MASTER OF SCIENCE IN FORENSIC SCIENCE

Fisher College of Science and Mathematics (FCSM)
Department of Chemistry and Forensic Science

Welcome to Towson University's Master of Science in Forensic Science program. This program is offered in partnership with local, state, federal, and private forensic organizations throughout the region, providing students the opportunity to experience hands-on learning with many laboratories in the Baltimore-Washington area.

Towson University's MSFS program is designed to prepare students with the scientific training necessary to advance and excel in science, while simultaneously developing highly valued forensic science professional skills. The program combines rigorous graduate study in forensic science with skills-based coursework. A strong emphasis is placed on developing forensic knowledge and analytical skills, written and oral communication skills, ethics, quality assurance and expert testimony. MSFS graduates will be as comfortable in the forensic science lab as the court room and other forensic professional settings.

The staff and faculty at Towson University are very willing to help you during your time in the MSFS program. The Program Director, Mark Profili serves as the academic advisor and internship coordinator. Drs. Cynthia Zeller, Filipa Simao and Kelly Elkins serve as advisors for research in the area of Forensic DNA. Drs. Ellen Hondrogiannis and Mary Devadas serve as advisors for research in the area of Forensic Chemistry. Professional forensic scientists serve as adjunct professors teaching specialty forensic courses and act as internship mentors.

This handbook is designed to help you with the many questions you probably have as you start your graduate school experience. However, the *Towson University Graduate Catalog* is the official source for the University's academic regulations and degree requirements. A printable version of the catalog can be found online at

https://catalog.towson.edu/graduate/

Wishing you the very best,

Mark Profili, Program Director

Table of Contents:

The Basics:

1-The Towson University Graduate Catalog is the source for information regarding:

1-Procedures and Policies
2-Registration and Fees
3-Policies on Academic Progress
4-Tuition Costs, Financial Aid and Scholarships
5-Graduation Requirements
6-Other Academic Policies

2-Working While In School:

The MSFS program can be taken either as a part-time or full-time student. If you are interested in work on campus visit the University Career Center's website at http://www.towson.edu/careercenter/campus-jobs/

3-Driving and Parking on campus:

While the University has shuttle service to many of the on and off campus residences and apartment complexes, most graduate students live off campus and drive to their classes. On campus parking is by permit only at designated parking lots. Contact parking services at http://www.towson.edu/parking/ for more information.

4-The One Card:

The One Card is your all-access pass to Towson University. The One Card can be used for dining plans, purchases at the bookstore and at some off-campus restaurants and businesses. For more information go to:
www.towson.edu/campus/landmarks/westvillage/ticket-business-office/

5-Science Complex:

The MSFS program is housed in the Department Chemistry and Forensic Science of the Fisher College of Science and Mathematics which is housed in the Science Complex on the main campus at Towson University. Many of the classes and laboratories for the MSFS program will be held in the Science Complex, although some research projects and internships could be held at other sites, both on and off campus.

6-Cell Phones and Other Electronic Devices:

Cell phones are not to be used during classes for phone calls, texting or other activities. If you bring a cell phone to class it is not to be on your desk or work space. Laptops and other electronic devices can be used during class but only for academic purposes. Emailing, being on Facebook, etc. is not allowed. Instructors may confiscate these items and return them after class if they are being misused.

MSFS Program Overview:

The Master of Science in Forensic Science program at Towson University is designed to prepare students with the education and training necessary to advance in the forensic science discipline while developing highly valued scientific skills. The program has as a core learning experience the application of DNA technologies in forensic science. Forensic chemistry is taught with respect to the analysis of trace evidence, fire and bomb debris, illegal drugs and toxicology using state-of-the-art laboratory equipment and a variety of microscopes.

The mission of the Master of Science in Forensic Science program is to provide students with a comprehensive and in-depth study of major areas of forensic science that will allow them to compete for positions in forensic science beyond the entry level of practice in government and private laboratories. In addition, students will be prepared to pursue further graduate and/or professional degrees, if desired.

