

Forensic Science

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Master of Science in Forensic Science

Administered by the International Forensic Research Institute (IFRI), the Master of Science in Forensic Science is an interdisciplinary program designed to prepare students for careers in local, state and national forensic science laboratories. The program may also be suitable preparation for doctoral instruction in several disciplines.

Admission Requirements

To be admitted into the Master's degree program in Forensic Science, a student must:

1. Hold a Bachelor's degree in a relevant discipline from an accredited college or university.*
2. Have a 3.0 GPA in upper-level course work.
3. Two letters of recommendation of the student's academic potential.
4. Be accepted by a faculty sponsor.
5. Receive approval from the Graduate Committee.
6. International graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or 6.5 overall on the IELTS is required.

*Minimum requirement is the equivalent of a bachelor's degree in biology, chemistry or related science approved by the graduate committee. It is recommended that students have the equivalent of a minor in chemistry before taking the required courses.

Degree Requirements

The Master of Science in Forensic Science consists of a minimum of 32 credits, including a thesis based upon the student's original research or completion of an independent study report option.**

A maximum of six credits of post-baccalaureate coursework may be transferred from other institutions, subject to the approval of the Graduate Committee. The graduate committee will consist of the Graduate Program Director and a member from each of the following departments: Chemistry and Biochemistry, Biological Sciences, Criminology and Criminal Justice and

Psychology. The thesis committee shall consist of the research advisor (normally the faculty sponsor), and at least two additional committee members who have some expertise in the graduate student's research area. All members must hold graduate faculty status.

Required Courses

BSC 5406	Forensic Biology	3
CHS 5542	Forensic Chemistry	3
CHS 5535	Forensic Analysis	3
BSC 5931	Thesis Proposal	1
	or	
CHM 6935	Thesis Proposal	1
	or	
	approved cognate ¹	
BSC 5975	Thesis Defense Seminar	1
	or	
CHM 6971	Thesis Defense Seminar	1
	or	
	approved cognate ¹	
BSC 6971	Thesis	6
	or	
CHM 6970	Thesis	6
	or	
	approved cognate ¹	

Electives² 15

¹Equivalent courses in the student's area(s) of thesis concentration may be substituted upon approval by the student's committee in consultation with the Graduate Program Director (i.e., CCJ, GLY, PHY, PSY). ²At least fifteen credits of additional graduate-level courses, workshops and laboratories (excluding research and seminar) from participating departments approved by the thesis committee in consultation with the Graduate Program Director. [Consult the Director for a selected list of Chemistry, Biology, Earth Sciences, Criminal Justice, and Legal Psychology courses].

**A report option is available for students. Students approved for this option can replace "Thesis" with Independent Study in Forensic Science (CHS 6905) or Student Research Lab (BSC 6913) and must also complete the two additional elective courses such as "Analytical Toxicology (CHS 5539)" and "Advanced Quality Control (STA 5664)".

Graduation Requirement

A grade of "C" or higher must be obtained in all courses with a cumulative average of 3.0/4.0 or higher, and presentation and submission of a satisfactory research thesis to the Thesis Committee.

Professional Science Masters in Forensic Science

The Professional Science Masters (PSM) in Forensic Science program designed to educate students in chemical and biological knowledge related to forensic science, and the necessary administrative skills related to managing (forensic) laboratories.

Admission Requirements

To be admitted into the PSM in Forensic Science, a student must:

1. Hold a Bachelor's degree in a relevant discipline from an accredited college or university.
2. Have a 3.0 GPA in upper-level course work.
3. Two letters of recommendation of the student's academic potential.
4. Be accepted by a faculty sponsor.
5. Receive approval from the Graduate Committee.
6. International graduate students applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). Minimum required scores is 550 on the paper-based TOEFL, 80 on the internet-based TOEFL (iBT) or 6.5 overall on the IELTS.

