

# Program Information



## **Why is the John Jay College Master of Science in Forensic Science Program so great?**

The Forensic Science Program at John Jay College of Criminal Justice was founded in 1968 and is the longest-running academic forensic program in the country. Our highly respected and internationally recognized faculties have a wide range of expertise in the physical and biological sciences and specific forensic disciplines.

### **Location:**

Situated in New York City, the John Jay College of Criminal Justice is close to several major forensic science laboratories, such as the Office of Chief Medical Examiner and the Northeast Laboratory of the Federal Drug Enforcement Agency (DEA), both located in Manhattan and the NYPD Crime laboratory in Queens, New York. The John Jay College campus is in Manhattan and is easily accessible by public transportation. The surrounding counties on Long Island and Westchester, north of New York City, also have regional all-service public forensic laboratories that offer excellent internship opportunities. New York City is also home to many major research centers, such as Columbia University and the American Museum of Natural History.

Students benefit from research collaborations by John Jay faculty with these and other institutions.

### **Low Tuition:**

As part of a public university system, John Jay College offers very competitive rates, especially for New York State residents; in the fall of 2019, the up to 12 credit full-time tuition amounted to \$5,545. As a result of our affordable tuition, John Jay College has made the "Top Ten list of college graduates with least student debt" (*U.S. News & World Report*), was ranked #4 on the "Best Bang for the Buck" in the Northeast college list published by *Washington Monthly* and in July 2017 *Money Magazine* ranked John Jay in the top quarter of "Best Colleges for Your Money."

### **Evening Schedule:**

Most MS-FOS classes start in the late afternoon, either at 3:45 pm or 6:00 pm, which allows students to attend even while working full time. Only some laboratory sessions will be during the day. Graduate students are allowed to enroll in a part-time schedule.

### **On-campus Employment Opportunities:**

The MS-FOS graduate program cannot offer scholarships or other financial support. Still, many of our graduate students find on-campus employment as instructors or assistants for undergraduate laboratory courses. The college offers various scholarship opportunities recognizing and supporting research, academic excellence, leadership qualities, and public service accomplishments.

### **Facilities:**

The John Jay Science Department is located on three floors in a modern building built in 2012. It houses a state-of-the-art laboratory space with the most current and relevant scientific instrumentation. The campus includes a gym, a swimming pool, and an ample outdoor space on our elevated terrace, the Jay Walk, which is a welcome respite from its urban surroundings.

### **Laboratory Training:**

The curriculum emphasizes laboratory skills in three major areas: Criminalistics, Forensic Molecular Biology, and Toxicology, and builds on a two-part, hands-on instrumental analysis course. Students will spend many hours working independently and acquire relevant laboratory and troubleshooting skills.

### **Fulltime Faculty:**

Many full-time forensic specialists teach in the MS-FOS program at John Jay. These professors are engaged in on-campus research and can serve as thesis advisors. MS-FOS faculty members have academic and professional expertise in various forensic topics. They share their scientific knowledge and educate students on professional issues, such as expert witness testimony or report writing. Our forensic science faculty is widely respected, and its members are active in multiple professional forensic science societies. They also serve on advisory panels and commissions.

Faculty research covers a wide array of topics. For example, criminalistics research employs polarized light microscopy, micro-spectroscopy, atomic absorption spectrometry, and Raman spectroscopy to improve the value of analyzing trace evidence and identify, for example, counterfeit bills and cigarettes. One research team captures bullet striations and tool-mark patterns by using confocal microscopy and applying sophisticated methods for statistical analysis. Ballistics research deals with new types of polymer-coated ammunition and studies bullet trajectories and shear patterns. Forensic toxicologists at John Jay are studying a wide array of topics, e.g., alternative biological matrices in forensic and clinical toxicology, work, better strategies for hair testing, new endogenous biomarkers to detect drug abuse, and drug use epidemiology by wastewater testing.

In forensic genetics, faculty members are working toward optimizing DNA extraction from various substrates specifically for DNA typing on contact traces or nonhuman DNA applications. John Jay's graduate faculty also includes a forensic entomologist working on carrion colonization in an urban environment and a forensic anthropologist, whose specialty is the historical ecology of infectious diseases but who also works on forensic projects involving perimortem and postmortem bone trauma. These are just a few of the applied research areas that our accomplished faculty are pursuing right now.

