

# THESIS GUIDE

**2023-2024**

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## MASTERS IN FORENSIC SCIENCE

Department of Sciences, John Jay College of Criminal Justice, CUNY



**Updated version – July 2023 for 2023-2024 Academic Year**

**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**

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 in the forensic science program; 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.

## Overview:

### What is a thesis?

A thesis, or dissertation, is a document submitted in support of candidature for an academic degree.

### What is the purpose of a thesis?

The primary purpose of the master's thesis is to demonstrate the student's capacity to conduct research in their field of study.

### What is the thesis requirement?

Students must complete a research project and submit a **written** thesis in order to earn their MS degree. Students are also required to **present** their work in a public setting in front of their thesis advisory committee.

### Are there rules about the research topic?

This thesis is expected to:

- a) contribute to the body of knowledge in the field of Forensic Science, and
- b) demonstrate mastery in the research methods applied by the student.

### How long does it take to complete a thesis?

Designing a project, being trained in the relevant methods, performing the experiments, data analysis and writing normally takes several semesters. However, this depends on the amount of time a student dedicates to their project. Typically, students would select a mentor and a project in the First or Second Semesters, perform experimental work in the Summer and Third Semester, and focus on data analysis, writing and thesis presentation in the Winter break and Fourth Semester. See Timeline example below (page 6).

### Is there a thesis course?

Yes, the Thesis Prospectus Course series will prepare students for thesis research (FOS795 and 796). Each student is also required to complete one laboratory research class (FOS797) with their mentor. See below for more information.

### What is a thesis advisor?

A thesis advisor (or mentor) is the **person who supervises an MS student's thesis research**. The thesis advisor will work closely with a student, answer questions, and provide advice. The primary thesis advisor must be a full-time graduate faculty member in the MS-FOS program.

### How do I find a thesis advisor?

The first prospectus course will introduce students to faculty research. Feel free to use the John Jay website, Google Scholar or the library to look up current professors and what they work on. It is highly recommended that you explore and select your mentor in the first two semesters.

### **What is a thesis committee?**

The thesis committee is required to have three members, who are usually professors and other experts in the field. The committee is involved in the students' work, reviews, and approves their thesis. The thesis committee will also grade the student's thesis presentation.

### **Who can be on the thesis committee?**

The composition of the thesis committee is mandated by our accreditation board:

- **Member 1:** The thesis advisor acts as the chair of the committee. They **must be full-time graduate faculty members** in the MS-FOS program.
- **Member 2:** The second reader must be **either a full-time or part-time (adjunct) graduate faculty member** in the MS-FOS program.
- **Member 3:** 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 universities or research institutions, or from the different local crime laboratories. Thesis advisors will likely have colleagues that they have worked with, who could play this role. For students performing their research at another institution, e.g. during an internship, their supervisor at the remote location typically serves as the external committee member.

### **Who approves the thesis advisor committee?**

The student and the Program Director both need to approve the thesis committee. The current Program Director is Dr. Concheiro-Guisan.

### **When do I start thesis research?**

As soon as possible. As indicated before, an example for a timeline is provided below (page 6).

### **Is there anybody who can help with writing and finding references?**

The John Jay College library has knowledgeable staff who can help with literature research. There is a subject matter guide for forensic science. <https://guides.lib.jjay.cuny.edu/forensicscience>

### **How do I submit my thesis?**

John Jay now requires an electronic upload. Instructions are included later in this guide.

# Thesis Prospectus Series:

## How do students prepare for thesis work?

Students must successfully complete the Thesis Prospectus series (FOS795-797) in order to be allowed to submit the thesis.

### 1) **First Semester: Introduction to faculty research and campus resources**

**FOS795** is the first in a series of three mandatory prospectus courses. This is a seminar designed to introduce the student to John Jay college resources, current topics in forensic science, and scientific research design. In preparation for finding a mentor and starting thesis research, students will hear about scholarly research by science faculty, research ethics, and library and writing center resources. Students will be required to complete an online training module on research ethics provided by CUNY (Responsible Conduct in Research).