Degree Requirements

The program consists of 33 credits; 24 credits will focus on technical forensic science content and 9 credits on professional business content. The program offers two tracks. Each track includes the seven core courses listed below. Credits transferred need to be graduate level (> 5000) and earned with a grade of "B" or better, and the course(s) cannot have been taken longer than seven years from the term the student begins as a PMS student. Student will go through the program as a lock-step cohort.

PSM Forensic Science Degree Core Requirements (21):

CHS 5535	Forensic Analysis	3
BSC 5406	Forensic Biology	3
CHS 5542	Forensic Chemistry	3
CHM 5934	Special Topics in Analytical Chemistry	3
MAN 6245	Organizational Behavior	3
PAD 6227	Public Finance & Budgetary Process	3
PAD 6434	Leadership & Decision Making	3

Graduation Requirements

A grade of "B" or higher must be obtained in all courses with a cumulative average of 3.0/4.0 or higher. If students fail any course, they will have to retake that course the next time it is offered, either during the two-year period or as a part-time student after the two-year period. The later will delay the students' completing the program in two years.

All students must select either the Forensic Management Track or the Veterinary Forensic Science Investigation Track.

Forensic Management Track

The Forensic Management Track (12 credits in addition to degree core requirements) provides the Forensic coursework with a focus on management aspects that include finance, leadership, ethics, and organization

Required Courses for Forensic Management Track

Semester I: Fall (9 credits)

CHS 5535	Forensic Analysis	3
BSC 5406	Forensic Biology	3
MAN 6245	Organizational Behavior	3

Semester II: Spring (9 credits)

CHS 5542	Forensic Chemistry	3
CHS 5536	Forensic DNA Chemistry	3
PAD 6434	Leadership & Decision Making	3

Semester III: Summer (6 credits)

BSC 5935	Topics in Biology	3
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CHM 5934	Special Topics in Analytical Chemistry	3
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Semester IV: Fall (9 credits)

CGS 5131	Chemistry and Analysis of Drugs	3
CHM 6949	Industrial Internship	3
PAD 6227	Public Finance & Budgetary Process	3

Veterinary Forensic Science Investigation Track

The Veterinary Forensic Science Track (12 credits in addition to degree core requirements) provides the Forensic Science coursework with a focus on Animal Medicolegal aspects that include forensic examination, identification, collection, preservation of evidence, and common categories of animal cruelty and neglect including illness or injury.

Required Courses for Veterinary Forensic Science Investigation Track

Semester I: Fall (9 credits)

CHS 5535	Forensic Analysis	3
BSC 5406	Forensic Biology	3
MAN 6245	Organizational Behavior	3

Semester II: Spring (9 credits)

CHS 5542	Forensic Chemistry	3
BSC 5487	Advanced Forensic and Legal Aspects of Animal Cruelty	3
PAD 6434	Leadership & Decision Making	3

Semester III: Summer (6 credits)

BSC 5486	Advanced Topics Medicolegal Investigations	3
CHM 5934	Special Topics in Analytical Chemistry	3

Semester IV: Fall (9 credits)

PAD 6227	Public Finance & Budgetary Process	3
BSC 5485	Forensic and Veterinary Medicolegal Investigations	3
CHM 6949	Industrial Internship	3

Combined BS in Chemistry/MS in Forensic Science Degree Pathway

To be considered for admission to the combined bachelor's/master's degree pathway, students must have completed at least 75 credits in the bachelor's degree program at FIU and meet the admissions criteria for the graduate degree program to which they are applying. Students need only apply once to the combined degree pathway, but the application must be submitted to Graduate Admissions before the student starts the last 30 credits of the bachelor's degree program. A student admitted to the combined degree pathway will be considered to have undergraduate status until the student applies for graduation from their bachelor's degree program. Upon conferral of the bachelor's degree, the student will be granted graduate status and be eligible for graduate assistantships. Only 5000-level or higher courses, and no more than the number of credits specified by the program catalog, may be applied toward both degrees.

Admission Requirements

1. Current enrollment in the Bachelor of Science program in chemistry at FIU.
2. Current GPA of 3.2 or higher.
3. Three letters of recommendation.
4. Approval of the Chemistry Graduate Committee.