### **Forensic Science Core Graduate Faculty with Specialties**

- Marta Concheiro-Guisan, Ph.D., Forensic Toxicology
- Angelique Corthals Ph.D., Anthropology
- Lissette Delgado-Cruzata Ph.D., Epidemiology and Genetics
- Peter Diaczuk, Ph.D., Criminalistics
- Jack Hietpas, Ph.D., Forensic Chemistry/Criminalistics
- Thomas Kubic, Ph.D., Forensic Chemistry
- Richard Li, Ph.D., Forensic Biology
- Ana Pego, PhD., Forensic Toxicology
- Nicholas Petraco, Ph.D., Criminalistics
- Mechthild Prinz, Ph.D., Forensic Biology
- Gloria Proni, Ph.D., Forensic Chemistry
- Jennifer Rosati, Ph.D., Forensic Entomology
- Linda Rourke, MS., Criminalistics
- Richard Stripp, Ph. D., Forensic Toxicology



## Student Research

Master's thesis topics in the Forensic Science program complement faculty research interests. Here are some examples of thesis projects from the last five years:

### Anthropology and Entomology:

- Comparing Bone Histology, Topography, and Other Physical Attributes to the Presence of Viable DNA After Interval Cremation Seasonal effect on the arrival and colonization of blow flies (Diptera: Calliphoridae) on carrion in New Jersey

### Criminalistics:

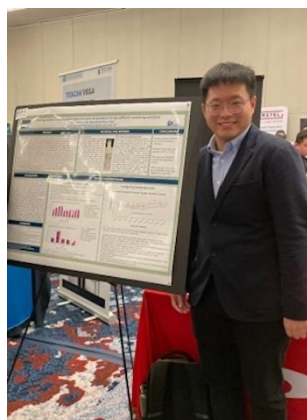
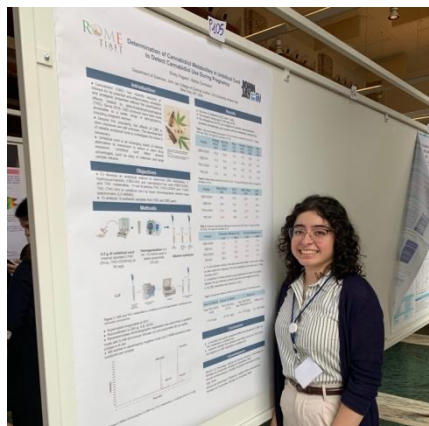
- Estimating Muzzle to Target Distance from the Physical Characteristics of a Bullet Hole in Different Wood Substrates
- Open Fire: The Expansion of 9mm Hollow Point Bullets in Relation to Tissue Thickness
- Analysis of Polymer-Coated Bullets Using Spectroscopic Methods
- Bullet Ricochet of Polymer Coated Bullets

### Forensic Molecular Biology:

- Biological Factors Affecting DNA Shedding Propensity
- Prevalence of non-self DNA on sebaceous skin
- Extraction of Challenging Forensic Samples Using the MicroGEM DNA Extraction Kit
- DNA Shedding Propensity and Individual Characteristics

### Toxicology:

- Cocaine, Cocaethylene and Ethanol in Postmortem Blood Submitted to the New York City Office of Chief Medical Examiner
- Investigation of Postmortem Methamphetamine Cases Submitted to the New York City Office of Chief Medical Examiner
- ELISA Validation Method for the Detection of Ketamine in Hair
- The Detection of Clozapine in Oral Fluid via a Kinetic Interaction of Microparticles in Solution (KIMS) Assay
- LC-MS/MS Method for the Detection and Quantification of Pharmaceuticals and Drugs of Abuse in New York City Waterways





# Master of Science in Forensic Science Program Curriculum

The program requires 42-44 course credits and a research thesis. After a set of core classes, students complete one of the three available specializations and two electives.

## CORE REQUIREMENTS

**Physical and Biological Evidence:** 3-credit lecture course that covers crime-scene processing and introduces all categories of analysis of physical evidence and their scientific basis.

