms and ammunition, a detailed examination of the manufacturer of firearms and ammunition will follow. These principles will be developed to provide a robust background for the student to understand the concepts and theoretical basis of comparison microscopy as it is used to associate fired ammunition to the firearm from which it was discharged. The same principles will also be applied to the forensic analysis of toolmarks. Grading will be based on the written and oral assignments, the examinations and class participation.

Prerequisite(s): FOS 706

FOS 760 Scientific Evidence, Expert Testimony and Ethics for Research and Forensic Scientists

This is a course of study designed to introduce the forensic science student to the interrelationship of science and the law as well as discuss some of the ethical problems that may confront him/her in their role as an expert witness and scientific researcher. The role of the expert and his testimony in assisting the court and the trier of fact will be explored. Classic Frye rule considerations will be presented, as well as the newer Daubert guidelines. The impact of the Federal Rules of Evidence will be discussed.

The course will be taught by lectures and by the Socratic Method. Students will be given assignments from textbooks, handouts, and library research and are expected to be prepared for class discussions each period. A portion of the instruction will be on how to prepare and testify as an effective expert. Some time will be spent on dealing with cross-examination.

Prerequisite(s): Coursework necessary for admission to Master of Science in Forensic Science Program.

FOS 761 Forensic Anthropology: Osteological & Genetic Identification

This course will introduce students to methods in forensics, with applications ranging from the study of ancient civilizations to modern criminal cases. As part of the course, students will become familiar with crime scene investigation techniques and excavations of human remains in archaeological contexts. Students will be introduced to sample collection and identification methods for human and nonhuman remains, including DNA analyses, osteology, and facial reconstruction. The students will also develop skills in basic human skeletal anatomy, pathology and trauma investigation, sample/evidence collection, genotyping, and the study of changes occurring in bodies post-mortem, or taphonomy. Finally, the broader social and legal context of forensic analyses in different communities will be presented in the course by discussing well-known archaeological and criminal investigation cases.

Prerequisite(s): None

FOS 795, 796, 797 Thesis Prospectus

This series of three seminar courses is designed to introduce the student to scholarly research, report writing, library research and documentation styles/techniques. Students will develop communication skills via oral (PowerPointTM) and poster presentations. Students should register for FOS 795 in their first semester of study. In FOS 795, students will interact with faculty and upper-level graduate students to foster the development of a thesis research project. Students will present journal club style presentations in FOS 796 and then progress in FOS 797 to present the development of their thesis research, from literature review and experimental design to preliminary data presentation. Students must develop a thesis prospectus by the end of FOS 797.

Prerequisite(s) for 795: Coursework necessary for admission to Master of Science in Forensic Science Program.

Prerequisite(s) for 796: FOS 795

Prerequisite(s) for 797: FOS 796

FOS 780-781 Fieldwork in Forensic Science

This course provides the student with supervised fieldwork experience in appropriate institutional settings. A variety of patterns of involvement is available, varying in terms of hours of work, location, nature of assignment, etc.

Prerequisite(s): GPA of 3.0 or higher and permission of the program director.

Student Support

Academic Counseling

Graduate advisors and the Program Director are available for consultation on academic matters throughout the year. Students must meet with their advisors prior to registration each semester or when other academic questions arise.

Personal Counseling

Licensed professionals offer a range of psychological and counseling support services to meet the adjustment, mental health and developmental needs of students and others in the campus community. To help foster academic, personal and vocational development in students, a wide range of counseling, outreach, training, consultation and educational services are offered by staff and graduate externs. The office (212.237.8111) also supports the academic goals of the College through consultation with faculty, staff and campus organizations. A vital component of counseling services is provided by the Women's Center (212.237.8184) as well.

Career Advisement

The Center for Career & Professional Development (212.237.8754 and located at L72.00 NB) offers a range of services to support and foster the development of graduate students. The office fosters training, consultation and other services to those students who are seeking professional experience in their various fields of study before completion of their degrees. The graduate career adviser is available to meet with graduate students on an individual basis for career consultations. The graduate career advisor for the MSFOS Program is Linda Mitchell. She can be reached at 212.484.1302. To set up an advising appointment please visit: http://www.jjay.cuny.edu/1614.php and log in or create your John Jay Careers account.

