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

2019-2020 Academic Year
Department of Sciences
John Jay College of Criminal Justice
City University of New York

Edited by Mechthild Prinz - August 28, 2014
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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.
**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 of Forensic Science, emphasis is placed on the student’s ability to demonstrate mastery in the research methods proposed. All students are required to present their work in a public setting in front of their thesis advisory committee.

**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, scientific writing, library research and documentation styles/techniques. Students should register for FOS 795 in their first semester of study. In FOS795, students will be introduced to science faculty members and ongoing research projects. Students will also attend research thesis presentations on work completed by other MS-FOS students. In order to obtain a passing grade for the last prospectus course, FOS 797, students must have submitted a signed Thesis Advisor Agreement and a thesis prospectus.

**Thesis Advisor**

The primary thesis advisor must 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 research focus.

- Each committee consists of at least three members.
- The thesis advisor must be a full-time graduate faculty member in the MS-FOS program and 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 in one of the different local crime laboratories.
- The student and the Program Director need to approve the thesis committee.

**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 is considered the student’s thesis advisor. As stated before, **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. Scheduling the thesis presentation during one of the prospectus classes is the preferred option. But if the thesis committee is not available during class time, this can be a separate event.

Students who are planning to graduate after their 4th semester in the program should plan on completing most of their thesis work in the summer after the second semester. **John Jay College requires all students to submit their thesis one year after completing all required coursework.** 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 Prospectus**

The prospectus 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 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.
- 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 discussion on **expected results**, and how they will affect current knowledge and practices
- **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 797 instructor. Further details will be provided in class.
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. 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. (CUNY 2016, URL: http://www2.cuny.edu/wp-content/uploads/sites/4/page-assets/research/research-compliance/responsible-conduct-of-research-rcr/RCR-Training-Policy-2016.pdf). 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/.
Thesis Content Expectations

General Remarks – A thesis project should be a stand-alone project with a sample number sufficient for statistical significance testing. The student is expected to have generated their own data; an exception here 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)

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

Acknowledgements – 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.

Introduction and Literature Review should cover a minimum of 20 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 instruments 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, spectras, tables etc… , and the corresponding data summaries.

Sometimes it is easier to start discussing results while describing them. In that case combing 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 of the discussion and close with future directions, and your final conclusions. (Recommended for combined Results and Discussion sections.)

**References**

You must use 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.

**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
Thesis Format

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

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 lower case 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 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.

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.
Format Continued:

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 statement that must read as follows:

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, either May, August or December.

Thesis Committee Page

The thesis committee page must be part of the thesis, directly after the title page. The committee page should not be numbered and it should not be counted in the pagination of the thesis. The committee page must have the following information (centered, see Appendix 4 for sample):

1) The full title of the thesis.

2) The author’s full legal name

3) A statement that must read as follows:

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 thesis committee:

☐ The thesis advisor – Full name typed, with title
☐ The second reader – Full name typed, with title
☐ The external reader – Full name typed, with title

Abstract

An abstract summarizes the thesis and should be between 100 and 250 words.

The abstract page should be titled “Abstract” and must be submitted as part of the thesis.

The abstract should be placed directly after the committee page. This page is not counted in the pagination of the thesis.
Thesis Submission

Students must complete the thesis, receive final approval and submit the work in order to receive their degree. The thesis work must have been presented in a public meeting in front of the committee. All three committee members must indicate their approval by signing the signature page (See Appendix 5 for the format). The signature page will not be part of the thesis, but will be filed by the MS-FOS program director. After the thesis committee has approved the final version of the thesis, submit the following to the MSFOS Program Director:

1. Electronic or hard copy of thesis
2. Original of the signed signature page

Student must do this by the specified semester deadlines: Students are encouraged to submit their thesis before the deadline.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring Semester</td>
<td>May 1st</td>
</tr>
<tr>
<td>Summer</td>
<td>July 31st</td>
</tr>
<tr>
<td>Fall Semester</td>
<td>November 30th</td>
</tr>
</tbody>
</table>

After the program director has approved the thesis, the student will receive the program director approval page. They then must electronically submit the thesis and this page. The Office of the Dean of Graduate Studies will notify the registrar’s office. The degree will be conferred after the next degree audit.

All thesis submissions will now be done electronically. To do this, students must create two accounts: one for CUNY Academic Works (http://academicworks.cuny.edu/jj_etds/) and one for ProQuest ETD Administrator (http://www.etdadmin.com/cgi-bin/school?siteId=721).

There are three things the student must decide before submitting 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. And 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 and the following website: http://www.jjay.cuny.edu/guidelines-electronic-submission-masters-theses

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.
Sample Thesis:

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 theses submissions. Additional sample theses are available in the Lloyd Sealy Library in the John Jay College Stacks- Special Collections area.

Please follow the link to view the work of MS-FOS Alumni: https://www.jjay.cuny.edu/sites/default/files/contentgroups/graduate_studies/fos_thesis_list_2015-2018.pdf

Thesis Guild Appendices:

- Appendix 1- MS- FOS Thesis Advisor Agreement
- Appendix 2- MS- FOS Thesis Progress Report
- Appendix 3- Sample Title Page
- Appendix 4- Committee Page
- Appendix 5- Sample Signature Page
- Appendix 6- Director Approval Page
- Appendix 7- Electronic Submissions