**Fundamentals of Forensic Toxicology:** 3-credit lecture course that gives an overview of forensic toxicology.

**Human Genetics and Forensic DNA Technology:** 3-credit lecture that will explore selected topics in modern genetics drawn from classical, molecular, and population genetics. It will then expand on the applications of these concepts to forensics.

**Applied Statistics and Data Analytics for Forensic Scientist:** 4-credit lecture/laboratory that combines theory with hands-on training in statistics and data analytics. This course is designed to address the practicalities of analyzing and modeling forensic laboratory data for research and practice.

**Thesis Prospectus I, II, & III:** 3-credit series of courses spread over three semesters in which students learn about scientific writing, research methods, and professional issues in forensic science. The first two classes will help students find a thesis mentor. The third class is reserved for students to work directly with their mentors in an independent study format.

**Instrumental Analysis I:** 5-credit lecture/laboratory course that introduces students to chemical instrumentation and spectrophotometric techniques.

**Instrumental Analysis II:** 5-credit lecture/laboratory course to continue training on instrumentation with an emphasis on chromatography and other separation techniques.

**Advanced Criminalistics I:** 5-credit lecture/laboratory course that teaches students forensic photography, microscopy, and examination of physical evidence. This course culminates in a mock case-work and moot court experience.



## **CONCENTRATION REQUIREMENTS**

### **Criminalistics**

**Advanced Criminalistics II:** 5-credit lecture/laboratory course that provides hands-on experience in examining physical and biological evidence.

**Additional Lecture:** Students must choose one out of three specialized electives. These include Organic Firearms and Toolmarks, Crime Scene Investigation for Forensic Scientists, and Advanced Topics in Physical Science. (For description, see next page).

### **Molecular Biology**

**Advanced Molecular Biology I:** 5-credit lecture/laboratory course that covers general molecular biology and fulfills one of the FBI Quality Assurance Standard educational requirements for DNA analysts.

**Advanced Molecular Biology II:** 5-credit lecture/laboratory course that provides hands-on experience with current forensic DNA-typing techniques, including DNA sequencing.

### **Forensic Toxicology**

**Forensic Toxicology I:** 5-credit lecture/laboratory course that trains students in the science and instrumentation behind screening and confirmation of drugs and their metabolites.

**Forensic Toxicology II:** 5-credit lecture/laboratory course that continues the hands-on experience in current toxicology techniques and cover quality



## **ELECTIVES**

**Advanced Topics in Physical Science:** 3-credit lecture course that covers advanced instrumental techniques for physical evidence, such as glass, paints, and other inorganic materials. (Counts in the Criminalistics track)

**Case Analysis in Forensic Toxicology:** this 3-credit experimental lecture course educates

students in forensic toxicology interpretation and expert testimony in court in criminal and civil cases.

**Crime Scene Investigation for Forensic Scientists:** this 3-credit experimental lecture explores the techniques and procedures used by crime scene investigators in gathering probative forensic evidence.

**Current Trends in Forensic Pathology and Entomology:** 3-credit lecture course that will provide students with an in-depth introduction to the historical and current methodologies and practices in the fields of forensic pathology and entomology.



**Firearms and Toolmarks:** 3-credit lecture course on firearms evidence and the concepts and theoretical basis of comparison microscopy. (Counts in the Criminalistics track)

**Forensic Anthropology: Osteological & Genetic Identification:** 3- credit lecture course that introduces students to osteological and excavation techniques for human and nonhuman remains.

**Forensic Electron Microscopy:** this 3- credit lecture, demonstration, and laboratory introduces students to the theory and applications of electron microscopy as well as that of x-ray spectrometry to forensic and chemical analysis.

**Law, Evidence, and Ethics:** 3-credit lecture that examines the rules of evidence followed in criminal investigations, criminal trials, and administrative proceedings. Pays special attention to the methods and ethical obligations of government agents assigned to gather evidence.

**Organic Compound Structure Determination:** 3-credit lecture course that offers advanced instruction on the analysis of spectroscopic data for organic compounds. (Counts in the Criminalistics track)

**Scientific Evidence, Expert Testimony, and Ethics for Research and Forensic Scientists:** 3-credit lecture course that covers the interrelationship between science and the law and discusses the topic of ethics.