### 2) **Second Semester: Feedback on research plan**

**FOS796** is the second required prospectus seminar course. It continues to introduce the student to scholarly research, and professional and ethical issues in scientific research and forensic science. In this formal seminar, presentations by a combination of invited experts, faculty, and/or students on published articles, original research, and other relevant topics will provide students with a broader perspective on forensic science. In FOS 796 students are required to develop and submit their research plan - a thesis prospectus (see appendix 1 for details).

### 3) **Third or Fourth Semester: Faculty mentored research class**

**FOS797** is the third required prospectus class. Unlike FOS795 and FOS796 it is not taught as a lecture class. This course requires the student to work on a research project under the tutelage of a faculty member. Students must enroll with their mentor for this course. The purpose of this course is to assist the student to complete their thesis research requirement. Please note that a research project may require Human Subject Research approval.

# Timeline

## What is the typical timeline\* for thesis research?

First Semester	FOS795: Students should start inquiring about MS-FOS faculty research and searching for a thesis advisor.
Winter	Students should start working with their faculty mentor on formulating a project.
Second Semester	FOS796: Students develop a project plan and submit a thesis prospectus.
Summer	Student research (experimental part)
Third Semester	Students continue to work on experimental research and data interpretation (can be enrolled in FOS797)
Winter	Complete research and start thesis writing
Fourth Semester	<p>Students complete writing their thesis, and obtain committee approval (signature on signature page) (can be enrolled in FOS797, if not already completed).</p> <p>Students present their research in a public forum in front of their committee. **</p> <p>Students submit the signature page and their thesis to the program director.</p> <p>After program director approval, they submit their thesis to the library to fulfill this degree requirement and graduate.***</p>
Summer	If delayed, students submit their thesis for summer graduation.

\* This timeline will be different for part time students and students, who need to complete missing prerequisites.

\*\* The student and their advisor need to plan a public (virtual or in-person) oral presentation of the thesis research either shortly before or after completion of the thesis manuscript.

\*\*\* Graduation also requires coursework completion.

PLEASE NOTE: In order to graduate, students must apply for graduation in the semester they are planning to submit their thesis. Students must have active student status for the relevant semester. A Maintenance of Matriculation course (MAM791) is available if the thesis is delayed and the student has already completed all required courses.

### Time Limit

All master's degree requirements in a specific program must be completed within **eight years** of the date of entrance into that 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.

## Submission of Thesis

### How do students submit their thesis?

In order to submit their written thesis and receive their degree students must complete the following tasks:

- Write their thesis document using the below-mentioned content expectation (see Appendix 3) and format (see Appendix 4);
- Present their thesis work in a public meeting in front of the committee;
- Receive committee approval: In order to give their approval, all three committee members must review the thesis and sign the signature page;
- Provide a copy of the thesis signature page and written thesis to the MS-FOS program director (See due dates below);
- Receive program director approval page (to be provided by the program director if the thesis is approved); and
- Upload their thesis and approval page (see below instructions).

Student must submit their documents to the program director by the specified semester deadlines:

	<b>Director Due date</b>	<b>Registrar Due date</b>
<b>Spring Semester</b>	May 15th	June 1st
<b>Summer</b>	August 15th	September 1st
<b>Fall Semester</b>	December 5th	January 1st

### How do students upload their written documents?

All thesis uploads are done electronically. To do this, students must create two accounts:

- CUNY Academic Works ([http://academicworks.cuny.edu/jj\\_etds/](http://academicworks.cuny.edu/jj_etds/))
- ProQuest ETD Administrator (<http://www.etdadmin.com/cgi-bin/school?siteId=721>).

The thesis file must be in PDF format.

There are three things the student must prepare before uploading their thesis:

- First the student needs to create up to six keywords representing the thesis content during online searches. These should be discussed with the advisor and must be ready before uploading.
- Secondly, the student must decide on a subject category for the thesis.
- Third, the student and the advisor must decide if they want an embargo, where the thesis cannot be seen by the public until a later date. If yes, the options will be a delay of 6, 12, 18 or 24 months.

Complete instructions and guidelines for this process are included in Appendix 7.

**Please note that a \$25 fee payable by credit card will be charged during submission to the ProQuest website.** This fee covers the cost for the John Jay Library to receive a hard copy of the thesis.