Housing

Currently, there are no housing facilities available to graduate students at John Jay College of Criminal Justice-CUNY. Students who are accepted to the Graduate Program in Forensic Science are advised to allow ample time to find housing. Students requiring assistance in finding housing should contact the Office of Student Activities. Material regarding contact information and the description of services offered by the Office of Student Activities can be found on John Jay College's website

Financial Aid and Fellowships

Financial aid is available to matriculated students in the form of grants, loans and part-time student employment opportunities (Federal Work Study). Interested students are encouraged to contact John Jay College's Financial Aid Office for additional information and scheduling appointments to speak with a financial aid advisor. The Office of Fellowship & Scholarship

Opportunities is available for information about opportunities open to graduate students. http://www.jjay.cuny.edu/academics/6434.php

MS FOS COURSE CHECKLIST CONCENTRATION: ____

NAME:	ID:
ADVISOR:	
CORE REQUIREMENTS (27 CREDITS)	
Physical and Biological Evidence (FOS 706) Thesis Prospectus (FOS 795, 796, 797) Advanced Criminalistics I (FOS 710) Instrumental Analysis I (FOS 721) Instrumental Analysis II (FOS 722) Molecular Biology for Forensic Scientists (FOS 730) Principles of Forensic Toxicology (FOS 707)	3 (1 each) _ 5 _ 5 _ 5
*Not required for Molecular Biology concentration	
CONCENTRATION REQUIREMENTS	
Criminalistics (41 total credits) Advanced Criminalistics II (FOS 711) Organic Compound Structure Determination (FOS 717) (Identification of Organic Molecules) Elective Elective Molecular Biology (43 total credits) Advanced Molecular Biology I (FOS 732) Advanced Molecular Biology II (FOS 733) Advanced Genetics (FOS 704)	5 3 3 3 5 5 5 3
Elective Elective	3
Elective	3
Forensic Toxicology (43 total credits) Forensic Toxicology I (FOS 725) Forensic Toxicology II (FOS 726) Elective Elective	5 5 3 3
HIGHLY RECOMMENDED ELECTIVES	
Statistics for Forensic Scientists (FOS 705) Evidence, Experts and Ethics (FOS 760) Forensic Anthropology: Osteological & Genetic Identification (FOS 761) Advanced Topics in Physical Science (FOS 735) Forensic Examination of Firearms and Toolmarks (FOS 736)	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
OTHER COURSES	<u>CONDITIONS</u>
DATE ADVISOR'S SIGNATURI	F





Master of Science in Forensic Science (MS FOS) Master Thesis Guide

September 2014

Department of Sciences John Jay College of Criminal Justice City University of New York

Edited by Mechthild Prinz - August 28, 2014 Approved by MS-FOS graduate faculty members - September 4th, 2014

Information contained in this guide is current as to the above date and supplementary to the information on the college website and the information and regulations contained in the John Jay College Graduate Bulletin.

Introduction

This Master of Science Thesis Guide is specific to the Master of Forensic Science (MS-FOS) program and supplants the previous Master's Thesis Guidelines issued by the John Jay College Office of Graduate Studies. This document aims to be a comprehensive resource guiding students on all practical aspects of doing graduate research and submitting a Master's thesis; it does not replace official college documents such as the Graduate Student Bulletin. Please contact the Program Director if you notice any inaccuracies or gaps in the content.

There are four important changes to the previous John Jay College Graduate Studies and MS-FOS specific thesis process that all current students and faculty must be aware of.

College wide changes (also see 2014-2015 Graduate Bulletin)

1.) The final approval signature of a thesis will now come from the individual program director. Previously each thesis needed to be signed by the Dean of Graduate Studies. See "Thesis Approval Page" and "Thesis Submission" for details.

This change is in effect immediately (Fall 2014).

2.) John Jay College now limits the time incoming graduate students have for submitting a thesis. All students who are unable to submit a thesis within one year of completing their required coursework are required to file for an extension. See "Thesis Timeline and Tracking" for details.

This is a new requirement and applies to all students entering a John Jay graduate program in the Fall 2014 or later.