The mission is based on an application-focused curriculum that provides an advanced educational background and the development of laboratory skills. The program's mission is further enhanced through active forensic research, internships and collaborative learning experiences with local accredited forensic laboratories.

Learning Objectives:

1-Students will learn to apply their knowledge of analytical chemistry, molecular biology, population genetics, forensic biology, forensic DNA technology and statistics in a forensic laboratory

2-Students will gain advanced skills in instrumental methods, microscopy, serology, DNA analysis, quality assurance and the ethical and legal requirements applicable to the examination of physical evidence

3-Students will develop written and oral communication skills for presentation of analytical findings and courtroom testimony and will be able to make a professional presentation of their research findings in a symposium/seminar format

4-Students will demonstrate proficiency in the use and knowledge of relevant software programs

Program Features:

1-Small class sizes 2-Distinguished faculty

3-Most courses taught by current or former practicing forensic scientists/educators

4-Active research programs in multiple forensic disciplines

5-Internships with professional forensic laboratories

Curriculum: Course Requirements & Descriptions

All students must complete 37 units of graduate work. In addition to the 5 required courses all students must select 4 elective courses and earn a minimum of 3 units of research or capstone course. There are two options to complete the research requirement, thesis and non-thesis. The capstone requirement can also be completed by earning 3 credits in research (FRSC 880) or 3 credits in capstone experience (FRSC 800).

The learning objective of the curriculum is to have students obtain basic/background knowledge of forensic biology, forensic chemistry, physical analysis, ethics, legal requirements and testifying in mock trials in a progressive manner. The course progression provides an understanding of forensic science, teaches basic forensic science concepts and problem solving. Specialty courses, such as FRSC 600, explore professional values, legal concepts and ethics.

The curriculum is designed so that courses taken during the first and second semester provide a foundation for the advanced laboratory and research courses. This is done to ensure that students will gain knowledge in the areas essential to forensic science so that they develop skills and experience in the application of this knowledge in the analysis of evidence. The capstone courses and seminar serve to demonstrate that students can integrate their knowledge and skills acquired through the coursework and laboratory practices in research and a capstone experience. Recommended course progression for Forensic DNA Track:

First Semester	Second Semester	Third Semester	Fourth Semester
FRSC 601	FRSC 604	FRSC 880	FRSC 600
FRSC 610	FRSC 621	FRSC 602	Elective
FRSC 620	Elective & FRSC 797	Elective	Elective

Recommended course progression for Forensic Chemistry Track:

First Semester	Second Semester	Third Semester	Fourth Semester
FRSC 601	FRSC 670	FRSC 640	FRSC 600
FRSC 602	FRSC 650/690	FRSC 880/800	Elective
FRSC 604	Elective & FRSC 797	Elective	Elective

Core Courses:

FRSC 600-Forensic Science & Law (3 credits)
FRSC 601-Forensic Molecular Biochemistry (3 credits)
FRSC 602-Forensic Chemistry (3 credits)
FRSC 604-Crime Scene and Pattern Evidence (3 credits)
FRSC 797-Graduate Seminar for Forensic Science (1 credit)

Elective Courses:

FRSC 605-Forensic Firearms Analysis (3 units)
FRSC 622-Advanced Sequencing Methods (3 units)
FRSC 650-Forensic Microscopy (3 units)
FRSC 660-Death Analysis in Forensic Science (3 units)
FRSC 665-Crime Laboratory Management (3 units)
FRSC 787-Forensic Internship
FRSC 680-Independent Study in Forensic Science (3 units)
FRSC 690-Forensic Toxicology (3 units)
FRSC 695-Special Topics in Forensic Science (3 units)
BIOL 602-Molecular Biology (3 units)*
BIOL 614-Applied Biotechnology (3 units)*

*Students must meet with the Program Director prior to enrolling in these electives
DNA track students may take Forensic Chemistry Track required courses as electives
Forensic Chemistry track students may take DNA track required courses as electives

FRSC Course Descriptions:

FRSC 600-Forensic Science and Law-Study of the judicial response and requirements to uses of forensic science analysis of physical evidence in the investigation, prosecution and defense of a crime with an emphasis on legal casework associated with rules of admissibility of evidence. A practicum involving mock trial courtroom testimony is an essential part of the course. Ethics and quality assurance in forensic science are also presented. 3 lecture hours/mock trial

FRSC 601-Forensic Molecular Biology-Overview of the principles of molecular biology and genetics as it applies to forensic science including DNA metabolism, recombination and mapping, repeat DNA sequences, statistics and significance of variation, polymerase chain reaction, human identification through DNA technologies, population genetics, relationship analyses and data-basing. 3 lecture hours

FRSC 602-Forensic Chemistry- Introduction to chemical and physical analyses used by a modern crime laboratory in the evaluation of physical evidence encountered in criminal acts. Areas of concentration will include instrumental and chemical analytical methods, drug analysis, toxicology, explosives analysis, arson examination, and trace evidence. Emphasis will be placed on the value of such examinations as presented by the expert witness in criminal trial. Laboratory quality control and quality assurance in forensic science will be emphasized. 4 lecture/laboratory hours.

FRSC 604-Crime Scene and Impression Evidence - The interdisciplinary aspects of forensic science are taught through a variety of lectures and practical exercises including crime scene analysis, documentation and processing, evidence recovery procedures, latent print development and examination, firearms and tool marks examination, impression evidence examination, and trace and blood evidence recognition and collection. Ethical and legal requirements associated with crime scene

processing will be taught from chain of custody through expert court testimony. 3 lecture/laboratory hours

FRSC 605-Forensic Firearms Analysis-An introduction to the theory and methods of Forensic Firearms Identification and Examination. Topics include firearms, firearms history, ammunition, and forensic firearms examination. 3 lecture/laboratory hours

FRSC 610-Forensic Serology-Instruction and laboratory practice in identifying body fluids and body fluid stains using various biochemical, instrumental, microscopic and electrophoretic methods to determine their possible origin and species prior to forensic DNA analysis. Blood spatter pattern recognition will be described and used in determining the most probative samples for study at the crime scene and on evidence samples to undergo analysis. 4 lecture/laboratory hours

FRSC 620-DNA Technologies-Instruction and laboratory practice in identifying body fluid stains as to their source using state-of-the-art DNA technology. Methods include extraction of DNA from forensic biological samples, quantification of the extracted DNA, molecular amplification of the extracted DNA and visualization of short segments known as short tandem repeats or STRs utilizing capillary electrophoresis. 4 lecture/laboratory hours.

FRSC 621-Advanced DNA Technologies-Instruction and laboratory practice in identifying body fluid stains as to their source using state-of-the-art DNA technology. Instrumental methods of analysis will be emphasized; capillary electrophoresis and genetic analyzer. Interpretation of DNA data using appropriate software and statistics. Use of the national DNA CODIS database. 4 lecture/laboratory hours

FRSC 622-Advanced Sequencing Methods-Theory and application of DNA sequencing technology including Sanger sequencing, pyrosequencing, and massively parallel sequencing and their uses in forensic DNA analysis. Pre/co-requisite: FRSC 621 or permission of instructor. 5 lecture/laboratory hours.

FRSC 640-Chemistry of Dangerous Drugs-A study of the chemistry, methods of detection and analysis of narcotics, depressants, stimulants and hallucinogens. Also the influence of physicochemical properties upon the pharmacological effects of drug receptor interactions. Historical, forensic and socio-economic implications associated with drug abuse will also be reviewed. 3 lecture/laboratory hours

FRSC 650-Forensic Microscopy-Instruction and laboratory practice in the methods of collecting, handling, preparing, identifying and comparing items of trace and biological evidence and utilization of the stereomicroscope, microspectrophotometer, polarizing light microscope, compound microscope, fluorescent microscope, hot stage microscope and comparison microscope. 4 lecture/laboratory hours

FRSC 660-Death Analysis in Forensic Science-Forensic examination of the deceased through a multifaceted approach of different forensic specialties. Topics include identifying the deceased, determining the cause of death and establishing the post-mortem interval. 3 lecture hours