Completion Requirements

Completed Bachelor of Science degree in chemistry at FIU

Required:

1. BSC 5406 Forensic Biology
2. CHS 5542 Forensic Chemistry
3. CHS 5535 Forensic Analysis
4. Required courses must be completed with an average of "B" or higher, and only one course may receive a grade of less than "B-".
5. Electives: 5 courses selected from the Forensic Science Graduate Elective Offerings.
6. 6 credits of Thesis Research and 1 credit of Thesis.
7. 1 credit of Colloquium.
8. Overlap: Up to 3 graduate level courses (9 credits) may be used to satisfy both the Bachelor's and Master's degree requirements.

Combined MS in Forensic Science/PhD in Biology Degree Pathway

The MSFS/PhD in Biology Degree Pathway combines the Master of Science in Forensic Science with a PhD in Biology. Student who pursue this degree will be enrolled in a continuous enrollment pathway; however, upon completion of all the requirements of the MSFS program (report option), students will be awarded a MSFS degree as they transition towards their PhD.

MSFS/PhD in Biology Degree Requirements

For admission into the MSFS/PhD program, students must meet the admission criteria of a PhD student with the understanding that they will have an increased class load of 2-3 classes, e.g., Forensic Biology, Forensic Chemistry, and Forensic Analysis, when compared to the normal PhD applicant but will graduate with two degrees. The requirements will be as follows:

1. Hold a Bachelor's degree in a natural science from a relevant university.
2. Have a 3.0 GPA during the last two years of the undergraduate program.
3. Arrange to have three letters of recommendation sent to the Biology graduate program director evaluating the applicant's potential for graduate work.
4. Be sponsored by a Biology faculty member with Dissertation Advisor Status.
5. Receive approval from the Department Graduate program committee.
6. International graduate student applicants whose native language is not English are required to submit a score for Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IETLS). A score of 80 on the iBT TOEFL or 6.5 overall on the IETLS is required.

As these candidates will be dually enrolled in two graduate degree programs, candidates must complete minimum of 32 credit hours towards their MSFS degree with a grade of 'C' or higher and a cumulative GPA of 3.0. The MSFS report option must be completed and accepted by the University before full transition towards the PhD. Candidates must also complete a total of 75 credit hours toward the PhD with the allowance for credits transferred

from the completed MSFS degree. The student will be able to earn both degrees in a similar time frame that it would take to obtain either degree if pursued consecutively.

Students will be required to select a Master's defense committee while pursuing the MSFS as well as a PhD dissertation committee. This committee may or may not be comprised of the same members as those selected for the Master's program. The Master's proposal should be presented after the second semester of admission and the PhD dissertation defense should be presented after the fourth semester after admission.

Required Courses

BSC 6457	Introduction to Biological Research	3
BSC 5931	Thesis Proposal Seminar	1
BSC 7961	Dissertation Proposal Seminar	1
BSC 5975	Thesis Defense Seminar	1
BSC 7982	Dissertation Defense Seminar	1
BSC 5406	Forensic Biology	3
CHS 5535	Forensic Analysis	3
CHS 5542	Forensic Chemistry	3
PCB 5665	Human Genetics	3
PCB 5685	Population Genetics	3

Elective Courses

PCB 6025	Molecular and Cellular Biology I	3
MCB 5116	Microbial Diversity	3
BSC 5459	Advanced Bioinformatics for Biologists	3
BOT 5852	Medical Botany	3
BOT 5727	Plant Genetics	3
PCB 5616	Applied Phylogenetics	3
STA 5207	Topics in Design of Experiments	3
STA 5507	Nonparametric Methods	3

Labs and Workshops

BSC 6925	Workshop: Non-Human DNA Profiling and Analysis	1
BSC 6926	Workshop in Biology: DNA Instrumentation	1
BSC 5935	Workshop in Biology: Advanced DNA Typing	1-2

Research

BSC 6971	Master's Thesis	6
BSC 7980	Ph.D. Dissertation	24