MS-FOS specific changes (approved by faculty)

1.) The thesis committee now must have a third reader external to the MF-FOS program. Having a third committee member used to be optional, but is now mandatory. See "Thesis Advisory Committee" for details.

This change applies to all MS-FOS students planning to submit their thesis during or after the Spring 2015 semester. Current students ready to submit for the Fall 2014 November 30th deadline are exempt from this new requirement.

2.) All MS-FOS graduate students must present their thesis research in a public forum with the thesis advisory committee members present. In the past, these presentations were optional and attendance was limited to students enrolled in FOS797. See "Thesis Timeline and Tracking" for details.

This change applies to all MS-FOS students planning to submit their thesis during or after the Spring 2015 semester. Current students ready to submit for the Fall 2014 November 30th deadline are exempt from this new requirement but are encouraged to consult their advisor schedule a voluntary public presentation.

The Thesis

Writing a special research project is a traditional feature of academic programs at the master's level. The primary purpose of the master's thesis is to demonstrate the student's capacity to conduct research in their field of study. For this reason, the student *must* complete a thesis in their field of study defined by their degree program. While the thesis is expected to contribute to the body of knowledge in the field, emphasis is placed on the student's ability to demonstrate mastery in the research methods proposed.

Prospectus Class

Students must successfully complete the Thesis Prospectus series (FOS795-797) in order to be allowed to submit the thesis. This series of three pass-fail seminar courses is designed to introduce the student to scholarly research, report writing, library research and documentation styles/techniques. Students should register for FOS 795 in their first semester of study. In FOS 795, students will be introduced to science faculty members and ongoing research projects. In FOS797 students are expected present their thesis research, from literature review and experimental design to preliminary data. In order obtain a passing grade for the last prospectus course, FOS 797, students must have submitted a Thesis Advisor Agreement and a thesis proposal/prospectus.

Thesis Advisor

A thesis advisor <u>must</u> be a full-time graduate faculty member in the MS-FOS program. Alternate arrangements may be made only if approved by the student's Program Director and the Graduate Dean.

Thesis Advisory Committee

The composition of the thesis committee will vary according to the thesis sponsor's research direction. Each committee consists of at least three members. The thesis advisor acts as the chair of the committee. The second member also must be MS-FOS graduate faculty in the Department of Sciences at John Jay but can be either full-time or part time. The mandatory third reader must be external to the MS FOS Program; however he/she must have appropriate academic credentials (as determined by the program director) or appropriate scientific expertise related to the research project. External members of the thesis committee may be drawn from other John Jay College Departments, other CUNY colleges, other New York City research institutions, or from a relevant discipline of the different local crime laboratories. The Program director and the student need to approve this member.

Thesis Timeline and Tracking

A student should start inquiring about MS FOS faculty research and searching for a thesis advisor during the first year of study. Once the student and the faculty member have mutually agreed to thesis advisement, formulated a project title, and the Thesis Advisor Agreement (Appendix 1) has been filled out and submitted to the Program Director, the faculty member will become the student's thesis advisor. Only full time faculty members can be the primary thesis advisor. The program director will inform the prospectus course instructors about the various thesis projects students are working on. The Thesis Advisor Agreement and regular Thesis Progress Reports (Appendix 2) must be filed with the Program director. Upon completion of the approved thesis, the student will be eligible for a Master's degree.

The public oral presentation of the thesis work will be planned based on the student's progress either shortly before or after completion of the thesis manuscript. As long as all thesis committee members are present, the presentation can take place during either one of the FOS795-797 courses or be scheduled separately.

Students who are planning to graduate after their 4th semester in the program should plan on completing most of their thesis work in the first summer after the second semester. John Jay College requires all students to submit their thesis <u>one year after completing all coursework</u> required for graduation. Only in exceptional circumstances may the student request an extension by written petition to the faculty thesis advisor, program director and dean. If the request is approved, the student will be granted a limited time period to complete the thesis.