FRSC 665-Crime Laboratory Management-Theory and practice of laboratory quality assurance from a forensic science perspective. Topics will include quality control, quality assurance, quality programs and management, validations and performance checks, accreditation and auditing, corrective actions and root cause analysis, ethics and safety. 3 lecture hours

FRSC 670-Forensic Analytical Methods-Analytical instrumentation used for analysis of drugs, arson, explosives and trace evidence. Laboratory work includes sample preparation handling, analysis and data interpretation for samples from simulated crime scenes. Use and conformity to standard protocols quality assurance and quality control methods, statistical analysis for calibration and analysis of data. 4 lecture/laboratory hours

FRSC 680-Independent Study in Forensic Science-Independent exploration of the concepts, research techniques and recent discoveries in forensic science in collaboration with a faculty mentor. Prerequisite: department consent.

FRSC 690-Forensic Toxicology-In depth knowledge of forensic, analytical chemistry and toxicology principles as they pertain to the commonly encountered abused and toxic substances. It will offer modules in various topics, i.e. alcohol and volatiles, human performance and postmortem toxicology. A series of case studies will be used to reinforce concepts and to combine individual topics covered. 3 lecture hours

FRSC 695 Special Topics in Forensic Science-In-depth study in a selected area pertaining to forensic science. Can be taken up to three times for a total of 9 units provided a different topic is taken each time. 3 lecture/laboratory hours

FRSC 787 Graduate Internship in Forensic Science-Supervised laboratory experience relating forensic theory and practice. The internship will be carried out in a commercial, city, county or federal laboratory. The total number of hours spent at the internship site will be a minimum of 160 but may be greater if required by the internship site. Students may be required to submit to polygraph, background checks, physical exams and drug screens by the internship site; any funding required by the internship site for this is the responsibility of the student. Prerequisites: 12 units of forensic science courses and a minimum 3.0 GPA. 160 on-site hours

FRSC 797 Graduate Seminar for Forensic Science-Student reports and discussion dealing with forensic research. Students are also expected to attend seminars pertaining to forensic and other natural sciences given on the university campus throughout the program. 1 lecture hour

FRSC 800-Forensic Capstone- An integrative forensic science course where students demonstrate their scientific literacy, in-depth understanding of forensic problems, communication skills, critical thinking and analysis skills. 3 lecture/laboratory hours

FRSC 880 Research Project in Forensic Science-Laboratory research of a matter of forensic significance under the direction of a three member research committee headed by a faculty mentor at Towson University. Before beginning the research

project, students must present their proposals for approval by the faculty mentor and research committee. The project can be carried out on campus, or at a cooperating forensic laboratory under the joint supervision of a faculty member and a cooperating forensic scientist. Substantial written report and oral presentation required. The oral presentation and defense of the project will be evaluated by the student's research committee and graded by the faculty mentor. This course can only be taken by Forensic Science Masters students. A special permit is required to register for this course. Prerequisites: 18 units of graduate forensic science courses and completion of FRSC 797 with a minimum "B" final grade. Lab/Class fee will be assessed.

FRSC 897 Forensic Thesis-Original investigation to be completed under the supervision of one or more faculty members. Taken over a minimum two semester period, earning 6 units. Credit is granted after thesis is accepted. Prerequisite: Permission from department.

Curriculum: Additional Policies

1. Students must successfully complete a minimum of 37 graduate semester credits as outlined in the list of core, elective and capstone courses.

2. Good academic standing in the MSFS degree program requires a minimum 3.00 GPA. Should the GPA fall below a 3.00 a letter of academic warning will be sent by the Registrar's Office.

3. The 3.00 GPA may be restored by repeating courses or by taking additional courses during the semester following being placed on academic warning.

4. A student on academic probation who does not restore the GPA to 3.00 as required will be withdrawn from the MSFS program.

5. A grade of "C" is allowed for two courses only.

6. A grade of "F" in any course cannot be used towards the degree. There are no "D" letter grades awarded in the MSFS and other Towson graduate programs.