Ordering additional hard copies for your own use is optional.

#### **Are there sample theses available for students to review?**

The staff of the Lloyd Sealy Library and the Department of Forensic Science (MS-FOS) has created a 'Thesis Master List' to allow students to read previous research thesis submissions. Additional sample theses are available in the Lloyd Sealy Library in the John Jay College Stacks-Special Collections area. We also provide these examples on the program's website on the "thesis" page.

#### **Where can students find the thesis forms?**

The forms and templates you will need for thesis submission will be posted on the FOS795 Blackboard page. Or contact the program director, college assistant, or prospectus instructor to get the forms; they can be seen in appendices 5-7.

- MS- FOS Thesis Advisor Agreement
- Thesis template in Word (including official Title page and typed names committee page)
- Committee Signature Page



# Appendices

## Appendix 1: Thesis Prospectus

The thesis prospectus is a document that provides a road map for the proposed thesis. It is intended to get you thinking about your project early enough to ensure completion in a timely manner. The prospectus is to be prepared by the student in close discussion with the thesis advisor and should be approximately 5 pages long. It should include the following sections:

- A **title** page in APA format
- An **abstract** in APA format up to 250 words
- A **literature review** to the problem followed by a review of the 10-15 most important articles covering previous work in the field and their contribution to the topic. This section needs to include a brief impact statement on how the proposed research will potentially affect a forensic discipline.
- An explanation of the projects **aims and hypothesizes**
- A brief outline on **research approach** including **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 (see appendix 2 for additional information).
- **References** (in APA citation format)
- A rough **timeline** for the research, organized by blocks such as months, semesters, etc. The timeline should include target dates for:
  - Preliminary testing (e.g. feasibility studies)
  - Materials/supplies and sample acquisition
  - Testing phase
  - Data analysis
  - Thesis writing (plan on multiple drafts)
  - Oral presentation

Students are required to hand in the thesis prospectus to the FOS 796 instructor. Further details will be provided in class.

## Appendix 2: Human Subjects and Responsible Conduct of Research

Any thesis research involving biological samples, surveys or other research on human subjects requires a review and approval by the College's Human Research Protection Program (formerly 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 John Jay's HRPP for information regarding how to submit their proposed research for review at (212) 237-8914 or [jj-irb@jjay.cuny.edu](mailto:jj-irb@jjay.cuny.edu). More information is available at <http://www.jjay.cuny.edu/human-research-protection-program-formerly-irb>. If a project requires IRB approval, all project participants will have to complete an online certificate on Human Subject Research offered by the Collaborative Institutional Training Initiative (CITI).

CUNY research policy also mandates that graduate students who are involved in research must complete CUNY online training in Responsible Conduct of Research (RCR) within six weeks of starting their research. The RCR training is also offered by CITI and instructions for both certificates can be found here: <http://www2.cuny.edu/research/research-compliance/training-education/citi-training/>.

Please note, both CITI modules will be discussed in FOS795.

### **Appendix 3: Thesis Content Expectations**

**General Remarks** – A thesis project should be a stand-alone project with a sample number sufficient for would be a novel data analysis method of existing data. There is no maximum page number limit. On average MS-FOS theses have been approximately 50 pages long.

**Title Page** – Title, author, degree, month (May, August or December, representing term submitted)

**Committee Page** - Title, author, college acceptance sentence, names of committee members (with academic degree) (See attached)

**Abstract** – A summary of the thesis between 100 and 250 words; normally the last thing to write after all sections are complete.

**Acknowledgments** – Optional

**Table of Content** – Arabic page numbers start with Introduction.

#### **Introduction**

Explain your research goals. State the problem and the relevance of the project. Include how you are addressing the open issues and what your research hypothesis is.

#### **Literature review**

Describe prior research on your topic. Briefly cover the scientific foundation of your methods by summarizing other authors' work and describing gaps in the current knowledge.

Depending on your topic, this is also where you would write about the chemistry of your assay and/or basics of your instrumental approach. For method optimization projects providing instrumentation details and explaining previous protocols in this section will make it easier to discuss your results later.