Thesis Proposal/Prospectus

The proposal is to be prepared by the student in close discussion with the thesis advisor and should be approximately 3-5 pages long. It should include the following sections:

- An **introduction** to the problem followed by a review of the 4-6 most important articles that describe what has already been done in this field and how they contribute to the topic.
- A brief outline on methods, materials and equipment to be utilized in the project.
- A section on **ethical issues** and, for projects involving human subjects, plans for obtaining John Jay College Institutional Review Board (IRB) approval.
- A rough **timeline** for the research, organized by blocks such as months, semesters, etc. Categories for the timeline may include
 - Preliminary testing (e.g. feasibility studies)
 - Materials/supplies and sample acquisition
 - Testing phase
 - Data analysis
 - Thesis writing (plan on multiple drafts)
 - Oral presentation
 - A discussion on expected results, and how they will affect current knowledge and practices
- **References** (in APA citation format)

It is the thesis advisor's responsibility to request this proposal from the student, review and share it with the thesis committee, and provide feedback to the student in a timely fashion to ensure steady progress of the planned work. The prospectus class instructor will support this effort. The thesis proposal must be signed by the student and the thesis advisor. It is the student's responsibility to submit the signed proposal to the student's prospectus course instructor.

Human Subject Research

Any thesis research involving biological samples, surveys or other research on human subjects requires a review and approval by the College's Institutional Review Board (IRB). This also applies to studies involving samples having been subject to IRB approval from another institution. Do not make any assumption about being exempt. Students should contact the IRB for information regarding how to submit their proposed research to the IRB committee at (212) 237-8961 or +jj-irb@jjay.cuny.edu. More information is available at http://www.jjay.cuny.edu/academics/1440.php

Thesis format

Strict adherence to the format will prevent delays caused by library submission issues.

- 1) **Paper:** All thesis drafts should be printed on regular paper.
- 2) Final copies **must** be printed on one of the following:
 - a) Bond paper (also called fine business paper) 24 lb./25% cotton watermarked **OR**
 - b) Thesis paper (available at Staples)
- 3) **Spacing:** The thesis, including the reference pages, must be double spaced.
- 4) **Margins:** The left margin <u>must</u> be one and a half inches (1-1/2") for all drafts and final copies. The right, top and bottom margins <u>must</u> be one inch (1").
- 5) **Pagination:** Thesis page numbers should be in Arabic numerals and should be placed in the upper right-hand corner or top center of the page; introductory pages should have lower case Roman numerals. The abstract, title page and approval pages should **not** be numbered, nor should they be counted in the pagination.
- 6) **Citation:** The APA style of documentation requires the author-date method of documentation. The surname of the author and the year of publication are inserted in the text at the appropriate point. All references cited must be included in the reference list at the end of the thesis. Consult the <u>Publication Manual</u> for additional details.
- 7) **Quotations:** The Fair Use Clause of the Copyright Act must be observed in quoting copyrighted materials. It is advisable to request the copyright owner's permission for any quotation exceeding 150 words. It is wise to consult the individual publisher, because as an author you are liable for copyright violations on the basis of the particular use.

Unpublished material may be protected under copyright law. Students are advised

to contact the Library of Congress to request information regarding how to register unpublished material:

The Register of Copyrights Library of Congress Washington, D.C. 20559

8) **Footnotes:** Content footnotes are numbered consecutively throughout the thesis using superscript Arabic numerals, and are placed at the bottom of the page on which they are referenced.

Thesis Title Page

The thesis title page must contain the following information (centered, see Appendix 3 for sample):

- 1) The full title of the thesis.
- 2) A thesis presented in partial fulfillment of the requirements for the degree of Master of Science in Forensic Science, John Jay College of Criminal Justice, City University of New York
- 3) The author's full legal name.
- 4) The month and year of graduation, ex. May, 2014.

Thesis Approval Page

The thesis approval page must be bound into the thesis, directly after the title page, and it must be typed or printed on the same bond paper used for the thesis. The approval page <u>should not be numbered</u> and it should not be counted in the pagination of the thesis. The approval page must have the following information (centered, see Appendix 4 for sample):

- 1) The full title of the thesis.
- 2) The author's name beneath the title.
- 3) The approval page statement that must read as follows:

4)

This thesis has been presented to and accepted by the Office of Graduate Studies, John Jay College of Criminal Justice in partial fulfillment of the requirements for the degree of Master of Science in Forensic Science

- 4) The four signatures** indicated below:
 - 1) Signatures of the thesis advisor
 - 2) Signature of the second reader
 - 3) Signature of the third reader
 - 4) Signature of the Program Director

The Program Director will receive, approve, and sign this page <u>after</u> the other requisite signatures have been obtained.