7. Students are expected to attend all classes. Instructors may use class absences to lower semester grades (this must be listed in the instructor's syllabus).

8. The instructor's syllabus serves as the contract between the student and instructor for the course being taught. Instructors are required to present the students with a syllabus early in the semester. Some deviation from the syllabus may occur; however, the instructor must notify students of changes.

Internship Guidelines and Procedures:

1-Students must have achieved an overall GPA of 3.00 in their graduate study.

2-Students must submit to a criminal background check, drug screen and polygraph if required by the internship organization.

3-Only 3 credits of internship will be accepted toward the 37 credits required for graduation.

4-A minimum of 160 hours of supervised internship work is required to receive the 3 credits. The 160 hours are on-site at the internship facility. The hours must be recorded and verified by the internship site supervisor.

5-It is recommended that students intern in a laboratory setting with a maximum of 20% of their required hours being clerical/administrative in nature.

6-It is recommended that student interns be provided the opportunity to shadow an examiner in their discipline or section of interest. This shadowing should include observing how evidence samples are received, processed through the laboratory, and how data is analyzed and reported. If possible students are encouraged to view expert testimony of an examiner.

7-Student interns are responsible for completing or having completed the following required documents that can be found at www.towson.edu/careercenter
A-Internship Description Form-must be approved by the MSFS internship coordinator
B-Student Evaluation Form
C-Final Evaluation for Supervisors of Towson University Interns Form
D-10-12 page written report (not including data) describing the internship experience.

8-Students are required to meet with the MSFS Internship Coordinator at least once during the semester to update the coordinator on progress, address concerns and provide a timetable for completion.

9-Student interns are responsible for their actions while at the intern site. A business like attitude is essential. Proper attire and behavior are expected. Quality assurance standards, safety rules and all other rules and regulations required at the intern site must be followed. Any expenses including parking, transportation, etc. are the responsibility of the student intern. Unless specified, paid internships by the internship provider are not required or expected.

10- Failure to follow all policies or meet all requirements specified here will result in the lowering of the final grade by one letter grade. Complaints by the internship provider will be reason for termination of the internship. Enforcement of this policy will be at the discretion of the MSFS Internship Coordinator and/or Program Director and on-site internship supervisor and/or mentor.

Graduate Research:

1. Students may pursue a thesis or non-thesis research option. Students choosing the research option will be assigned a committee of three members. The committee will consist of the mentor, a faculty member and one professional not associated with the Department of Chemistry and Forensic Science.

2. Each student has direct access to a faculty member doing relevant forensic research. Drs. Zeller, Simao and Elkins are the faculty mentors for forensic DNA research. Drs. Hondrogiannis and Devadas are the faculty mentors for forensic chemistry research.

3. Proposals for research must be written, submitted and approved by the student's research committee as part of the seminar class (FRSC 797) taken during the second semester. The goal of the proposal is to get students to think ahead of the upcoming research, to understand it is their project and that they are responsible for all aspects of the research including funding sources.

4. In addition to the student's research proposal, students and professors will generate a contract in which expectations are outlined, including number of hours in lab, timeline of experimentation, budget and writing of the research paper.

5. Students are required to meet with their research committee regularly during the course of the project and additionally to present progress reports to their research committee throughout the semester.

6. Students must write a research paper in a journal format suitable for publication. Students are encouraged to publish their research in a professional journal such as the Journal of Forensic Science.

7. At the end of their project, students present their research at the MSFS Forensic Science Symposium open to the public. The presentation will be graded by the student's research committee. Students are encouraged to present a research poster during the spring Towson University Research Symposium

8. Students choosing the thesis option present their research and defend their thesis to a group of at least 3 faculty members in a committee chaired by their research professor according to the university thesis guidelines.

9. If research projects available on campus do not meet the research interests of the students, efforts are made to accommodate the needs of the research students in another setting .