## Undergraduate Course Prerequisites

Admitted students typically have a grade point average (GPA) of 3.0 or higher, and a calculated Math/Science GPA of 3.0 or higher. International students should contact us about these prerequisites.

In addition, applicants should have successfully completed the following undergraduate STEM coursework: (Students who are deficient in three courses or less may qualify for conditional acceptance).

- two semesters of biology, (two courses, typically General Biology I and General Biology II)
- two semesters of general chemistry, (two courses, typically General Chemistry I and General Chemistry II)
- two semesters of organic chemistry, (two courses, typically Organic Chemistry I and Organic Chemistry II)
- two semesters of calculus, (two courses, Calculus I and Calculus I. Pre-calculus **does not** count)
- two semesters of physics, (two courses, Physics I and Physics II)
- one semester of biochemistry, (one course concentrating on Biochemistry, combined courses do not count)
- one semester of statistics (mathematically based statistics course)

***Because forensic science is part of the criminal justice system, personal honesty, integrity, and scientific objectivity are paramount. Those seeking careers in this field should be aware that background checks similar to those required for law enforcement officers are likely to be a condition of employment. The following may be conducted and/or reviewed before an employment offer is made and may remain as ongoing conditions of employment (this list is not all-inclusive): Drug tests, History of drug use, Criminal history, Personal association, Polygraph examination, Driving record, Past work performance, Credit history, and Medical or physical examination.***

### Graduate Tuition and Fees: New York State Resident

Students enrolled in 1-11 credits pay \$470.00 per credit with an additional \$158.45 in fees. Those enrolled in 12 or more credits pay \$5,545.00 per semester with an additional \$220.95 in fees.

### Graduate Tuition and Fees: Out-of-State Resident

Students enrolled in 1-11 credits pay \$ 855.00 per credit with an additional \$158.45 in fees. Those enrolled in 12 or more credits pay \$ 855.00 per credit with an additional \$220.95 in fees.

The City University of New York (CUNY) Board of Trustees determines all tuition, and fees are subject to change without notice. Please note that the college charges additional fees per semester, such as a Technology Fee, Contact Hours Fee, etc. For a complete list of fees, visit the webpage below.

**For additional information:** <https://www.jjay.cuny.edu/sites/default/files/2025-01/graduate.pdf>

### Application Deadlines:

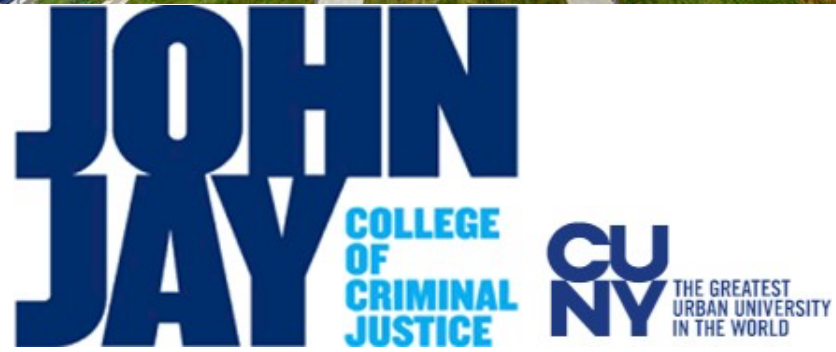
The Master of Science in Forensic Science Program only accepts applicants for the Fall semester.

<https://www.jjay.cuny.edu/admissions/graduate-admissions/apply/graduate-application-deadlines>

**Priority Deadline:** March 1, 2026

**Final Deadline:** April 1, 2026





**Master of Science in Forensic Science Program - FEPAC Accredited**

John Jay College of Criminal Justice  
524 West 59<sup>th</sup> Street, New York, NY 10019

**Program Director:** Dr. Marta Concheiro-Guisan; Email: [mconcheiro-Guisan@jjay.cuny.edu](mailto:mconcheiro-Guisan@jjay.cuny.edu)

**College Assistant:** Lindsay Lerner; Email: [llerner@jjay.cuny.edu](mailto:llerner@jjay.cuny.edu)