**Note: The signatures indicate that the faculty members in question have reviewed

the thesis in detail, approved its substance, and as far as possible, ensured that the student wrote the thesis clearly and correctly.

Abstract

An abstract summarizes the thesis and should not exceed <u>120</u> words. The abstract page should be titled "Abstract" and must be submitted with the thesis.

The abstract must be bound into the thesis directly after the thesis approval page and should not be numbered and it should not be counted in the pagination of the thesis.

Thesis Submission

Students must complete the thesis and receive final approval in order to receive their degree. The thesis work should have been presented in a public meeting and all three committee members must indicate their approval by signing the approval page. For the final sign-off, submit a hard copy of your thesis, including the <u>two</u> signed approval pages, to the Program Director by the specified semester deadlines. Students are encouraged to submit their thesis before the deadline.

Spring Semester May 1st Summer July 31st

Fall Semester November 30th

This review copy should be on regular paper and not bound yet.

After the program director has approved the thesis, and the thesis clearance from has been received by the registrar a passing grade (P) will be posted.

Thesis Clearance from Registrars, Bursars, and Library

Once the approval pages have been signed, the student must do the following:

- 1) Show the <u>original signed approval page</u> to the Associate Registrar, (Room 1280N). Students will then be provided with the Clearance Form. Also bring and submit a copy of the signed approval page.
- 2) Submit the binding fee (cash only) to the Office of the Bursar and have them sign the Clearance Form.
- 3) Submit the Clearance Form with <u>two</u> bond copies of the approved thesis and <u>two</u> signed approval pages to the library reference desk.
- 4) After the Clearance Form has been signed by the Office of the Bursar <u>and</u> the Library, it must be returned to the Office of the Registrar.

Library Record

After the library receives a thesis, it is microfilmed, bound and cataloged by the library. After a few months, a record of the thesis will appear in the CUNY+ and WorldCat international database. One copy of your thesis will become available to CUNY borrowers and by interlibrary loan and the microfilm and second copy will be available for library use only.

Appendix 1 – MS-FOS Thesis Advisor Agreement



MS-FOS Thesis Advisor Agreement

Student:	
Thesis advisor:	
Thesis topic or preliminary title:	
Thesis Advisory Committee members:	
2 nd MS-FOS reader	
3 rd external reader	
This is to certify that I accept the sponsorship course of his/her thesis research. As the thes his/her thesis advisory committee.	p of the student named above during the is advisor, I agree to serve as Chairperson on
I will keep the program director informed ab report changes made to the Thesis Advisory	out the progress of the thesis project and will Committee.
Thesis Advisor Signature	Date
Received by Program Director:	
Initial/Date	
Prospectus Instructor informed:	
Initial/Date	
	CU The City University of

Appendix 2 – MS-FOS Thesis Progress Report



MS-FOS Thesis Progress Report

Student:		
Thesis advisor:		
Thesis topic or preliminary title:		
Evaluation of Student's Progress:		0
Was the topic finalized? Y/N		
Has the thesis proposal been submitted? Y/N		
When is the expected completion date? Y/N		
Were there any changes in the committee, topic, pro	ject plan? Y/N	
If yes, please explain briefly:		
Other comments:		
Thesis Advisor Signature	Date	@
Received by Program Director:		
Initial/Date		
		FALL The City



Appendix 3 – Sample Title Page

[Full Title of Thesis]

A thesis presented in partial fulfillment of the requirements for the degree of Master of Science in Forensic Science John Jay College of Criminal Justice City University of New York

[Author's Full Legal Name]

[Month and Year of Commencement]

[Full Title of Thesis]

[Author's Full Legal Name]

This thesis has been presented to and accepted by the Office of Graduate Studies, John Jay College of Criminal Justice in partial fulfillment of the requirements for the degree of Master of Science in Forensic Science

[Full name]		
Thesis Advisor	Signature	Date
[Full name]		
Second Reader	Signature	Date
[Full name]		
Third Reader	Signature	Date
[Full name]		
Program Director	Signature	Date