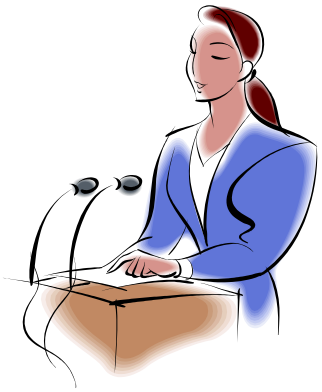
Graduate Seminar:

The Graduate Seminar is a required one credit course (FRSC 797) taken in the student's second semester of the MSFS Program. The classroom portion of the course consists of a variety of topics that are of great importance in forensic science including professional presentation skills of all types. Classroom topics include:

1- preparing a resume and cover letter,
2- developing interview skills,
3- presenting at a seminar,
4- preparing a poster or power point presentation.

Towson University as a whole has a very active seminar series. Guest speakers are invited to speak on every conceivable topic, thus adding to the richness of the academic environment. MSFS students may be required to attend these seminars (topic dependent) during any semester, not just the semester they have registered for FRSC 797.

Students must give a podium format seminar of their research at the Master of Science in Forensic Science Program's Forensic Science Symposium during the spring semester of the academic year. The seminar is open to the entire campus and the off-campus forensic community. Students are also encouraged to present their research at the American Association of Forensic Sciences, the Mid Atlantic Association of Forensic Scientists, the International Symposium on Human Identification, theAmerican Chemical Society, etc.



Process for Complaints:

Students' rights and responsibilities can be found in the Code of Student Accountability at www.towson.edu/studentaffairs/policies/ under the title Policies Affecting Students. Of particular note is the appeals process for students accused of academic dishonesty found on the last page of the document.

With most situations, the student is encouraged to talk directly with the instructor to see if there has been a misunderstanding. If that is not resolved to the student's satisfaction, students are encouraged to meet with the Program Director followed by the Department Chairperson. Should the complaint fail to be resolved at the departmental level, students are referred to the Dean of the Fisher College of Science and Mathematics and Dean of the College of Graduate Studies and Research. Written appeals may be required for final grade complaints

Student complaints concerning the Master of Science in Forensic Science Program shall be heard in the following order:
1-Instructor
2-Program Director
3-Department Chairperson
4-Associate Dean of the Fisher College of Science and Mathematics
5-Dean of the College of Graduate Studies and Research

Student complaints concerning grades in the Master of Science in Forensic Science Program shall be heard in the following order:
1-Instructor
2-Program Director or Department Chairperson
3-Associate Dean of the Fisher College of Science and Mathematics
5-Written appeal to the Graduate Studies Committee (prior to end of following semester)
6- Written appeal of the Graduate Studies Committee's decision to the Dean of the College of Graduate Studies and Research (within 15 days)

Graduate Assistantships:

The MSFS Program has at least 5 full time assistantships. These are provided as 10 research half-assistantships (GRA). These assistantships include a stipend and 2 course tuition waiver per semester (housing, books, and other fees are not covered). The assistantships are usually staffed by several continuing second year students and several first year students. GRAs assist research professors with new and on-going research projects. Their duties will be varied and assigned by the research professors they are assigned to by the MSFS Program Director. The students selected for the GRA positions will be required to work an average of 10 hours per week. However, their working hours will depend on the availability of laboratory instruments during the academic year. This could cause their work schedule to be beyond the conventional Monday-Friday, 8:00-4:00 work hours. Some weekends or evenings may be required.

All students admitted to the MSFS Program who desire an assistantship will be considered for open GRA positions during the admissions review process. In general, successful applicants for the GRA positions demonstrate in their application packet overall research strengths beyond standard course work, have a high undergraduate GPA, and express a strong desire to assist the program and department during their education experience in the MSFS program.

There is also an opportunity for MSFS students to be hired as adjunct faculty teaching General Chemistry Laboratory. This includes teaching a one hour lab prep lecture and two hour laboratory. Interested students should contact the Department of Chemistry and Forensic Science Chairperson.

Preference will be given to applicants with some form of prior undergraduate chemistry course teaching assistance, experience in making solutions and organizing laboratory protocols. The adjunct professor position requires 10 hour per week commitment.