The Introduction and Literature Review section can be combined. Together they should cover a minimum of 20 peer-reviewed scientific articles or data sets. Depending on the topic more articles will be needed to provide sufficient background information.

#### **Material and Methods**

This section should contain all of the information needed for another researcher to reproduce your results. For your test samples list the source, sample numbers, and human subject approval if required. Describe each method used. You must list exact experimental steps and instrument settings.

This section should be more detailed than what you often see for material and methods in a published journal article. Reagents and equipment need to be listed with information on the supplier, which should be in the following format: (manufacturer, city, country).

## **Results**

Present results in a logical fashion; grouped together as needed. This section does not have to be chronological. Results need to be explained in the text. It is not acceptable to just post graphs and tables without describing what the reader is supposed to see. If your project generated a lot of raw data that may be of interest, these can be added as an appendix. The results section does not need to include every single result, but must include representative images, chromatograms, electropherograms, spectra, tables, etc., and the corresponding data summaries.

Sometimes it is easier to start discussing results while describing them. In that case combining the sections for Results and Discussion is an option.

## **Discussion**

This section should critically evaluate data, compare your results to applicable research performed by others, formulate conclusions, and point out future directions for this type of research. If other authors have performed similar experiments, this is the section where you need to cite them and compare their findings to yours.

## **Conclusions**

This should be a brief recap (about a paragraph) of the discussion and close with future directions, and your final conclusions. (Recommended for combined Results and Discussion sections.)

## **References**

You must use the APA format. The APA style of documentation requires the “author-date” method of documentation with an alphabetical reference list (consult the library website for additional details on the format). **All** references cited in the text must be included in the reference list at the end of the thesis. **All** references in the list must have been cited in the text. It is highly recommended to use a reference manager software, such as Mendeley, Refworks, Endnote or Zotero that allow for flexible and complete creation of a reference list. Many of these programs are free and easy to use and will make it easier to avoid mistakes in the references. The library provides RefWorks for student use - <https://guides.lib.jjay.cuny.edu/refworks>.

## **Appendices**

Can be used for additional information, for example:

- More detailed results tables.
- Complete compilation of raw data.
- List of abbreviations used in text.
- More information on reagents and instruments.

## Appendix 4: Thesis Format

### General rules:

- 1) **Spacing:** The thesis, including the reference pages, must be double-spaced.
- 2) **Margins:** The left margin must be one and a half inches (1-1/2") for all drafts and final copies. The right, top, and bottom margins must be one inch (1").
- 3) **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 lowercase Roman numerals. The abstract, title page and committee pages should not be numbered, nor should they be counted in the pagination.
- 4) **Citation:** The APA style (7<sup>th</sup> edition) 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 library website for additional details.

Journal article example:

Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States. *Psychology of Popular Media Culture*, 8(3), 207–217. <https://doi.org/10.1037/ppm0000185>

In text parenthetical citation: (Grady et al., 2019)

- 5) **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

- 6) **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.

## Appendix 5: Sample Thesis Title Page

The title of your thesis project

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

The City University of New York

Name of Student

May, August or December 20xx

Appendix 6: Sample Signature Page

**Thesis Committee Signature Page**

**Thesis Title**

Type name

\_\_\_\_\_  
Thesis Author

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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.

Type name

\_\_\_\_\_  
Thesis Advisor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Type name

\_\_\_\_\_  
Second Reader

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Type name

\_\_\_\_\_  
Third Reader

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Marta Concheiro-Guisan

\_\_\_\_\_  
Program Director

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Appendix 7: Advisor agreement**

**MS-FOS Thesis Advisor Agreement**

Student:
Thesis advisor – Committee Chair:
Thesis topic or preliminary title:
Thesis Advisory Committee members Second reader (from John Jay): Third reader (external):

This is to confirm that I will act as the mentor of the student named above during the course of his/her thesis research. As the thesis advisor, I agree to serve as Chairperson on his/her thesis advisory committee.

I will keep the program director informed about the progress of the thesis project and will report changes made to the Thesis Advisory Committee.

Thesis Advisor Signature \_\_\_\_\_ Date \_\_\_\_\_

Received by Program Director: \_\_\_\_\_

Initial/Date: \_\_\_\_\_