Faculty:

Administration:

Matthew Nugent, Ph.D.-Dean of the Fisher College of Science and Mathematics

John Sivey, Ph.D.- Chairperson, Department of Chemistry and Forensic Science

Mark Profili, M.F.S.- MSFS Program Director,

Full-Time Faculty and Staff:

Mark Profili, M.F.S.- MSFS Program Director,
B.S. Towson State College, M.F.S., George Washington University
FRSC 600, FRSC 787

Cynthia Zeller, Ph.D.-Associate Professor, Forensic Science
B.A. Hood College, Ph.D., University of Alabama, Birmingham
FRSC 601, FRSC 797, FRSC 880

Ellen Hondrogiannis, Ph.D.- Professor, Forensic Science
B.S. Bowling Green State University, Ph.D., University of Tennessee
FRSC 640, FRSC 670, FRSC 797, FRSC 880

Kelly Elkins, Ph.D.-Professor, Forensic Science
B.S., Ph.D., Clark University
FRSC 610, FRSC 602, FRSC 797, FRSC 880

Filipa Simao, Ph.D.-Assistant Professor, Forensic Science
FRSC 622, FRSC 797, FRSC 880

Part-Time Faculty-Adjunct Professor:

- Zabiulah Ali M.D.- Office of the Chief Medical Examiner, Baltimore, MD.
  FRSC 660
- Michael Lawson, M.S.F.S.- Baltimore Forensic Science Lab, DNA Analyst,
  FRSC 620, FRSC 621
- Jennifer Ingbretson-MSFS-Baltimore Forensic Science Lab, Firearms Examiner
  FRSC 605, FRSC 607 - Forensic Firearms Analysis Certificate Coordinator
- Joseph Harant-B.S.-Maryland State Police Crime Lab, Trace Analyst Supervisor
  (retired) FRSC 650
- Megan Descalzi-B.S., MSFS-Baltimore Forensic Science Lab-Crime Scene
  FRSC 604
- Jennifer Moran, MSFS-Baltimore Forensic Science Lab-Director
  FRSC 665

Academic Advisory Board:

Michael Cariola-Owner and President, BODE Technology Group, Inc.

Megan Descalzi-Crime Scene Unit, Baltimore Police Forensic Science Lab

Greg Czarnopys- Forensic Science Laboratory Director, BATF

Rana DellaRocco-Chief, Baltimore Police Forensic Science Laboratory

Kevin Kiesler-Research Biologist-NIST

Mark Guilliano-DNA International Laboratory.

Wanda Kuperus-Deputy Director, Maryland State Police Crime Lab

Kerri-Ann Lawrence-Director, Baltimore County Crime Laboratory

Erin Maxwell-Drug Analyst, Baltimore Police Forensic Science Lab

Jennifer Moran-Director, Baltimore Police Forensic Science Lab

Theresa DeAngelo-Quality Assurance Manager, Maryland State Police Crime Lab

FORENSIC FIREARMS AND TOOLMARK ANALYSIS GRADUATE CERTIFICATE

The Forensic Firearms and Toolmark Analysis Graduate Certificate Program is a laboratory-intensive program focused on competency and expert testimony. The certificate is created in conjunction with the Baltimore Police Division of Forensic Science with some instruction taking place at the Baltimore Police firearms lab. The program is designed to meet the needs of crime labs across the nation in solving firearms related crimes. In addition to advanced coursework, internships, capstone projects or research in firearms and/or toolmark analysis are required. The certificate program is designed to meet some Association of Firearms and Toolmarks Examiners (AFTE) training modules to enhance students' chances to be hired as firearms/toolmarks' examiners and to lessen the training time required for AFTE certification. Students enrolled in the MSFS program can earn the graduate certificate by taking additional courses in firearms and toolmarks analysis. Students wishing to enroll in the certificate program will undergo review by the Firearms and Toolmark instructor and program coordinator and the MSFS Program Director prior to being admitted and enrolling into advanced Firearms and Toolmarks classes.

TOWSON UNIVERSITY